

# Test Tools Catalogue 2023 Online Edition

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earn

uke tools can help te future of power.

fluke.co/solar

Search

T6-1000 PRO

Exact match

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# What's New at Fluke



# Fluke ST240+ Socket Tester with Beeper

#### Fast visual identification of all 6 wiring conditions.

- Simple operation Plug into socket; with the bright, easy-to-see LEDs, verify correct wiring or identify common wiring problems in both standard and RCD outlets
- Know more, faster –with the handy chart, quickly identify one of six wiring conditions for the outlet
- RCD outlets-with an integrated RCD test, you can feel secure knowing that your RCD equipped outlets are functioning properly

For more on the Fluke ST240+ Socket Tester with Beeper, see page 41



## Fluke VT06 and VT08 Visual Infrared Thermometers

#### Detect issues instantly and accurately.

- A pocket-sized visual thermometer with high IR resolution
- High temperature measurement range of up to 400°C
- Rugged design with IP65 ingress protection and 2 metre drop test

For more on the Fluke VT06 & VT08 Visual IR Thermometers, see page 52



# Fluke RSE30 and RSE60 Thermal Cameras

#### Fixed mount thermography.

- Wide temperature range for varied applications: -20° C to 650° C (RSE30/RSE60) and -20° C to 2000° C options (RSE30H/RSE60H)
- Resolution of 640×480 (RSE60/60H) and 384×288 (RSE30/30H)
- Auto-focus system automatically locks onto the target under test, saving time and removing the need for manual adjustments

For more on the Fluke RSE30 and RSE60 Thermal Cameras, see page 63



## Fluke SMFT-1000 Solar Multifunction Tester

Multifunction PV Tester, Performance Analyser, and I-V Curve Tracer. An all-in-one solar testing solution.

- Full sequence safety testing—IEC 62446-1, Category 1
- ROI and system performance testing—IEC 62446-1, Category 2
- Precise I-V curve measurements
- Fluke's "Keep the Leads" system setup only once to complete all tests

For more on the Fluke SMFT-1000 Solar Multifunction Tester, see page 74



# Three NEW Fluke Kits for Solar PV Testing

- Solar Tools Kit with 87V MAX Digital Multimeter and Solar Test Leads
- Solar Tools Kit with Fluke 393 FC Clamp Meter and Solar Test Leads
- Solar Tools Kit with 393 FC Clamp Meter, Irradiance Meter and Solar Test Leads

For more on these NEW Fluke Kits for Solar PV Testing, see page 76



# Fluke FEV300 Electric Vehicle Charging Station Adapter

Test and troubleshoot the functionality and safety of electric vehicle power supply equipment.

- Suitable for AC charging stations with mode 3 and connector Type 1 and Type 2
- Enables you to test in a safer manner compliant to the required standard. Eg AS3000
- Use the PE Pre-Test safety feature to test the PE conductor for dangerous voltage against earth

For more on the Fluke FEV300 EV Charging Station Adapter, see page 77



## Fluke 831 Laser Shaft Alignment Tool

#### Precision laser alignment made easy.

- · Fast, easy, and precise alignment that adapts to your needs
- Rugged build and the highest-in-class IP rating
- Single-laser technology for the fastest, most accurate laser alignment
- Cloud connection enables real-time collaboration
- Use up to 8 measurement points to achieve precision alignment on vertical machines

For more on the Fluke 831 Laser Shaft Alignment Tool, see page 147



## Fluke 835 Laser Belt Alignment Tool

# Get more out of your belt driven systems through proper alignment.

- Efficient, accurate one-person operation with no training required
- Time-saving pulley alignment method requires no cross-check
- Shows offset, vertical, and horizontal angles simultaneously
- Live corrections validate when precision alignment is achieved

For more on the Fluke 835 Laser Belt Alignment Tool, see page 148

# Fluke Connect<sup>®</sup>

30

Take advantage of the benefits of Fluke Connect<sup>\*</sup> by seamlessly gathering and sharing inspection results instantly. By using the Fluke Connect<sup>\*</sup> App, you can efficiently and safely capture, store and share maintenance data without leaving the field. You can securely connect and collaborate with others, so they can see what you see.



# **SEE IT. SAVE IT. SAVE IT. SHARE IT.** All the facts, right in the field.



#### Get the FREE Fluke Connect<sup>®</sup> App!

By using the Fluke Connect® App, you can efficiently and safely capture, store and share maintenance data without leaving the field. You can securely connect and collaborate with others, so they can see what you see.



Google Play



Instantly trend and monitor intermittent problems with TrendIt<sup>TM</sup> graphs so you can easily identify trends and stop problems before they happen. Seeing is believing — trend data over time and prove your point.





#### Share from anywhere

Stay on the same page even when you and your team are in different places and on different devices. With the ShareLive<sup>™</sup> video call feature, securely connect and collaborate with others, so they can see what you see in real time. Get approvals without leaving the field.

#### Save Time Reporting

Make better decisions faster than before. Organise your measurements by asset in one location with EquipmentLog<sup>™</sup> history. Measure once, and cut out the paper with AutoRecord<sup>™</sup> measurements.

When your measurements are associated with equipment, there is no need to record in the field and then transcribe into an office computer. Make decisions quicker than before by viewing temperature, mechanical, electrical and vibration measurements from one location.



Fluke Connect®

# Fluke Connect<sup>®</sup> Selection Guide

The Fluke Connect<sup>®</sup> App displays readings from up to ten modules on the iPhone and six modules on an Android device. A vast range of Fluke Infrared Cameras display their own measurements plus readings from up to five wireless modules. The 3000 FC Wireless Digital Multimeter displays its own readings plus measurements from up to three wireless modules. The 173X Power Loggers and 174X Power Quality Loggers display their own measurements plus readings from up to two wireless modules.

Fluke Connect® tools	Fluke Connect <sup>®</sup> App – iOS and Android <sup>™</sup>	TiX580 Infrared Camera	Ti480 PRO Infrared Camera	PTi120/TiSxx Series Infrared Cameras	3000 FC Digital Multimeter	902 FC True-RMS HVAC Clamp Module	378/377/376/375/374/393 FC Clamp Meters	a3000/a3001 FC AC Current Clamp Modules	a3002 FC AC/DC Current Clamp Module	a3003/a3004 FC DC Current Clamp Modules	v3000 FC AC Voltage Module	v3001 FC DC Voltage Module	t3000 FC Temperature Module	1555/1550C Insulation Resistance Testers	1742/1746/1748 Power Quality Loggers	1732/1734/1736/1738 Electrical Loggers	<b>729 FC Automatic Pressure Calibrator</b>	787B/789 ProcessMeter <sup>IM</sup>	1587 FC Insulation Multimeter	1664 FC Multifunction Installation Tester	805 FC Vibration Tester	125B/124B/123B ScopeMeters®	279 FC Digital Thermal Multimeter	1630-2 FC Earth Ground Clamp	368/369 FC Leakage Current Clamps
Fluke Connect® App - iOS and Android	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
TiX501/TiX580 Infrared Camera	•				•	•	•	•	•	•	•	•	•												
Ti300+/Ti401PRO/Ti480PRO Infrared Camera	•				•	•	•	•	•	•	•	•	•												I
PTi120/TiSxx Series Infrared Cameras	•				•	•	•	•	•	•	•	•	•												
3000 FC Digital Multimeter	•	•	•					•	•	•	•	•	•		•	•									
a3000/a3001 FC AC Current Clamp Modules	•	•	•		•										•	•									
902 FC True-RMS HVAC Clamp Meter	•	•	•	•	•										•	•									
378/377/376/375/374/393 FC True-RMS Clamp Meters	•	•	•	•	•										•	•									
a3002 FC AC/DC Current Clamp Module	•	•	•	•	•										•	•									
a3003/a3004 FC DC Current Clamp Modules	•	•	•	•	•										•	•									
v3000 FC AC Voltage Module	•	•	•	•	•										•	•									
v3001 FC DC Voltage Module	•	•	•	•	•										•	•									
t3000 FC Temperature Module	•	•	•	•	•										•	•									
1555/1550C Insulation Resistance Testers	•																								
1742/1746/1748 Power Quality Loggers	•				•	•	•	•	•	•	•	•	•												
1732/1734/1736/1738 Electrical Loggers	•				•	•	•	•	•	•	•	•	•												
787B/789 ProcessMeter™	•																								
1587 FC Insulation Multimeter	•																								
1664 FC Installation Tester	•																								
805 FC Vibration Tester	•																								
125B/124B/123B ScopeMeters*	•																								
279 FC Thermal Multimeter	•																								
1630-2 FC Earth Ground Clamp	•																								
368/369 FC Leakage Current Clamps	•																								
ir3000 FC Wireless Connector	•					Con	nect	ada	pter	to: F	luke	787	B, 78	39, 2	89, 2	287,	1550	DC, 1	555						

Save and record

# Fluke a3000 FC, a3001 FC, a3002 FC **Wireless Current Clamp Modules**

#### a3000 FC Wireless AC Current Clamp Module

A true RMS Current Clamp Meter that wirelessly relays measurements to other Fluke Connect® enabled master units.

- Measure up to 400 A AC
- Logging function: record and save up to 65,000 readings
- Use as a standalone meter or as part of a system
- Inrush function
- Weight: 0.22 kg
- Fluke a3000 FC • Three year warranty

#### a3001 FC Wireless iFlex® AC Current Module

A iFlex<sup>®</sup> AC Current Module that wirelessly relays measurements to other Fluke Connect® enabled master-units. It allows you to measure around awkward sized conductors or get into tight spaces and makes wire access easier.

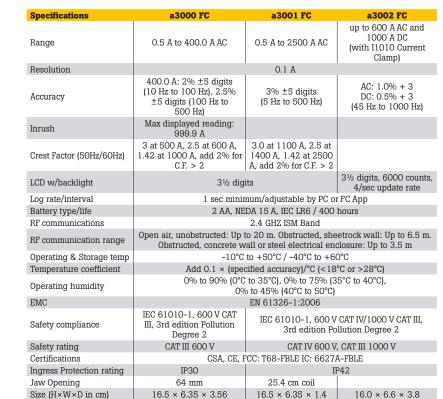
- · Measure up to 2500 A AC
- · Logging function: record and save up to 65,000 readings
- Use as a standalone meter or as part of a system
- Inrush function
- Weight: 0.22 kg
- Three year warranty

• Weight: 0.255 kg

#### a3002 FC Wireless AC/DC Current Module

For use with the i410 or i1010 AC/DC current clamps (sold separately). Wirelessly relay measurements from the i410 or i1010 clamp accessory to other Fluke Connect® enabled master units.

- Measure up to 400 A AC or 400 A DC with i410
- Measure up to 600 A AC or 1000 A DC with i1010
- Use as a meter alone or as part of a system
- · Record and save up to 65,000 readings
- Fluke a3002 FC · Three year warranty



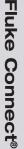
Up to 65.000 readings

# **Recommended Accessories**

i410/i1010 Current Clamp for a3002 FC See page 162

**PC** Adapter Fluke Connect® Wireless PC Adapter See page 172

**Recommended Kits** Bundle & Save







â 🔊



Fluke Wireless a3001 FC iFlex<sup>®</sup> AC Current Kit

For more details see page 185













# Fluke a3003 FC and a3004 FC Wireless Current Clamp Modules



#### a3003 FC Wireless 2000 A DC Current Clamp Module

The a3003 is the tool of choice for high current DC ammeter applications that require measurements up to 2000 A DC.

The extra-wide jaw easily clamps around large conductors, typically found in mining, utility, marine, rail or other heavy manufacturing industries where large DC currents or large current carrying cables are found.

The a3003's unique jaw construction allows for a wide measurement range meaning that you can accurately make measurements from 10 A DC to 2000 A DC.

- Measures from 10 A to 2000 A DC
- Large jaw size (64mm) for measuring large, high current conductors
- · Logging function: record and save up to 65,000 readings • Weight: 0.65 kg
- Three year warranty

# Fluke a3004 FC

## a3004 FC Wireless 4-20 mA DC Clamp Module

A fully functional current clamp meter the a3004 tests or troubleshoots 4-20 mA control loops used with drive systems, PLC's, or building energy management systems. Now you can troubleshoot and repair 4-20 mA loops without breaking the loop or bringing down the system and save time.

- · Send data to your laptop and go from logging to analysis and diagnosis.
- Use the Fluke Connect® wireless USB adapter to collect logged data from remote modules by walking past a working module and downloading logged data
  - Logging function: record and save up to 65,000 readings Perform for analysis with your PC and share the results using Fluke Cloud<sup>™</sup> storage and ShareLive<sup>™</sup> video call
  - Weight: 0.299 kg
  - Three year warranty

Specifications	a3003 FC	a3004 FC
Range	1.0 A to 999.9 A DC 1000 A to 2000 A DC	0.05 mA to 20.99 mA DC 21.0 mA to 99.9 mA DC
Resolution	0.1 A 1 A	0.01 mA 0.1 mA
Accuracy	$2\% \pm 5$ digits $2.5\% \pm 5$ digits	0.2% ±5 digits 1.0% ±5 digits
LCD w/backlight	31/2 0	ligits
Log rate/interval	1 sec minimum/adjustat	ole by PC or front pannel
Battery type	2 AA, NEDA 1	5 A, IEC LR6
Battery life	120 hours	45 hours
Memory	Record up to 6	5,000 readings
RF communications	2.4 GHz I	SM Band
RF communication range		bstructed, sheetrock wall: Up to 6.5 m, electrical enclosure: Up to 3.5 m
Operating Temperature	-10°C to	o +50°C
Storage Temperature	-40°C to	0 +60°C
Temperature coefficient	Add 0.1 × (specified accura	acy) /°C (< 18°C or > 28°C)
Operating humidity	90% at 35°C, 75% a	t 40°C, 45% at 50°C
Altitude	Operating 2,000 m	, Storage 12,000 m
EMC	IEC 61	326-1
Safety compliance	IEC 61010-1, CAT IV 600 V, CAT III 1000 V, 3rd edition	
Safety rating	CAT IV 600 V, CAT III 1000V	
Certifications	cCSAus, CE, FCC: T68-	-FBLE IC: 6627A-FBLE
Ingress Protection rating	IP4	42
Jaw Opening	64 mm	4.5 mm
Size (H×W×D in cm)	16.5 × 6.35 × 3.56	16.5 × 6.35 × 1.4

### **Included Accessories**

2000 A Clamp Attachment (a3003), 4-20 mA Clamp Attachment (a3004), Batteries, Hanging Strap, Quick Start Guide

#### **Ordering Information**

FLK-A3003 FC	Wireless 2000 AMP DC Module
FLK-A3004 FC	Wireless 4–20 mA DC Module

Contact your local distributor for price and availability. fluke.co/wtb



**Recommended Accessories** 

PC Adapter

ss PC Adapter

Fluke Connect® Wireless See page 172

Get the FREE Fluke

the field. You can securely connect and collaborate with others, so they

Ger IT ON Google Play

Connect<sup>®</sup> App! By using the Fluke Connect® App, you can efficiently and safely capture, store and share maintenance data without leaving

can see what you see.

App Store

#### **Fluke Connect**<sup>®</sup>

# Fluke v3000 FC AC and v3001 FC **DC Wireless Voltage Modules**



#### v3000 FC Wireless True-RMS AC Voltage Module

A fully functional True-RMS Voltage Meter that wirelessly relays AC voltage measurements to other Fluke Connect® enabled master units.

Accuracy<sup>2,3,4</sup>

500 Hz to 1 kHz

2.0% + 3

45 Hz to 500 Hz

1.0% + 3

All AC voltage ranges are specified from 1% of range to 100% of range.
 Crest factor of ≤ 3 at full scale up to 500 V, decreasing linearly to crest factor ≤ 1.5 at 1000 V.
 For non-sinusoidial waveforms, add -{2% of reading + 2% full scale} typical, for crest factor up to 3.

v3001 FC Wireless DC Voltage Module

• Use as a standalone meter or as part of the system

· Record and save up to 65,000 readings

A fully functional DC Voltage Meter that wirelessly relays DC voltage measurements to other Fluke Connect® enabled master

- True-RMS AC Voltage Module
- · Measure up to 1000 V
- Use as a standalone meter or as part of the system
- · Record and save up to 65,000 readings

Resolution

0.001 V

0.01 V

0.1 V

1 V

- Weight: 0.22 kg
- Three year warranty

4 Do not exceed 1 000 000 V-Hz

• Measure up to 1000 V DC

• Weight: 0.255 kg

• Three year warranty

**AC Voltage** 

Range<sup>1</sup>

6.000 V

60.00 V

600.0 V

1000 V

units.

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Fluke	v3001	FC	



DC Voltage			
Function	Range	Resolution	Accuracy
mV DC	600.0 mV	0.1 mV	0.09% +3
	6.000V	0.001 V	
V DC	60.00 V	0.01 V	0.09% +3
V DC	600.0 V	0.1 V	
	1000 V	1 V	0.15% + 2

Specifications	v3000 FC / v3001 FC
LCD w/backlight	3 <sup>1</sup> / <sub>2</sub> digits, 6000 counts, updates 4/sec
Battery type	2 AA, NEDA 15 A, IEC LR6
Log rate/Interval	Adjustable by PC from 1 sec to 1 hr, default 1 min
Battery life	400 hours
Memory	Record up to 65000 readings
RF communications	2.4 GHZ ISM Band
RF communication range	Open air, unobstructed: Up to 20 m, Obstructed, sheetrock wall: Up to $6.5$ m, Obstructed, concrete wall or steel electrical enclosure: Up to $3.5$ m
Operating temperature	-10°C to +50°C
Storage temperature	-40°C to +60°C
Temperature coefficient	0.1 × (specified accuracy)/°C (< 18°C or > 28°C)
Operating humidity	90% at 35°C, 45% at 40°C, 45% at 50°C
Altitude	Operating: 2,000 m, Storage: 12,000 m
EMC	EN 61326-1:2006
Safety compliance	IEC 61010-1, IEC 61010-2-030
Safety rating	CAT IV 600 V, CAT III 1000 V
Certifications	CSA, CE, FCC: T68-FBLE IC: 6627A-FBLE
Ingress Protection (IP) rating	IP42
Pollution Degree	2
Size (H×W×D)	16.5 cm × 6.35 cm × 1.4 cm

# **Recommended Accessories**



PC Adapter Fluke Connect® Wireless PC Adapter See page 172



#### **Recommended Kits** Bundle & Save



Fluke Wireless v3000 FC **AC Voltage Kit** 



Fluke Wireless v3001 FC DC Voltage Kit



Fluke Wireless v3003 FC AC-DC **Voltage Measurement Kit** 

For more details see page 185

#### **Included Accessories**

v3000 FC: TL224 Test Leads, AC285 Alligator Clips, Magnetic Hanging Strap.

v3001 FC: TL222 Test Leads, AC220 Alligator Clips, Magnetic Hanging Strap

#### **Ordering Information**

FLK-V3000 FC	Wireless AC
	Voltage Module

Voltage Modu	le

FLK-V3000 FC Wireless AC KIT Voltage Kit

'LK-V3001 FC	Wireless DC
IT	Voltage Kit

R

FLK-V3003 FC Wireless AC-DC Voltage KIT Measurement Kit



# Fluke t3000 FC Wireless K-Type Temperature Module



Fluke t3000 FC



The Fluke t3000 FC Wireless K-Type Temperature Module is one member of a family of wireless test tools that let you share test data using the Fluke Connect<sup>®</sup> app with ShareLive<sup>™</sup> video call.

Fluke Connect<sup>®</sup> Wireless Test Tools put tools, not your body, near live electrical panels. It's simple. Connect the t3000 FC wireless temperature module, or any of the other Fluke Connect<sup>®</sup> remote modules, and read the results on the Fluke Connect<sup>®</sup> Wireless Multimeter or a portable PC from a safe distance.

Better still, the Fluke Connect® test tools can send measurement data to your smartphone, so you can save and share measurements from the field with your team anytime, from anywhere.

#### Using t3000 FC temperature modules, you can:

- Spot temperature differences.
- Send data to your laptop and go from logging to analysis and diagnosis
- Record over time to monitor circuit load changes for an hour, a shift or a week
- Use the Fluke Connect<sup>®</sup> wireless USB adapter to collect logged data from remote modules by walking past a working module and downloading logged data
- Perform for analysis with your PC and share the results using Fluke Cloud<sup>™</sup> storage and ShareLive<sup>™</sup> video call. View data or graphs to get input from team members
- Logging function: record up to 65,000 readings
- Three year warranty

Specifications	t3000 FC
Range	K-type: -200°C to 1000°C (Temperature probe dependant)
Resolution	0.1°C
Accuracy	±[0.5% + 0.3°C counts]
Input terminals	K-type mini
LCD w/backlight	3 ½ digits
Log rate/interval	1 sec minimum/adjustable by PC and FC app on smart phone
Battery type	2 AA, NEDA 15 A, IEC LR6
Battery life	400 hours
Memory	Record up to 65,000 readings
RF communications	2.4 GHZ ISM Band
RF communication range	Open air, unobstructed: Up to 20 m, Obstructed, sheetrock wall: Up to 6.5 m, Obstructed, concrete wall or steel electrical enclosure: Up to 3.5 m
Operating temperature	-10°C to +50°C
Storage temperature	-40°C to +60°C
Temperature coefficient	0.01% of reading +0.03°C per °C
Temperature scale	ITS-90
Operating humidity	90% at 35°C, 75% at 40°C, 45% at 50°C
Altitude	Operating: 2,000 m, Storage: 12,000 m
EMC	EN 61326-1:2006
Safety compliance	IEC 61010-1, CAT I, 3rd edition Pullution Degree 2
Certifications	CSA, CE, FCC: T68-FBLE IC: 6627A-FBLE
Ingress Protection rating	IP42
Pullution Degree	2
Size (H×W×D) and Weight	16.5 cm × 6.35 cm × 1.4 cm; 0.22 kg



#### **Ordering Information**

FLK-T3000 FC	Wireless K-Type Temperature Module
FLK-T3000 FC	Wireless FC
KIT	Temperature Ki

Contact your local distributor for price and availability. fluke.co/wtb

10 Fluke Connect\*

# Fluke Connect® Accessories







Fluke Connect® ir3000FC Connector



#### Fluke Connect® ir3000 FC Connector

Connect your Fluke Test Tool with the ir3000 FC Connector and get all the benefits of the Fluke Connect® mobile app. If you already have a Fluke 287/289 Digital Multimeter or Fluke 789 Process Tool in your tool box or tool belt or are considering purchasing one, add the ir3000 FC Connector so you can communicate with the Fluke Connect® app.

- Fluke Connect<sup>®</sup> ir3000 FC Connector allows you to wirelessly transfer data from your existing Fluke 287, 289 Digital Multimeters, Fluke 789 ProcessMeter<sup>™</sup> and Fluke 1550C/1555 Insulation Resistance Testers to your smart phone
- · Fits over the IR port of your existing Fluke tools
- Immediately enables you to graph, save, and share the tool's readings with your team from your smart phone
- Identify and diagnose problems quickly and confidently
- Efficiently and safely capture real-time readings of the
- primary display from the field
- Share results instantly with your team
- Upgradeable by USB
- Three year warranty

#### Supported Fluke Tools:

- DMMs: 287, 289
- Process Tool: 789, 787B
- Insulation: 1550C, 1555

#### Supported Smart Phones:

#### • Android 5.0 & above

• iOS 13 & above



Specifications	ir3000 FC
Battery type	Two AAA Alkaline batteries, ANSI-24A IEC-LRO3
Battery life	6 hours of continuous transmission
RF communications	2.4 GHz ISM Band
RF communication range	Open air, unobstructed: Up to 20 m Obstructed, sheetrock wall: Up to 6.5 m Obstructed, concrete wall or steel electrical enclosure: Up to 3.5 m
Temperature	Operating: -10°C to 50°C Storage: -20°C to 60°C
Certifications	CSA, FCC, CE, IC
Size (H×W×L)	3.2 cm × 7.6 cm × 6.4 cm
Compatibility*	Fluke 287, 289, 789, 1550C, 1555

\*At time of catalogue print, Fluke's ir3000 FC Connector is currently compatible with the Fluke 287, 289, 789, 1550C and 1555 test tools. For updates on Fluke Connect\* test tool compatibility, go to **fluke.co/flukeconnect** 

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Fluke Connect<sup>®</sup> PC Adapter



#### Fluke Connect<sup>®</sup> Wireless PC Adapter

Fluke 3000 FC Wireless Test Tools show real-time measurements from remote modules up to 20 metres away on your PC Fluke FC wireless test tools work together to help you troubleshoot faster.

The PC3000 FC Adapter and Software help you understand the information you measure. When you need to get information back to a PC the PC3000 FC Adapter and Software wirelessly collects up to 65,000 sets of time stamped MIN/MAX/AVG readings from FC remote modules. Software can display live readings from up to six modules simultaneously. Allows custom logging intervals and custom names for modules.

Includes Windows SW3000 software.

#### Get the FREE Fluke Connect<sup>®</sup> App!

By using the Fluke Connect<sup>®</sup> App, you can efficiently and safely capture, store and share maintenance data without leaving the field. You can securely connect and collaborate with others, so they can see what you see.



**Ordering Information** 

FLK-PC3000 Fluke Connect®

Contact your local distributor for price and availability.

Fluke Connect® ir3000 Connector

Wireless PC

Adapter

FLUKE-

FC

**IR3000 FC** 

fluke.co/wtb

Fluke Connect®

# Fluke Connect\*

# Digital Multimeters

Fluke Digital Multimeters (DMMs) are on more tool belts, finding more problems, than any other comparable test tools. Each industrial meter is tested to the extreme: drop, shock, humidity, you name it. Every Fluke Digital Multimeter gives you what you need: accurate measurements; consistent, reliable performance; attention to safety; and the strongest warranty available.

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# **Digital Multimeter Selection Guide**

		Advance	Advanced Meters		Wireless Meters	Meters	Industrial	Industrial Maintenance and	e and			Compact Meter	ster		Au	ve	Insulation Testers	sters	ŝ	Specialty Meters	ers	
Models	87 V	87 V MAX	287	289	233	233 3000 FC	175		179	110	113	114		116 HVAC	117	Meters 88V 1	1577 1587 FC	_	27 11 2	28 II 28IEX	-	279 FC
Basic features	00000	00000	0000	EOOOO	6000	6000	6000	6000	6000	6000	6000 6	e000	6000	6000	6000	30000		e000	e000		00000	6000
True-RMS readings	200002	20000	DODOC		AC AC	AC A	AC V	auuu Ar	+	ŀ	+	-		ł	ł		-		t	-		Ľ.
Basic DC accuracy	0.05%	0.05%	0.025%	0.025%	0.25%	%		%	98		-				0.5%	_		%	0.1% 0.0	98	%	0.09%
AC bandwidth	20 kHz	20 kHz	100 kHz	100 kHz	2	-	-	-	-	ŀ	-	ŀ	-	-	2	t	-	÷		÷	-	c.
Auto/manual ranging	**	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•		_	_	-	•/•	•/•
ATEX II 2G Eex ia IICT4 safety rating Z1/Z2								_			_	_						_	_	_		
Weasurements Voltage AC/DC	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	600 V	600 V 6(	600 V 6(	600 V 6	600 V 6	600 V 1	1000 V 10	1000 V 100	1000 V 10	1000 V 10	1000 V 10	1000 V 10	1000 V
Current AC/DC	10 A	10 A	10 A	10 A	10 A	400 mA	10 A	10 A	10 A				10 A 6	600 µÅ	10 A	10 A 40	400mA 40	400mA 1	10 A 1	10 A 1	10 A 25C	2500 A AC
Resistance	50 MO	50 MO	500 MO	SOOMO	40 MO	50 MO	50 MO	50 MO	-	40 MO	60 k0 40	40 MO		-	-	T	-	-		÷		SO MO
Frequency	200 kHz	200 kHz	1 MHz	1 MHz	50 kHz		-			-		-	N				-					100 kHz
Capacitance	9,999 µF	9,999 µF	1 pF to 100mF	1 pF to 100mF	9,999 µF	-			9,999 µF	ດັ	9,999 µF	5'6			•.	9,999 µF	6,9		-		-	9,999 µF
Temperature	+1090°C	+1090°C	+1350°C	+1350°C	+400°C				+400°C				+	+400°C			+2	+500°C	+10	+1090°C +1	+1090°C	
dB			60 dB	60 dB																-		
Conductance	$50\mathrm{nS}$	60 nS	50 nS	50 nS												60 nS		90	60 nS 60	60 nS 6	60 nS	
Duty cycle/pulse width	-/•	-/•	•	;								-	-	-		•	_	-		_	-/-	
Continuity/diode test	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	
Motor Drive (ASD) Measurements	•	•		•		I	Ī						_	+					_			
voltage detection															•							
VCHEKTM												-	-	-					_			
LoZ: low input impedance				•								•		•	•							
Microamps	•	•		•													+					
Insulation Test																	_			_	_	
Number of insuation test ranges																	2	5				
Display																		-				
Removable wireless display					•													_		_	_	
Dot matrix display			•	•		•						+								1		
Dual uisplay Analog bargraph						•											-	-				
Backlight	Two level	Two level	Two level	Two level							•							• Twr	lave	lave	Two level	
Graphical trend display	100010001	1 MO IOWI	•	•											_			Г	_		10001	
Diagnostics and data																						
Min/Max recording with time stamp	-/•	-/•	•/•	•/•	-/•	-/•	-/•	-/•	-/•	-/•	-/•	-/-	-/-	-/•	-/•	-/•	-	-/•	• _/•	-/•	-/•	-/•
Fast Min/Max	250 µs	250 µs	250 µs	250 µs												250 µs			25	250 µs 25	250 µs	
Display Hold/Auto (Touch) Hold	*	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	-/•	-/•	-/•	-/•	-/•	-/-	••		•			•,•	•/•
Relative reference	•	•	•									+	+	+	+		+				•	
stand alone logging			• •	• •		(with app)												-	_		[M]	(with app)
Readings memories			10.000	10,000		(with ann)														t	ivvi	(with app)
USB interface			•	•		Idda				-	-	-		-	-		-	-	-	ŀ	-	ld do an
Other features																						
Real time clock			•	•																		
Automatic selection, AC/ DC volts											•	•		•	•							
Closed case calibration	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•					•
Separate battery/fuse access	-/•	•	•/•	•,•	•	•	*	_	_	_	-	_	_	_	•	•	•	-	_	_	_	
Operating temperature range	-20°C, +55°C	-40°C, +55°C	-20°C, +55°C	-20°C, +55°C	-10°C, +50°C	-10°C, +50°C	-10°C, +50°C	-10°C, +50°C	-10°C, +50°C	-10°C, +50°C	-10°C, -1 +50°C +	-10°C, -1	-10°C, -	-10°C, -	-10°C, +50°C			4 4	-40°C, -4	-40°C, -1 +55°C +	-15°C, - +50°C +	-15°C, +50°C
Warranty and electrical safety	۰.		0.00	0	0.001	0.000																
Input alert	•																			-		
IP Rating	IP30	1P67				IP54		_			IP42 I	_		_	_	_	_		_	_	_	IP40
Safety rating (EN 61010) CAT III	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	600 V	99	600 V 6(	600 V	600 V	600 V	1000 V 10	1000 V 100	1000 V 10	1000 V 10	1000 V 10	1000 V 10	1000 V
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# **Digital Multimeters**

# Fluke 279 FC True-RMS **Thermal Multimeter**





Fluke 279 FC



#### Find. Repair. Validate. Report.

The industry first Fluke 279 FC is a full-featured digital multimeter with integrated thermal imaging and is designed to increase your productivity and confidence. The thermal multimeter helps you find, repair, validate, and report many electrical issues quickly so that you are confident problems are solved.

- Full-featured multimeter with built-in thermal imager
- · 15 measurement functions including: AC voltage with lowpass filter, DC voltage, Resistance, Continuity, Capacitance, Diode test, Min/Max/Avg, AC current (with iFlex®), Frequency
- Thermal imaging reveals many electrical issues quickly and safely, eliminating the need for time-consuming testing and validation
- Two-in-one tool is designed to increase productivity no need to go back to the truck or office to retrieve a shared camera or wait for the thermographer- do more in less time
- iFlex<sup>®</sup> expands your measurement capabilities get into tight, hard to reach spaces for current measurement (up to 2500 A AC)
- Save measurements and images while communicating wirelessly with a smart phone up to 6.1 metres away (no obstructions)
- Rechargeable lithium ion battery allows for a for a full work day (10+ hours) under normal conditions
- Image resolution: 80 × 60
- 3.5 in/8.89 cm colour LCD screen
- CAT III 1000 V, CAT IV 600 V measurement category
- Three year warranty

DMM	
Basic DC accuracy	0.09%
Bandwidth	1% 45 Hz to 65 Hz, full time low pass filter
Voltage	AC/DC 1000 V
Current AC	iFlex® Flexible Current Probe (included with the 279 FC/iFlex®)
Resistance	50 ΜΩ
Frequency	100 kHz
Capacitance	9,999 μF
Continuity with beeper	Yes
Diode test	Yes
Min/Max recording	Yes
Display Hold	Yes
Infrared Camera	
Infrared resolution	80 × 60
Image capture frequency	8 Hz
Field of View	36° (w) × 27° (h)
NETD	≤200 mK
Infrared spectral band	7.5 to 14 microns
Center point	Yes (with center point temp)
Focus mechanism	Fixed focus
Temperature Range	-10°C to 200°C Accuracy: ±5°C or (±5% as tested)
Emissivity	0.95 fixed
Background	20°C fixed
compensation	
Memory storage	Approximately 100 images (internal)
File format	Non-radiometric .is2
Other	
Battery type	Rechargeable lithium-ion battery (charge time: 4.5 hours)
Operating temperature	-10°C to 50°C
Storage temperature	-20°C to 60°C
Relative humidity	0% to 90% (0°C to 35°C) 0% to 75% (35°C to 40°C) 0% to 45% (40°C to 50°C)
Altitude	2,000 meters (6,561 feet)
Temperature coefficient	Add 0.1 × specified accuracy for each°C above 28°C or below 18°C
Ingress Protection	(IP) IP40 (non-operating)
Certifications	CE, CSA, FCC
Safety compliance	IEC 61010-1: Pollution degree 2; IEC 61010-2-033: CAT III 1000 V/CAT IV 600 V
EMC	EN 61326-1:2012
Size	215.9 mm × 93.9 mm × 57.1 mm
Weight	0.793 kg





10 inch iFlex<sup>®</sup> Flexible Current Probe See page 30



BC500 AC Power Charge

**BP500** Lithium-Ion Battery 3000mAh battery

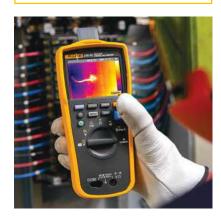
See page 30



#### **Recommended Kits** Bundle & Save



Fluke 279FC I/B TRMS Combo Kit For more details see page 184



#### **Included Accessories**

8TL75 Test Leads, Rechargeable Lithium-ion Battery, Charger, 18-inch (45.72 cm) iFlex<sup>®</sup> Flexible Current Probe, Hanging Strap, Soft Carrying Case. 279 FC I/B Kit also includes: Additional Lithium-ion Battery.

#### **Ordering Information**

Fluke 279 FC/ iFlex®	TRMS Thermal Multimeter with iFlex®
Fluke 279 FC I/B Kit	TRMS Thermal Multimeter with iFlex <sup>®</sup> and Extra Battery Kit

Contact your local distributor for price and availability. fluke.co/wtb

#### 

Digital Multimeters

# Fluke 3000 FC Wireless **Digital Multimeter**



Fluke 3000 FC



#### See it. Save it. Share it.

The Fluke 3000 FC True-RMS Wireless Multimeter and Fluke Connect® wireless test tools put tools, not your body, near live electrical panels. It's simple. Just de-energise the cabinet, open the panel while wearing PPE and connect the remote modules, whether they are voltage modules, current clamps, flexible current loops or thermometers. Then read the results on the 3000 FC Wireless Multimeter from a safe distance. You can display the meter measurement, plus readings from up to 3 wireless modules, while reducing the risk of arc flash by separating yourself from hazardous measurement situations.

Better still, the Fluke 3000 FC Series Wireless Multimeter can send measurement data to your smartphone, so you can save and share measurements from the field with your team anytime, from anywhere.

#### Other capabilities of Fluke Connect® and the 3000 FC Multimeter:

- · Connect to your PC with USB dongle (optional) for analysis and diagnosis in detail
- Perform for analysis with your smarthphone and the FC App and share the results using Fluke Cloud<sup>™</sup> storage and ShareLive™ video call. View data or graphs to get input from team members

#### The Fluke 3000 FC Series Wireless Multimeter with the Fluke Connect<sup>®</sup> app has all the essentials for convenient test and measurement troubleshooting.

- · AC and DC voltage measurements to 1000V
- AC and DC current with 0.01 mA resolution
- · Continuity, resistance, diode test, capacitance and frequency measurements
- MIN/MAX Recording
- CAT III 1000 V, Cat IV 600 V; IP54
- Three year warranty

Functions	Range	Basic Accuracy
AC voltage	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V	1.0% + 3
DC voltage	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V	0.09% + 2
Continuity	600 Ω	Meter beeps at < 25 $\Omega$ , beeper detects opens or shorts of 250 $\mu$ s or longer
Resistance	600 Ω, 600.0 Ω, 6.000 kΩ, 60.00 kΩ, 60.00 kΩ, 600.0 kΩ, 50.00 MΩ	0.5% + 1
Diode test	2.000 V	1% + 2
Capacitance	1000 nF, 10.00 μF, 100.0 μF, 9999 μF <sup>1</sup>	1.2% + 2
mA AC (45 Hz to 1 kHz)	60.00 mA, 400.0 mA <sup>3</sup>	1.5% + 3
mA DC <sup>2</sup>	60.00 mA, 400.0 mA <sup>3</sup>	0.5% + 3
Frequency	99.99 Hz, 999.9 Hz, 9.999 kHz, 99.99 kHz	0.1% + 1

<sup>1</sup> In the 9999 uF range for measurements to 1000 uF, the measurement accuracy is 1.2% + 2.

<sup>2</sup> Input burden voltage (typical): 400 mA input 2 mV/mA.
 <sup>3</sup> 400.0 mA accuracy specified up to 600 mA overload.

For all specifications: accuracy is specified for one year after calibration, at operating temperatures of 18°C to 28°C, with relative humidity at 0% to 90%. Accuracy specifications take the form of ±([% of Reading ] + [ Number of least significant digits ]).

#### **Recommended Accessories**



**TL238** SureGrip Test Lead Set e page 159

C11XT Soft EVA Foam Hard Case See page 170



PC Adapter Fluke Connect® Wireless PC Adapter See page 172

**Recommended Kits** Bundle & Save

Fluke 3000 FC General **Maintenance System** Fluke 3000 FC Industrial

System Fluke 3000 FC HVAC System

Fluke 3000 FC/1AC-II **Wireless Multimeter and Non-Contact Voltage** 

**Detector Kit** 

Fluke 3000 FC/EDA2 Wireless **Multimeter and Deluxe Accessories Combo Kit** Fluke 3000 FC/TPAK Wireless

**Multimeter and Magnetic** Hanger Combo Kit

For more details see page 185

#### **Included Accessories**

TL175 Test Leads, AC175 Alligator Clips, Manual Information Pack.

#### **Ordering Information**

FLK-3000	FC Wireless Digital
FC	Multimeter
FLK-3000	Wireless General
FC GM	Maintenance Kit
FLK-3000	Wireless Industrial
FC IND	System Kit
FLK-3000	Wireless HVAC
FC HVAC	System Kit
FLK-3000 FC/1AC-II	Wireless Multimeter & Non- Contact Voltage Detector Combo Kit
FLK-3000 FC/EDA2	Wireless Multimeter Deluxe Accessories Combo Kit
FLK-3000 FC/TPAK	Wireless Multimeter & Magnetic Hanger Combo Kit

Contact your local distributor for price and availability. fluke.co/wtb



# Fluke 280 Series True-RMS Logging Multimeters





Fluke 289/FC



#### Find little problems before they become big

The Fluke 287/FC and 289/FC are the next generation in high performance industrial logging multimeters.

These high performance industrial logging multimeters are designed to solve complex problems faster in many applications. Log data and review it graphically on-screen to help minimise downtime.

Communicate wirelessly with your smart phone directly from the field with the Fluke Connect<sup>®</sup> app and get quick answers or next step authorisations faster than ever before. It's as simple as adding the Fluke ir3000 FC Connector to the standard Fluke 287 and 289 (connector sold separately).

- Large 50,000 count, 1/4 VGA dot matrix display with white backlight
- Logging function with expanded memory for unattended monitoring of signals over time. Using on-board TrendCapture, users can graphically review logged readings without needing a PC. Store up to 10,000 recorded events
- Save, name, and recall multiple logging sessions before PC download is necessary
- Field upgradeable and expandable meter lets you stay current as new capabilities are added.
- Two terminal 50 ohm range with 1 milliohm resolution, 10 mA source current. Useful for measuring and comparing differences in motor winding resistance or contact resistance (289/FC)
- Low-pass filter for accurate voltage and frequency measurements on adjustable speed motor drives and other electrically noisy equipment (289/FC)
- · Limited lifetime manufacturer's warranty

Features	287	289
Multiple on screen displays	•	•
True-RMS AC bandwidth	100 kHz	100 kHz
dBV/dBm	•	•
DC mV resolution	1 μV	1 μV
Megohm range up to	500 MΩ	500 MΩ
Conductance	50.00 nS	50.00 nS
Continuity beeper	•	•
Elapse time clock/time of day clock	٠	•
Min/Max/Avg/duty cycle/pulse width	•	•
Isolated optical DMM interface with USB PC connection	٠	•
Auto/touch hold	•	•
Over 200 hours logging capacity with new power saving function	•	•
Lo Ohm capability	-	•
LoZ volts	-	•
Lo Pass Filter	-	•

Functions	Range	<b>Basic Accuracy</b>
AC volts or DC volts	50.000 mV, 500.00 mV, 5.0000 V, 50.000 V, 500.00 V, 500.00 V, 1000.0 V	0.025% 0.4% (True-RMS) (AC)
AC current DC current	500.00 μΑ, 5000.0 μΑ, 50.000 mA, 400.00 mA, 5.0000 A, 10.000 A	0.15% 0.7% (True-RMS)
Temperature (excluding probe)	-200.0°C to 1350.0°C	1.0%
Resistance	50.000 Ω, 500.00 Ω, 5.0000 kΩ, 50.000 kΩ, 500.00 kΩ, 5.0000 MΩ, 50.00 MΩ, 50.00 MΩ	0.05%
Capacitance	1.000 nF,10.00 nF, 100.0 nF, 1.000 $\mu F$ , 10.00 $\mu F$ , 100.0 $\mu F$ , 1000 $\mu F$ , 10.00 mF, 100 mF	1.0%
Frequency	99.999 Hz, 999.99 Hz, 9.9999 kHz, 99.999 kHz, 999.99 kHz	.005%

#### **Recommended Accessories**



TLK287 Electronic Test Lead Set See page 161



FVF-SC2 FlukeView® Forms Software with Cable See page 182 C280 Soft Case See page 169

TLK289

Industrial Test Lead Set

See page 161



**i410** AC/DC Current Clamp See page 167

Connector See page 172

ir3000 FC

Fluke Connect® ir3000

Recommended Kits Bundle & Save

Fluke 287 FlukeView<sup>®</sup> Forms Combo Kit

Fluke 287 FlukeView<sup>®</sup> Forms Combo Kit with ir3000FC Connector

Fluke 289 FlukeView<sup>®</sup> Forms Combo Kit

Fluke 289 FlukeView<sup>®</sup> Forms Combo Kit with ir3000FC Connector

For more details see page 184

#### **Included Accessories**

TL175 Test Leads, AC175 Alligator Clips, Probe Holder, Six AA Batteries (installed), Calibration Certificate Sheet.

#### **Ordering Information**

or doring m	
FLUKE-287	True-RMS Industrial Logging Multimeter with TrendCapture
FLUKE-289	True-RMS Electronics Logging Multimeter with TrendCapture
FLUKE-287/	FlukeView <sup>®</sup> Forms
FVF Kit	Combo Kit
FLUKE-289/	FlukeView <sup>®</sup> Forms
FVF Kit	Combo Kit
FLUKE-287/	Industrial Logging
FVF/IR3000	Multimeter and
Kit	Software Combo Kit
FLUKE-289/	Industrial Logging
FVF/IR3000	Multimeter and
Kit	Software Combo Kit
FLUKE	Fluke Connect®
IR3000 FC	ir3000 Connector

Contact your local distributor for price and availability. fluke.co/wtb

# Fluke 83V, 87V & 87V MAX **Digital Multimeters**



Fluke 87V MAX



#### Performance and accuracy for maximum industrial productivity

Fluke 80-V Series is equipped with improved measurement functions, troubleshooting features, resolution and accuracy to solve more problems on motor drives, in plant automation, power distribution, and electro-mechanical equipment.

19998

Fluke 87V

1 199

Fluke 83V

The Fluke 87V and new 87V Max offers a unique function for accurate voltage and frequency measurements on adjustable speed motor drives and other electrically noisy equipment. A built-in thermometer conveniently allows you to take temperature readings without having to carry a separate instrument.

#### **Electrical safety**

All inputs are protected to CAT III 1000 V and CAT IV 600 V. They can withstand impulses in excess of 8,000 V to help protect you from arc blast resulting from surges and spikes. Limited lifetime manufacturer's warranty.

#### **Recommended Accessories**



TPAK **TL220** Magnetic Meter Hanger See page 171 SureGrip™ Industrial Test Lead Set See page 160



**TL175** TwistGuard™ Test Leads **TL224** SureGrip™ Silicone Insulated Test Leads See page 158 See page 157



AC285 SureGrip™ Alligator Clips AC Current Clamp See page 158

See page 165

i400



C125 Soft Carry Case See page 170

CXT80 Extreme Case See page 170

#### **Recommended Kits** Bundle & Save



Fluke 87V/E2 Industrial **Electrician's Combo Kit** For more details see page 172

#### **Included Accessories**

TL175 Test Leads, AC175 Alligator Clips, Yellow Holster (H8OM excl. TPAK), 80BK-A Temperature Probe (87V/MAX only), 9 V Battery Installed (83V and 87V Only), Three AA Batteries Installed (87V MAX only), User Manual and **Technical Notes.** 

#### **Ordering Information**

FLUKE-83V Industrial Multimeter

FLUKE-87V	True RMS Industrial Multimeter
FLUKE-	Industrial Electrician
87V/E2	Combo Kit
FLUKE-	MAX True RMS
87V-MAX	Industrial Multimeter
FLUKE-	Industrial Multimeter
87V/IMSK	Service Kit

**Digital Multimeters** 

Features	83V	87V	87V MAX
True-RMS AC voltage and current for accurate measurements on non linear signals	-	•	•
Selectable filter for accurate voltage and frequency measurements on motor drives	-	•	•
6000 counts, 3-3/4 digits	٠	•	•
4-1/2 digit mode for precise measurements (20,000 counts)	-	•	•
Measure up to 10 A, 20 A for up to 30 seconds	٠	•	•
Built in thermometer lets you carry one less tool (TC probe included)	-	•	•
Frequency to 200 kHz and % duty cycle	٠	•	•
Resistance, continuity and diode test	٠	•	•
10,000 $\mu F$ capacitance range for components and motor caps	٠	•	•
Min/Max-Average recording with Min/Max Alert to capture variations automatically	•	•	•
Battery Life with Backlight off	400	hours	800 hours

-	_	Bas	ic Accuracy
Functions	Functions Range		87V 87 MAX
DC volts	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V	0.1%	0.05%
AC volts	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V	0.5%	0.7% (True-RMS)
DC current	600.0 μΑ, 6000 μΑ, 60.00 mA, 600.0 mA, 6.000 A, 10.00 A	0.4%	0.2%
AC current	600.0 μΑ, 6000 μΑ, 60.00 mA, 600.0 mA, 6.000 A, 10.00 A	1.2%	1.0% (True-RMS)
Temperature (excl. probe)	-200°C to 1090°C	-	1.0%
Temperature Probe	-40°C to 260°C	-	2.2°C or 2%
Resistance	600.0 Ω, 6.000 kΩ, 60.00 kΩ, 600.0 kΩ, 6.000 MΩ, 50.00 MΩ	0.4%	0.2%
Capacitance	10.00 nF, 100.0 nF, 1.000 μF, 10.00 μF, 100.0 μF, 9,999 μF	1.0%	1.0%
Frequency	199.99 Hz, 1.9999 kHz, 19.999 kHz, 199.99 kHz	0.005%	0.005%

# Fluke 88V Automotive Multimeter



Fluke 88V



#### The right meter for auto-electric diagnosis

The Fluke 88V Automotive Multimeter is the most powerful automotive multimeter ever offered by Fluke. In addition to having all standard multimeter features like the ability to measure voltage, current, continuity, and resistance, the 88V can perform diode test and pulse width measurements.

This meter can take current measurements up to 20 A for 30 seconds and 10 A continuously. The optional magnetic hanger lets you attach the meter to most steel surfaces for easy set-up and viewing. The 88V is designed to be used in high energy environments like those found on hybrid vehicles.

- 0.1% DC accuracy
- 4-1/2 digit mode for precise measurements (20,000 counts)
- Measure up to 1000 V AC and DC
- Current measurements up to 10 A, 20 A for up to 30 seconds
- Built-in thermometer for temperature measurements when you need them (temperature probe included)
- Resistance, continuity and diode test
- RPM measurements with inductive pickup (included)
- Millisecond pulse width measurements for fuel injectors • Magnetic hanger to attach meter to the vehicle and free
- your hands for other tasks Min/Max/Average recording with Min/Max Alert to capture
- variations automatically
- Peak Min/Max to record transients as fast as 250 µs · Relative mode to remove test lead resistance from low ohms measurements
- · Auto and manual ranging for maximum flexibility
- Autohold<sup>™</sup> to capture stable readings with only one touch of the leads
- · Large display digits and two-level bright white backlight for increased visibility
- · Analogue bar-graph to track changing or unstable signals
- · Input Alert provides audible warning against wrong use of input jacks
- · Limited lifetime manufacturer's warranty

Specifications	88V
DCV	Maximum Voltage: 1000 V Accuracy: Fluke 88 V: ±(0.1% + 1) Best Resolution: Fluke 88 V: 0.01 mV
ACV	Maximum Voltage: 1000 V Accuracy: Fluke 88 V: ±(0.5% + 2) AC Bandwidth: Fluke 88 V: 5 kHz Best Resolution: 0.01 mV
DC Current	Maximum Amps: 10 A Amps Accuracy: Fluke 88 V: ±(0.4% + 2) Best Resolution: Fluke 88 V: 0.001 mA
AC Current	Maximum Amps: 10 A Amps Accuracy: Fluke 88 V: ±(1.2% + 2) Best Resolution: 0.001 mA
Resistance	Maximum Resistance: $50 \text{ M}\Omega$ Accuracy: Fluke 88 V: $\pm$ (0.4% + 1) Best Resolution: 0.1 $\Omega$
Capacitance	Maximum Capacitance: 9,999 µF Accuracy: ±(1% + 2) Best Resolution: 0.01 nF
Frequency	Maximum Frequency: 200 KHz Accuracy: ±(0.005% + 1) Best Resolution: 0.01 Hz
Duty Cycle	Maximum Duty Cycle: 99.9% Accuracy: within 2% per KHz + 0.1% Best Resolution: 0.1%
Temperature Measurement	-200.0°C to 1090°C, 1.0% excluding probe
80BK Temperature Probe	-40°C to 260°C, 2.2°C or 2% whichever is greater
Conductance	Maximum Conductance: 60.00 nS Accuracy: ±(1.0% + 10) Maximum Resolution: 0.01 nS
Operating Range	Operating Temperature: -20°C to 55°C Storage Temperature: -40°C to 60°C
Size and Weight	5.2 cm × 9.8 cm × 20.1 cm, 624 g



Included Acces	sories
High-impact Holste Manual and Quick	
<b>Ordering Inform</b>	nation
FLUKE-88-5	Automotive Multimeter
FLUKE-88-5/ A KIT	Automotive Multimeter

Combo Kit

Contact your local distributor for price and availability. fluke.co/wtb

# Fluke 170 Series Digital Multimeters

Versatile meters for field service or bench repair



Fluke 179



- The three models of the Fluke 170 Series True-RMS Digital Multimeters (179,177,175) have the features needed to find most electrical, electro-mechanical and heating and ventilation problems. They are simple to use and have significant improvements over Fluke's standards, and a much larger display that's easier to view.
- · True RMS voltage and current measurements
- 0.09% basic accuracy (177, 179)
- 6000 count resolution
- Digital display with analog bargraph and backlight (177, 179)
- Manual and automatic ranging
- Display Hold and Auto Hold
- Frequency and capacitance measurements •
- Resistance, continuity and diode
- measurements Temperature measurements (179)
- Min-max-average recording
- Smoothing mode allows filtering of rapidly changing inputs
- Easy battery exchange without opening the • case
- Closed case calibration through front panel
- Ergonomic case with integrated protective holster
- IEC 61010-2-033 CAT III 1000V / CAT IV 600V
- Battery life: 200 hours typical for alkaline
- Size (H×W×L): 4.3 cm × 9.0 cm × 18.5 cm
- Limited lifetime manufacturer's warranty

#### **Electrical safety**

All inputs are protected to measurement CAT III 1000 V and CAT IV 600 V. These meters can withstand transient impulses in excess of 8000 V to help protect you from arc blasts resulting from surges and spikes.

Features	179	177	175
Max voltage AC/DC	1000	1000	1000
True-RMS	•	•	•
Temperature	•	-	-
Basic DC accuracy	0.09%	0.09%	0.15%
Backlight	•	•	-
Min/Max/Avg	•	•	•
Compatible with ToolPak™ meter hanging kit with magnet	•	•	•
Limited lifetime warranty	•	•	•

Functions	Range	Best accuracy
DC voltage	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V	±0.09% (177 and 179) ±0.15% (175)
AC voltage <sup>1</sup>	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V	±1.0% of reading
DC current	60.00 mA, 400.0 mA, 6.000 A, 10.00 A <sup>2</sup>	±1.0% of reading
AC current <sup>2</sup>	60.00 mA, 400.0 mA, 6.000 A, 10.00 A <sup>2</sup>	±1.5% of reading
Resistance	600.0 Ω, 6.000 kΩ, 60.00 kΩ, 600.0 kΩ, 6.000 MΩ, 50.00 MΩ	±0.9% of reading
Capacitance	1000 nF, 10.00 μF, 100.0 μF, 9999 μF	±1.2% of reading
Frequency <sup>3</sup>	99.99 Hz, 999.9 Hz, 9.999 kHz, 99.99 kHz	±0.1% of reading
Temperature (Model 179)	-40°C to +400°C	1.0% of reading

<sup>1</sup> All AC voltage and AC current ranges are specified from 5% of range to 100% of range.

<sup>2</sup> 10 A continuous, 20 A for up to 30 seconds.

fluke.co/dmm

<sup>3</sup> Voltage frequency is specified from 2 Hz to 100 kHz. Current frequency is specified from 2 Hz to 30 kHz.



**Recommended Accessories** 

трак

Magnetic Meter Hanger

See page 171

1000

Fluke 177

1000

Fluke 175



TL81A

Deluxe Electronic Test Lead Set See page 161



С11ХТ Soft EVA Foam Hard Case Soft Carrying Case See page 169 See page 170



FOM Fiber Optic Meter See page 160

**Recommended Kits** Bundle & Save



Fluke 179/EDA2 Industrial **Digital Multimeter Combo Kit** For more details see page 184

#### **Included Accessories**

Test Leads with 4 mm Lantern Tips, 9V Battery (installed) and User Manual, 80BK Temperature Probe (179 only).

#### **Ordering Information**

FLUKE-175 True RMS Digital Multimeter

FLUKE-177	True RMS Digital
	Multimeter

FI

LUKE-179	True	RMS	Digital
	Multi	imete	r

FLUKE-Electronics Combo 179/EDA2 Kit

FLUKE-**Industrial Multimeter** 179/IMSK Service Kit









# Fluke 233 Remote Display **Digital Multimeter**





Fluke 233

The Fluke 233 Remote Display Digital Multimeter allows you to be in two places at once. The removable display solves several problems. First, you no longer have to hold both the meter and the test leads to make a measurement. It also allows you to measure where the measurement point is separated from controls or where the operator can't stay close to the meter during measurements due to various hazards or moving machinery.

- · Wireless technology allows the display to be carried up to 9.1 metres away from the point of measurement for added flexibility
- The removable magnetic display can be conveniently mounted where it is easily seen
- · Low-power 802.15.4 wireless technology does not interfere with measurement accuracy
- Use as a conventional multimeter when the display is connected
- True-RMS AC voltage and current
- Built-in thermometer
- · Auto power off maximises battery life (400 hours)
- Radio transmitter automatically turns off when the display is connected to the meter
- · Record signal fluctuations using the Min/Max function

-	
Features	233
Removable magnetic display	•
True-RMS measurement	•
Digital display counts	6000
Display backlight	•
Built in thermometer	•
Resistance, continuity and diode test	•
Min/Max and average recording	•
Auto power off maximises battery life	•
Radio transmitter automatically turns off when the display is connected to the meter	•
Use as conventional multimeter when the display is connected	•
Safety rating	CAT IV 600 V/CAT III 1000 V
Auto and manual ranging	•
Display Hold and AutoHold®	•
Unsafe voltage alert warns for voltages above 30 V	•
2 Low batteries indication	•
Ergonomic case with integrated holster	•
Selectable sleep mode preserves battery life	•

#### **Specifications** 0.1 mV to 1000 V DC voltage Range Accuracy 0.25% + 2 0.1 mV to 1000 V AC voltage Range Accuracy 1.0% + 3 0.001 A to 10 A DC current Range Accuracy 1.0% + 3AC current Range 0.001 A to 10 A 1.5% + 3Accuracy Resistance Range $0.1~\Omega$ to $40~M\Omega$ 1000 nF to 9999 µF Capacitance Frequency 0.1 Hz to 50.00 kHz Temperature -40°C to +400°C Power 3 AA batteries main body, 2 AA batteries display module Battery life 400 hours CAT IV 600 V , CAT III 1000 V Compliance Size (H×W×L) 5.3 cm × 5.3 cm × 19.3 cm Weight 604 g



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• Three year warranty

### 

Digital Multimeters

# Fluke 110 Series True-RMS **Digital Multimeters**



Fluke 117



#### **Dependable Digital Multimeters for Electrical and HVAC purposes**

All the models in the Fluke 110 series are True-RM Multimeters with a large 3-1/2 digit / 6,000 count display. The Fluke 117 includes integrated VoltAlert<sup>™</sup> non-contact voltage detector and LoZ ghost voltage reduction features to get the job done faster. The Fluke 116 is the HVAC/R Multimeter with temperature, microamps, and LoZ to quickly troubleshoot problems with HVAC/R equipment. The Fluke 115 is a compact meter for a wide variety of electrical/electronic testing applications, while the Fluke 114, 113 and 110 are basic electrical troubleshooting meters designed for "go/no-go" testing.

- VoltAlert<sup>™</sup> technology for integrated non-contact voltage detection (117)
- AutoVolt feature for automatic AC/DC voltage selection (117, 116, 114)
- Built in thermometer for HVAC applications (116)
- Microamps to test flame sensors (116)
- VCHEK<sup>™</sup> LoZ low impedance measurement function to simultaneously test for voltage/continuity (113)
- · LoZ: Low input impedance prevents false readings due to "ghost voltage" (117, 116, 114)
- Large display and white LED backlight to work in poorly lit areas more effectively
- Three year warranty

Specifications	117	115	113	110
VoltAlert <sup>™</sup> detector	٠	-	—	_
AutoVolt/LoZ	•	-	LoZ	-
Analogue bargraph	٠	•	•	•
True-RMS for accurate measurements on non-linear loads	•	•	٠	•
Min/Max recording	٠	•	•	•
Display hold	•	•	•	•
3-1/2 digits	•	•	•	•
6000 counts	•	•	•	•
CAT III 600 V safety rated	•	•	٠	•
			116	114
Temperature			•	-
Microamps			•	-
Frequency			•	-
Capacitance			•	-
Diode test			•	-
AutoVolt/LoZ			•	•
Analogue bargraph			•	•
True-RMS for accurate measurements on	non-linear lo	ads	•	•
Min/Max recording			•	•
Display hold			•	•
3-1/2 digits			•	•
6000 counts			•	•

Functions	117	116	115	114	113	110
AC/DC voltage	600 V	600 V	600 V	600 V	600 V	600 V
AC/DC current	10 A	600.0 μA	10 A	-	-	-
Resistance	40 MΩ	40 MΩ	40 MΩ	40 MΩ	60 kΩ	40 MΩ
Capacitance	9,999 µF	9,999 µF	9,999 µF	-	9,999 µF	-
Diode test	•		•	-	•	-
Frequency	5 Hz to 99.99 kHz	5 Hz to 99.99 kHz	5 Hz to 99.99 kHz	-	-	-
Temperature		+400°C		-	-	-
Safety rating	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT IV 600 V	CAT III 600 V



**Recommended Kits** 



Fluke 116/323 HVAC Combo Kit For more details see page 184



**IB117K FLUKE 117 Multimeter + Insulated Hand Tools Starter Kit** For more details see page 188

#### **Included Accessories**

TL75 Test Leads, Holster, 80BK Integrated Temperature Probe (116), User's Manual and 9 V Battery (installed).

#### **Ordering Information**

FLUKE-110 Basic True RMS **Digital Multimeter** FLUKE-113 Utility True RMS **Digital Multimeter** FLUKE-114 Electrical True RMS **Digital Multimeter** FLUKE-115 True RMS Digital Multimeter FLUKE-116 HVAC Electrical True **RMS Multimeter** FLUKE-117 Adv. Electrical True **RMS Multimeter** FLUKE-HVAC and Clamp 116/323 Meter Combo Kit FLUKE-**HVAC Multimeter** 116/62 and Infrared MAX+ Thermometer Kit FLUKE-Electrical and Clamp 117/323 Meter Combo Kit **IB117K** 117 Multimeter + **Insulated Hand Tools** Starter Kit

Т. П.

# Fluke 27 II, 28 II and 28 II Ex **Industrial IP67 Digital Multimeters**



Fluke 28 II



The 27 II, 28 II and 28 II Ex-AU Digital Multimeters are designed for tough work environments. All three meters have IP 67 waterproof and dustproof rating. They both have an extended operating temperature range of -15°C to + 55°C and 95% humidity.

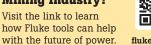
- Unique function for accurate voltage and frequency measurements on adjustable speed motor drives and other electrically noisy equipment (28 II, 28 II Ex)
- Built-in thermometer conveniently allows you to take temperature readings without having to carry a separate instrument (28 II, 28 II Ex)
- · Hi-resolution 20,000 count display mode (28 II, 28 II Ex)
- Resistance and continuity. Relative mode to remove test lead resistance from low ohms measurements
- Large digit display with bright, two-level backlight
- · Backlit keypad buttons allow for easy visibility in low-lit areas
- Optional magnetic hanger for easy setup and viewing freeing your hands for other tasks
- Intrinsically safe certifications from the world's leading certification bodies (28 II Ex)
- · Limited lifetime manufacturer's warranty

Features	27 II	28 II	28 II Ex
Tested to withstand a 3 m drop	•	•	•
Wide 1000 V measurement range	•	•	•
True-RMS AC voltage and current for accurate measurements on non-linear signals	-	•	•
Low pass filter	-	•	•
Temperature	-	•	•
Average responding voltage and current measurements	•	-	-
10 A continuous (20 A for 30 seconds)	•	•	•
Frequency and capacitance	•	•	•
Record signal fluctuations using the Min/Max function	•	•	•

Specifications		27 II	28 II	28 II Ex
DC voltage	Range		0.1 mV to 1000 V	
	Accuracy	0.05% +1	0.05% + 1	0.05% + 1
AC voltage	Range		0.1 mV to 1000 V	
	Accuracy	0.5% +3	0.7% +4	0.7% +4
DC current	Range		0.1 µA to 10 A	
	Accuracy	0.2% + 4	0.2% + 4	0.2% + 4
AC current	Range		0.1 µA to 10 A	
	Accuracy	1.5% + 2	1.0% + 2	1.0% + 2
Resistance	Range		0.1 0 to 50 MΩ	
Display counts		6000	6000/19,999	6000/19,999
Capacitance		1 nF to	9999 µF	10 nF to 9999 µF
Frequency			0.5 Hz to 199.99 kHz	
Temperature		200°C to +1090°C -200°C to +109		-200°C to +1090°C
Low pass filter (measur VSD's)	ement on	- Yes Yes		Yes
Compliance		CA	AT IV 600 V, CAT III 1000	V
Measurement method		Avg. responding True-RMS True-RMS		True-RMS
Power	rer Three AAA batteries			
Battery life		800	hours	400 hours
Dimensions (DxWxH)		6.3	5 cm × 10.0 cm × 19.81	cm
Weight with holster			698.5 g	



#### Work in the **Mining Industry?**





fluke.co/mining



Multimeter

Contact your local distributor for price and availability. fluke.co/wtb

## 

# Fluke 77IV Digital Multimeter



Fluke 77IV



#### Versatile multimeter for field service or bench repair

The Fluke 77IV Digital Multimeter has the features needed to repair most electrical and electronic problems. This meter is simple to use and has significant improvements over Fluke's original 70 Series with more measurement functions, conformance to the latest safety standards, and a much larger display that is easier to view.

- Wide 1000 V measurement range
- Average responding AC measurements
- 0.3% accuracy
- 10 amps continuous
- Frequency and capacitance
- Resistance and continuity
- Large display
- Backlight for work in dim areas
- Min/Max to record signal fluctuations
- Integral holster with probe holders
- Free your hands with the optional TPAK magnetic hanger
- Auto and manual ranging
- Battery Life: 400 hours typical
- Weight: 0.42 kg
- Size (H×W×D): 185 mm × 90 mm × 43 mm
- Limited lifetime manufacturer's warranty

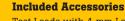
Function	Maximum	Max. resolution	Accuracy
Voltage DC	1000 V	1 mV	±(0.3%+1)
Voltage AC	1000 V	1 mV	±(2.0%+2)
Current DC	10 A	0.01 mA	±(1.5%+2)
Current AC	10 A	0.01 mA	±(2.5%+2)
Resistance	50 MΩ	0.1 Ω	±(0.5%+1)
Capacitance	9,999 μF	1 nF	±(1.2%+2)
Frequency	99.99 kHz	0.01 Hz	±(0.1%+1)
8 h			

Accuracies are best accuracies for each function.

#### **General Specifications**

Accuracy is specified for 1 year after calibration, at operating temperatures of  $18^{\circ}$ C to  $28^{\circ}$ C, with relative humidity at 0% to 90%. Accuracy specifications take the form of  $\pm([\% \text{ of Reading}] + [Counts])$ .

Specifications	77IV
V Maximum voltage between any terminal and earth ground	1000 V
Surge protection	8 kV peak per IEC 61010
W Fuse for mA input	440 mA, 1000 V FAST Fuse
W Fuse for A input	11 A, 1000 V FAST Fuse
Display	Digital: 6,000 counts, updates 4/sec
Bar Graph	33 segments, updates 32/sec
Frequency	10,000 counts
Capacitance	1,000 counts
Operating altitude	2,000 metres
Storage altitude	12,000 metres
Operating temperature	-10°C to + 50°C
Storage temperature	-40°C to + 60°C
Temperature coefficient	0.1 × (specified accuracy/°C (< 18°C or > 28°C)
Electromagnetic compatibility (EN 61326-1:1997)	In an RF field of 3 V/M, accuracy = specified accuracy except in temperature: specified accuracy $\pm 5^{\circ}C$
Relative humidity (maximum non-condensing)	90% to 35°C; 75% to 40°C; 45% to 50°C
Battery life	400 hours
Size (H×W×L) and Weight	185mm × 90mm × 43mm; 420 grams
Safety compliance	IEC 61010-2-033; CAT III 1000 V, CAT IV 600 V
Certifications	CSA, TÜV (EN61010), UL, ∏, (N10140), VDE



Test Leads with 4 mm Lantern Tips, 9V Battery (installed), Manual Information Pack.

Ordering Information

FLUKE-77-4 Digital Multimeter

Contact your local distributor for price and availability. fluke.co/wtb

# **Digital Multimeters**

**TPAK** Magnetic Meter Hanger V See page 171

i400

AC Current Clamp See page 165

**Recommended Accessories** 



**C11XT** Soft EVA Foam Hard Case See page 170



**i2000 FLEX** AC Current Clamp See page 165

**TLK-225** SureGrip™ Master Accessory Kit See page 161



# Fluke PRV240 and PRV240FS **Proving Units**



Fluke PRV240





Fluke PRV240 FS

#### **Fluke PRV240 Proving Unit**

The Fluke PRV240 Proving Unit is a portable, pocket-sized, battery-powered voltage source. It is unique in that it sources stable AC and DC voltages for both LoZ and HiZ instruments.

- Sources both AC and DC steady-state voltage supplies 240 V DC/AC
- A single LED indicates functionality, making this unit a simple-to-use solution for verification of your test tool
- Compatible with both high impedance or low impedance multimeters, clamp meters or two pole testers
- · Voltage is sourced through recessed contacts that are activated when tested probes are inserted to avoid accidental contact
- Includes Magnetic Hanging Strap
- Long battery life 5,000 tests per set of four AA batteries • One year warranty

#### **Fluke PRV240FS Proving Unit**

The Fluke PRV24OFS Proving Unit is specifically built to prove the functionality of the FieldSense™ measurement on the Fluke T6 Electrical Testers. It also provides AC and DC voltages for other HiZ instruments in your tool box.

- · Reduces the risk of shock and arc flash by validating the functionality of test tools without placing yourself in a potentially hazardous electrical environment
- Can prove functionality of the FieldSense<sup>™</sup> measurement on the T6 Electrical Testers
- Sources both AC and DC steady-state voltage supplies 240 V DC/AC
- A single switch and a set of LEDs indicate functionality of both the FieldSense<sup>™</sup> "no-test-lead" voltage measurement capability, plus standard AC and DC measurements with test leads
- Compatible with high impedance multimeters or clamp meters
- Voltage is sourced through a central hub designed to test the T6 FieldSense<sup>™</sup> open fork, as well as through recessed contacts that are activated when test probes are inserted to avoid accidental contact
- Long battery life 2,000 tests per set of four AA batteries
- One year warranty

Specifications	PRV240	PRV240FS
Output voltage		RMS or DC $\geq 1 M\Omega$
$LoZ > 3 k\Omega$ load	60 V AC typical 50 V AC RMS minimum	
LED power indicator	Turns on when out	put voltage present
Battery	4 AA Alkaline batteries NEDA 24 A IEC LRO3	4 × AA Alkaline batteries NEDA 15 A IEC LR6
Battery life	5000 (5-second duration) test cycles with >1 MΩ load, 300 tests minimum with >3 kΩ load	2000 (10-second duration) test cycles with >1 M\Omega load
Operating temperature	-10°C to	b +50℃
Operating altitude	200	0 m
Dimensions	11.7 cm × 7.4 cm × 2.8 cm	11.7 cm × 7.4 cm × 4.5 cm
Weight	0.23kg includes batteries	0.32kg includes batteries
Safety	IEC61010-1, IE	C61010-2-030







#### **Included Accessories**

TPAK Hanging Strap, Four AA Batteries, Instruction Sheet.

#### **Ordering Information**

PRV240	Proving Unit
PRV240FS	Proving Unit
T6-1000/ PRV240FS	T6-1000 & PRV240FS Proving Unit Kit

Contact your local distributor for price and availability. fluke.co/wtb



# **Precision Bench Multimeters**

#### Fluke 8808A 5.5 Digit Multimeter

The Fluke 8808A multimeter has a broad range of functions, measuring volts, ohms and amps with a basic V DC accuracy of 0.015%. The meter is easy to use and include innovative functions to simplify routine testing and precision 4 wire resistance measurements.

• 5.5 digit resolution

**Fluke 8808A** 

Fluke 8808A

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- Up to 0.015% accuracy
- Dual measurement display
- Sensitive DC leakage current ranges
- Front panel setup keys
- TL2X4 wire measurement technique
- Three year warranty

Specifications	8808A	
Display	Dual	
Resolution (digits)	5.5	
Measurements	V AC, V DC, I DC, I AC, Ω, Cont, Diode	
Basic V DC accuracy (% Reading +% Range)	0.015 + 0.003	
Advanced measurements/ functions	2x4 wire ohms, freq, i-Leakage dedicated setup keys	
Math	Null, dBm, dB, Min, Max	
Analysis	Limit Compare	
USB memory device port	No	
Interfaces	RS-232, USB via optional adapter	
Safety rating	CAT I 1000 V, CAT II 600 V	







#### **Included Accessories**

LCI Line Power Cord, Test Lead Set, Spare Line Power Fuse, Programmers Manual/ User Manual on CD-ROM, 884X-USB USB to RS232 Cable Adapter, FVF-BASIC FlukeView<sup>®</sup> Forms Software Basic Version.

#### **Ordering Information**

FLUKE 5.5 Digit Multimeter 8808A

FLUKE 5.5 Digit Multimeter 8808A/SU (Software + Cable)

Calibration & Service Agreement units also available.

Contact your local distributor for price and availability. au.flukecal.com/where-to-buy







#### **Recommended Accessories**

T

TL2X4W-TWZ

2x4-Wire Ohms Tweezers Test Leads



# Clamp Meters

Wires in tight compact spaces. Panels out of reach. Extra-large conductors. We understand your workspace and have designed products for noise-free, reliable readings. Built on success, digital clamp meters designed by Fluke are known as workhorse current clamp meters. With advanced performance, the amp clamp meter line is designed to be simple to use and gimmick-free. 52800 h 800 h tire 6004 user 00

CC 113-6 50

Clamp
Meters

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<b>Fluke Clamp Meters</b>	IIIantsau		PIACITICAL			- m hose			TITUTISTIC	Tech Ical				חוט חומשוואו הוואין איז		alpupat		202
	323	324	325	365	373	374 FC	375 FC	376 FC	377 FC	378 FC	381	393 FC	902 FC	353	355	200 FC	a3000 FC	a3001 FC
Measurements	ŀ	ŀ	ŀ	·		•	•	·	•	ŀ	•	ŀ	ŀ	ŀ			•	
AC voltage	•	•	•	•		•	•	•	•	•	•		•		•			
Resistance	•	•		•		•	•		•	•	•	•						
Continuity	•	•	•	•	•	•	•	•	•	•	•	•	•		•			
DC volts	•	•	• •	•	•		•	• •	• •	• •		• •	• •	•	•			
True-BMS	•			• •			• •			•	• •						•	
Frequency							•	•	•		•				•			•
AC + DC voltage			•															
AC + DC current																		
Min/Max/Avg																		
4-20mA																		
Temperature		•	•															
Capacitance		•	•					•	•	•		•	•					
Measurement logging							•	•	•	•		•				•	•	•
Special Features																		
Inrush current mode						•	•	•	•	•	•	•		•	•		•	•
Low Pass filter for VFDs							•	•	•	•	•			•	•			
18-inch iFlex <sup><math>x</math></sup>						Optional	Optional	Included	Included	Included	Included	Included						Included
Wireless																		
FieldSenser									•									
PQ indicator																		
DC power																		
Display																		
Display hold	•	•	•	•	•										•	•	in phone app	in phone app
Backlight		•	•	•	•								•			•		
specifications	30 mm	30 mm	30 mm	10 mm	22 mm	24 mm	24 mm		24 mm	24 mm	2.4 mm	2.4 mm	30 mm	80 mm	80 mm	40 mm	24 mm	75.4 mm
Jaw opening	(1.18 in)	(1.18 in)	(1.18 in)	(0.7 in)	(1.26 in)	(1.33 in)	(1.33 in)	(1.33 in)	(1.33 in)	(1.33 in)	(1.33 in)	(1.33 in)	(1.2 in)	(2.3 in)	(2.3 in)	(1.5 in)/ 61 mm (2.4 in)	(1.33 in)	(10 in) coil
Max wire size	$300 \text{ mm}^2$	$300 \text{ mm}^2$	$300 \text{ mm}^2$	17 mm (0.67 in)	$400 \text{ mm}^2$	$400 \text{ mm}^2$	$400 \text{ mm}^2$	$400 \text{mm}^2$	$400 \text{ mm}^2$	$400 \text{ mm}^2$	$4.00 \text{ mm}^2$	$400 \text{ mm}^2$	$300 \text{ mm}^2$	400 mm <sup>2</sup> or 3× 240 mm <sup>2</sup>	400 mm <sup>2</sup> or 3× 240 mm <sup>2</sup>		$400 \text{ mm}^2$	
Current range AC RMS	0 to 400.0 A	0 to 40.00 A/ 400.0 A	0 to 40.00 A/ 400.0 A	0	0 to 600.0 A	0 to 600.0 A (2500 A with	0 to 600.0 A (2500 A	0 to 999.9 A (2500 A	0 to 999.9 A (2500 A	0 to 999.9 A (2500 A	0 to 999.9 A (2500 A	0 to 999.9 A (2500 A	0 to 600.0 A	_	0 to 1400 A	0 to 60 A	0 to 400 A	0 to 2500 A
		U DOOL					with iFlex*)	_	-	_		with iFlex <sup>*</sup> )		1 100	101 -			
Accuracy AC current (50/60 Hz)	2% ±5 counts	Ñ	2	2% ±5 counts	23	2% ±5 counts	2% ±5 counts	2% ±5 counts	2% ±5 counts 2	2% ±5 counts 2	2% ±5 counts	2% ±5 counts	2% ±5 counts	1.5% ±5 counts	1.5% ±5 counts	1% ±5 counts	2% ±5 counts	3% ±5 counts
AC Response	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS	True-RMS
Current range DC			0 to 40.00 A/ 400.0 A	0 to 200 A		0 to 600.0 A	0 to 600.0 A	0 to 999.9 A	0 to 999.9 A	0 to 999.9 A	0 to 999.9 A	0 to 999.9 A	0 to 200 μÅ	0 to 2000 A	0 to 2000 A			
Accuracy DC current			2% ±5 counts	2% ±5 counts		2% ±5 counts	2% ±5 counts	2% ±5 counts	2% ±5 counts 2	2% ±5 counts 2	2% ±5 counts	2% ±5 counts	1% ±5 counts	1.5% ±5 counts	1.5% ±5 counts			
Voltage range AC	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 1000 V	0 to 1000 V	0 to 1000 V	0 to 1000 V	0 to 1000 V	0 to 1000 V	0 to 1000 V	600.0 V		0 to 600.0 V			
Accuracy AC voltage	1.5% ±5 counts	1.5% ±5 counts	1.5% ±5 counts	2% ±5 counts	1% ±5 counts 1.5%	1.5% ±5 counts	1.5% ±5 counts	1.5% ±5 counts	1.5% ±5 counts	1.5% ±5 counts	1.5% ±5 counts	1.5% ±5 counts	1% ±5 counts		1% ±5 counts			
Voltage range DC	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 1000 V	0 to 1000 V	0 to 1000 V	~	~	0 to 1000 V	0 to 1500 V	0 to 600.0 V		0 to 1000 V			
Accuracy DC voltage	1.0% ±5	1.0% ±5	1.0% ±5	2% ±5 counts	1% ±5 counts	1% ±5 counts	1% ±5 counts	1% ±5 counts	10	70	1% ±5 counts	1% ±5 counts	1% ±5 counts		1% ±5 counts			
Resistance range	0 to 4000 Ω	0 to 4000 Ω	0 to 40 kD	0 to 6000 Ω	0 to 6000 Ω	0 to 6000 Ω	0 to 6000 Ω	0 to 60 kf)	0 to 60 kU	0 to 60 kΩ	0 to 60 kΩ	0 to 60 kΩ	0 to 9999 Ω		0 to 400 kΩ			
Frequency measurement range	_		5 to 500 Hz				500 Hz	500 Hz	500 Hz	500 Hz	500 Hz	500 Hz		5 to 1000 Hz		40 to 1000 Hz		
Warranty (years)	2	2	2	ę	m	ę	ę	m	ę	ę	ę	ę	ę	m	ę	1	ę	ę
Safety rating (EN 61010)	CAT IV 300 V, CAT III 600 V	CAT IV 300 V, CAT III 600 V	CAT IV 300 V, CAT III 600 V	CAT III 600 V	CAT III 600 V, CAT IV 300 V	CAT III 1000 V, CAT IV 600 V	CAT II 1000 V, CAT IV 600 V	CAT II 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1500 V, CAT IV 600 V	CAT III 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 600 V	CAT III 600 V	CAT III 1000 V CAT IV 600 V
Fluke Connect <sup>*</sup>																		
Fluke Connect <sup>®</sup> App compatible			_	_		•	•	•	•	•		•	•			•	•	•



# Fluke 393 FC CAT III 1500 V **True-RMS Clamp Meter**



Fluke 393 FC



#### The World's First CAT III **1500 V Current Clamp**

The Fluke 393 FC CAT III 1500 V / CAT IV 600 V True-RMS Clamp Meter with iFlex is designed for technicians who work in DC environments up to 1500 V: solar arrays, wind power, electric railways, data centers battery banks for uninterruptible power supplies. The Fluke 393 FC meets standard IEC 61730-1 for photovoltaic panels and extends the safe measurement range up to 1500 V DC.

Make DC power measurement quickly and accurately with a tool that does it all: V. A and Power (kVA). Ensure PV panels are properly installed with the help of an audio beep to indicate incorrect polarity. Visual continuity makes continuity testing easier in lowlight situations.

- Safe and accurate voltage measurement up to 1500 V DC
- IP54 rating for dust and water making it ideal for working outdoors on solar arrays and wind power systems
- DC power measurement, showing readings in kVA
- Audio and Visual Polarity to ensure photovoltaic panels are properly installed
- Visual Continuity that provides a bright green indicator light in the display for working in dark and noisy environments
- Seamless logging, sharing and reporting of test results via Fluke Connect software
- Three year warranty

Features	Range	Accuracy	
DC power	600.0 kVA	2% + 2.0 kVA	
De power	1500 kVA	2% + 20 kVA	
Current AC (clamp jaw)	0 to 999.9 A	±(2% + 5 digits)	
Current AC (iFlex®)	0 to 2500 A	±(3% + 5 digits)	
Current DC	0 to 999.9 A	±(2% + 5 digits)	
Voltage AC	0 to 1000 V	±(1% + 5 digits)	
Voltage DC	0 to 1500 V	±(1% + 5 digits)	
mV DC	500.0 mV	±(1% + 5 digits)	
Capacitance	0 to 1000 µF	±(1% + 5 digits)	
Resistance / Continuity	60 kΩ	±(1% + 5 digits)	
Jaw opening	34	mm	
Visual Continuity	Ye	es	
Audio Polarity	Ye	es	
Logging (device / phone)	Yes	/ Yes	
Low Pass	Yes		
Display	Dual	lline	
CAT Rating (device)	CAT III 1500 V	/ CAT IV 600 V	
CAT Rating (test leads)	CAT III 1500 V in	sulated test leads	



#### Work in the **Solar Industry?**



Visit the link to learn how Fluke tools can help with the future of power. fluke.co/solar







Pack30

Professional Tool Backpack See page 170



#### Get the FREE Fluke Connect<sup>®</sup> App!

By using the Fluke Connect® App, you can efficiently and safely capture, store and share maintenance data without leaving the field. You can securely connect and collaborate with others, so they can see what you see.





#### **Included Accessories**

CAT III 1500 V Rated Test Leads with Right Angle Plugs and Safety Caps, 18-inch iFlex® Flexible Current Probe, ToolPak Magnetic Meter Hanger, Premium Carrying Case.

#### **Ordering Information**

FLUKE-393 FC CAT III 1500 V True-RMS AC/DC **Clamp Meter** with iFlex®

Contact your local distributor for price and availability. fluke.co/wtb



#### 

Clamp Meters

# Fluke 377 FC and 378 FC Clamp Meters with FieldSense™



Fluke 377 FC

Fluke 378 FC



# Voltage and Current Measurements with FieldSense™ Technology

The new Fluke 377 FC and 378 FC are the first industrial clamps meters that use FieldSense™ technology to make accurate non-contact voltage measurements, thereby enhancing the safety and improving productivity. Get a full set of phase-to-phase voltage and current measurements along with auto calculation of phase rotation by clamping the jaw over each of the three phase conductors. The Fluke 378 FC includes the unique power quality indicator that automatically senses power quality issues related to current, voltage and power factor, enabling you to quickly determine if the fault is upstream or downstream.

- Safe and accurate voltage measurement without metallic contact
- View both voltage and current measurements simultaneously on dual display
- Complete 3 phase measurements 50% faster than other industrial clamp meters
- Phase rotation information is auto calculated (in Fluke Connect® App)
- Screen equipment for power quality problems with PQ Indicator (Fluke 378 FC only)
- Easy logging, seamless data transfer and reporting with Fluke Connect®
- Three year warranty

Features	Range	377 FC	378 FC
Current AC	0 to 999.9 A	±(2% +	5 digits)
(clamp jaw/iFlex®)	0 to 2500 A	±(3% +	5 digits)
Current DC	0 to 999.9 A	±(2% +	5 digits)
Voltage AC (FieldSense™)	0 to 1000 V	±(3% + 5 digit ±(5% + 5 digit	
Voltage AC (Test Leads)	0 to 1000 V	±(1% + 5	5 digits)
Voltage DC	0 to 1000 V	±(1% + 5	5 digits)
Capacitance	0 to 1000 μF	±(1% + 4	4 digits)
Resistance / Continuity		60 kΩ	/ Yes
Jaw opening		34 1	mm
Three-phase calculations		Ye	25
Power Quality indicator		No	Yes
Phase Rotation		Ye	es
Visual Continuity		Yes	
Data Logging		Yes	
Low pass filter (for VFD)		Ye	es
CAT Rating		CAT III 1000 V .	/ CAT IV 600 V



HV

#### FieldSense™ Enabled



Non-contact voltage measurement made possible with Fluke's FieldSense™ technology.

Get voltage measurements faster, easier and safer than ever. No direct electrical contact means less potential for electric shocks and arc flash.





#### **Included Accessories**

Test Leads, TwistGuard™ Test Probes, Black Grounding Clip, 18-inch iFlex® Flexible Current Probe, ToolPak Magnetic Meter Hanger, Premium Carrying Case and Quick Reference Guide.

#### **Ordering Information**

Fluke 377 FC	Non-Contact Voltage True-RMS AC/DC Clamp Meter
Fluke 378 FC	Non-Contact Voltage True-RMS AC/DC Clamp Meter

Contact your local distributor for price and availability. fluke.co/wtb



fluke.co/clamps

## Fluke 370 Series Clamp Meters



#### Be ready for anything

The Fluke 370 Series of True-RMS Clamp Meters provides a range of state of-the-art features to meet even the most demanding job requirements.

All four of the clamp meters have improved base features such as a large, backlit display, true-RMS standard, CAT IV safety rating and a durably constructed body. Additionally, the 376 FC, 375 FC and 374 FC are a part of the Fluke Connect<sup>®</sup> family of wireless test tools and are compatible with the iFlex<sup>®</sup> Flexible Current Probe (included with the 376 FC, sold separately for the 375 FC and 374 FC), and provide increased measurement readings to 1000 A.

Three year warranty.



Fluke 375 FC Fluke 374 FC Fluke 373

Functions	Range	373	374 FC	375 FC	376 FC
Current AC	0 to 600.0 A	2% ± 5 counts	2% ±5 counts	2% ±5 counts	-
Accuracy	0 to 999.9 A	-	-	-	2% ±5 counts
Current AC Accuracy (iFlex*)	0 to 2500 A	-	3% ±5 counts	3% ±5 counts	3% ±5 counts
Current DC	0 to 600.0 A	-	2% ±5 counts	2% ±5 counts	-
current DC	0 to 999.9 A	-	-	-	2% ± 5 counts
Voltago AC	0 to 600.0 V	$1\% \pm 5$ counts	-	-	-
Voltage AC	0 to 1000 V	-	1% ± 5 counts	1% ± 5 counts	1% ± 5 counts
Valtaga DC	0 to 600.0 V	1% ± 5 counts	-	-	-
Voltage DC 0 to 1000	0 to 1000 V	-	$1\% \pm 5$ counts	1% ± 5 counts	1% ± 5 counts
Resistance range	-	0 to 6000 Ω	0 to 6000 Ω	0 to 6000 Ω	0 to 60 kΩ
Jaw opening	-	32 mm	34 mm	34 mm	34 mm
Max. wire size	-	750 MCM	750 MCM	750 MCM	750 MCM
Frequency measurement range	Safety Compliance (61010-2-032)	CAT III 600 V, CAT IV 300 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V

#### Fluke iFlex<sup>®</sup> Flexible Current Probe



#### Unprecedented measurement flexibility

The iFlex® Flexible Current Probe expands the measurement range of select Fluke Clamp Meters to 2500 A AC while providing increased display flexibility, improved wire access and the ability to measure awkward-sized conductors. Available in 18 inch and 10 inch coil sizes.

- Compatible to Fluke 374 FC, 375 FC, and 376 FC
- CAT IV 600 V, CAT III 1000 V
- 7.5 mm coil diameter allows measurement in tight spaces
- 1.8 m cable
- Three-year warranty

Visit fluke.co/clamps for additional specifications.



#### Fluke Connect<sup>®</sup> Enabled



The Fluke 376 FC, 375 FC, and 374 FC are a part of the Fluke Connect® family of wireless test tools.

- Trend measurements, pinpoint intermittent faults and transmit results wirelessly by connecting your meter to your phone via the Fluke Connect\* Measurements app
- Create and send reports right from the field
- Stay safely away from the arc flash zone through Bluetooth connectivity

#### **Included Accessories**

18-inch iFlex® Flexible Current Probe (Fluke 376FC only), Test Leads, Soft Carrying Case, Instruction Card, Safety Information Sheet, Two AA Alkaline Batteries.

<b>Ordering Info</b>	ormation
FLUKE 373	True-RMS Clamp meter
FLUKE 374 FC	True-RMS Clamp meter
FLUKE 375 FC	True-RMS Clamp meter
FLUKE 376 FC	True-RMS Clamp meter
i2500-10 iFlex®	Flexible Current Probe 25 cm
i2500–18 iFlex®	Flexible Current Probe 46 cm
Calibration & Se also available.	ervice Agreement units

Contact your local distributor for price and availability. fluke.co/wtb

# Fluke 301D Clamp Meter



Model

DC Current

DC Voltage

Resistance

Voltage Frequency

**Current Frequency** 

Capacitance

T-rms Value Continuity

Diode

Hold

Backlight

Weight

trigger)

Battery

Warranty

Safety rating

Size (L x W x H)

Jaw Opening

Clamp Arm Size

Size (L x W x H with barrier and

AC Current (45 to 400 Hz)

AC Voltage (45 to 400 Hz)

#### Portable and lightweight for easier field testing

The Fluke 301D CAT III 300 V Clamp Meter weights only 154g and just 16mm thick, which is designed to fit in your pocket, allowing you to carry it around for easier field testing. The Fluke 301D has a slim and think Jaw with the arm size of only 10mm x 10mm, making it to be easily clamp onto tightly packed wires and small space. These Jaws make current testing safer and more efficient.

With eight test functions, the Fluke 301D can meet multiple field testing needs and resolves problems with just one meter

- Safe and accurate voltage measurement up to 600V AC/DC
- AC current measurement up to 600A
- · Resistance and continuity measurement
- · Capacitance and diode measurement
- · Current and voltage frequency
- One year warranty

Accuracy Range

Accuracy







	301D	
Range	60.00Ă	600.00A
Resolution	0.01A	0.1A
Accuracy	2%+10	2%+5
Range	60.00A	600.00A
Resolution	0.01A	0.1A
Accuracy	2%+10	2%+5
Range	600.0V	
Resolution	0.1	1V
Accuracy	1.5%	6+5
Range	600	.0V
Resolution	0.1V	
Accuracy	1.5%+5	
Range	600.0Ω 6.000kΩ 60.00kΩ	
Accuracy	1%+5	
Range	9.999Hz 99.99Hz 999.9Hz 9.999kHz 9.999kHz	
Accuracy	0.1%+3	
Range	45.0 to 4	400.0 Hz
Accuracy	0.19	6+3
Range	9.999µF	99.99µF 999.9µF

2%+5

3.000 V

34 mm

10 mm X 10 mm

(2) AAA Batteries

1 year

10%	10%	
-		
Yes		
Yes		
Yes		
CAT III 300V		Included Accessories
154 g		TL75 Test Lead, (2) AAA
190mm x 52mm x 16mr	n	Batteries
190mm x 68mm x 22mr	n	Ordering Information

5%+5

3.000 V

Fluke-301D/ CAT III 300 V Clamp Meter APC

Contact your local distributor for price and availability. fluke.co/wtb



\*Available to purchase at fluke.com.au only at time of print.

fluke.co/clamps

Clamp Meters



# Fluke 320 Series True-RMS **Clamp Meters**





#### Go to work with the best

True-RMS measurements and optimised ergonomics make the Fluke 320 Series True-RMS Clamp Meters the best general troubleshooting tools for commercial and residential electricians. The 323, 324 and 325 are designed to verify the presence of load current, AC voltage and continuity of circuits, switches, fuses and contacts. These small and rugged clamp meters are ideally suited for current measurements up to 400 A in tight cable compartments. The Fluke 325 also offers DC current and frequency measurements.

- 400 A AC current measurement (AC and DC current; 325 only)
- 600 V AC and DC voltage measurement
- True-RMS AC voltage and current for accurate measurements on non-sinusoidal signals
- Resistance measurement to up to  $40 \text{ k}\Omega$  with continuity detection (325 only)
- Temperature and capacitance measurement (324 and 325 only)
- Frequency measurement (325 only)
- Slim, ergonomic design
- · Large, easy to read backlight display (324 and 325 only)
- CAT IV 300 V/CAT III 600 V safety rating
- Hold button
- Two year warranty

	<b>Residential/Com</b>	mercial Electrical	Light Industrial
	323	324	325
Measurements			
AC current	•	•	•
AC voltage	•	•	•
Resistance	•	•	•
Continuity	•	•	•
DC volts	•	•	•
DC current	-	-	•
True-RMS	•	•	•
Frequency	-	-	•
Min/Max/Avg	-	-	•
Temperature	-	•	•
Capacitance	-	•	•
Display			
Display hold	•	•	•
Backlight	-	-	•
Specifications			
Jaw opening		30 mm	
Max wire size		600 MCM	
Current range AC RMS		0 to 400.0 A	
Accuracy AC current (50/60 Hz)	±(2.0% + 5 digits)	±(1.5% + 5 digits)	±(2.0% + 5 digits
AC response		True-RMS	
Current range DC	-	-	0 to 400 A
Accuracy DC current	-	-	±(2.0% + 5 digits)
Voltage range AC		0 to 600.0 V	
Accuracy AC voltage		±(1.5% + 5 digits)	
Voltage range DC		0 to 600.0 V	
Accuracy DC voltage		±(1.0% + 5 digits)	
Resistance range	0 to 4	000 Ω	0 to 40 kΩ
Frequency measurement range	-	-	500 Hz



**TL175** TwistGuard™ Test Leads See page 157

TL223-1 SureGrip™ Electrical Test Lead Set See page 161



#### **Included Accessories**

Test Leads, S	Soft Case, User Manual.	
Ordering Information		
FLUKE-323	True RMS Clamp Meter	
FLUKE-324	True RMS Clamp Meter	
FLUKE-325	True RMS Clamp Meter	

Contact your local distributor for price and availability. fluke.co/wtb

## Fluke 350 Series AC/DC True-RMS **Clamp Meters**









#### Versatile, professional and accurate

Confidently take reliable readings with the True-RMS Fluke 353 and 355 Clamp Meters-the tools of choice for high current clamp-on amp meter measurements up to 2000 A.

- Reliably handle a wide range of high-current applications with 2000 A AC+DC True-RMS, 1400 A AC, and 2000 A DC
- Large 58 mm jaw
- · Inrush current measurement
- · High voltage measurement of 1000 V AC+DC True-RMS, 600 V AC, and 1000 V DC (355 only)
- Resistance to 400 KΩ (355 only)
- Continuity beeper (355 only)
- Frequency measurement to 1 KHz
- Selectable low-pass filter mode
- Min/Max/Avg
- · Large display with backlight
- Three year warranty

Features	353	355
True-RMS measurements	•	•
Display backlight	•	•
Motor start-up current	•	•
Min/Max/Average	•	•
Voltage AC/DC	-	•
Resistance measurement	-	•
Continuity measurement with beeper	-	•

Functions	Range	353	355
Current AC/DC	0-40.00 A	±(1.5% + 15 counts)	±(1.5% + 15 counts)
	0-400.0 A	±(1.5% + 5 counts)	±(1.5% + 5 counts)
	0-2000 A; 1400 AC RMS	±(1.5% + 5 counts)	±(1.5% + 5 counts)
Crest Factor		2.4	2.4
Voltage AC/DC	0-4.000 V	-	±(1% + 10 counts)
	0-40.00 V	-	±(1% + 5 counts)
	0-400.0 V	-	±(1% + 10 counts)
	0-600 V AC RMS	-	±(1.5% + 5 counts)
	0-1000 V DC	-	±(1.5% + 5 counts)
Resistance	0-400.0 Ω	-	±(1.5% + 5 counts)
	0-4.000 kΩ	-	±(1.5% + 5 counts)
	0-40.00 kΩ	-	±(1.5% + 5 counts)
	0-400.0 kΩ	-	±(1.5% + 5 counts)
Continuity beeper	Appr. ≤ 30 Ω	-	±(1.5% + 5 counts)
Frequency	5.0 Hz to 100.0 Hz	±(0.2% + 2 counts)	±(0.2% + 2 counts)
Power Supply	6 × 1.5 V AA NEDA 15 A or 1EC LR6		
Battery life	100 hours (with typical usage, backlight off)		
Size (HxWxD)	300 mm × 98 mm × 52 mm		
Jaw opening	58 mm		
Weight	0.814 kg		

**Recommended Accessories** Fluke 355



 80TK
 TP38

 Thermocouple Module
 Insulated Test Probe

 See page 151
 See page 159



FTP-1 Fuse Test Probe Set See page 159 80PK-8



**TL175** TwistGuard™ Test Leads See page 157

**TLK-225** SureGrip™ Master Accessory Set See page 161





**L215** SureGrip™ Electrical Test Lead Set See page 171 TL223-1 Test Lead Set See page 161

C345 Large Soft Case See page 169

**C1600** Gear Tool Box See page 170

#### **Included Accessories**

Fluke 353: C43 Soft Meter Case, Six AA Batteries, User Manual.

**Fluke 355:** C43 Soft Meter Case, Six AA Batteries, TL224 SureGrip™ Silico Test Lead Set, TP2 Slim Reach Test Probe Set (2 mm), AC285 SureGrip™ Alligator Clip Set, User Manual.

#### **Ordering Information**

FLUKE-353	True RMS AC/DC Clamp Meter
FLUKE-355	True RMS AC/DC Clamp Meter

Contact your local distributor for price and availability. fluke.co/wtb



Clamp Meters

# Fluke 381 Remote Display True-RMS AC/DC Clamp Meter with iFlex<sup>®</sup>



Fluke 381



#### The World's most advanced clamp meter

The Fluke 381 True-RMS AC/DC Clamp Meter combines iFlex® flexibility with remote reading capability for the ultimate in innovation and safety. Now one technician can do jobs that would otherwise require two people. Clamp the Fluke 381 around a conductor, remove the display and walk across the room to operate controls or remove protective equipment, all while watching real-time readings.

The iFlex® Flexible Current Probe (included) expands the measurement range to 2500 A AC while providing increased display flexibility. With a cord that runs 6 feet, you can finally measure those tight spaces, awkward sized conductors and disorganised wires.

- Remote display reads measurements up to 9.1 metres away
- iFlex<sup>®</sup> Flexible Current Probe included,18 inch circumference
- + 2500 A AC current measurement with  $iFlex^{\scriptscriptstyle (\!8\!)}$
- 999.9 A AC and DC current measurement with fixed jaw
- 1000 V AC and DC voltage measurement
- Frequency measurement to 500 Hz
- + 60  $k\Omega$  resistance measurement
- Min/Max/Avg and inrush recording
- CAT IV 600 V, CAT III 1000 V
- Three year warranty

# Fluke 365 Detachable Jaw True-RMS AC/DC Clamp Meter



Fluke 365



#### Where rugged meets reliable

The Fluke 365 True-RMS AC/DC Clamp Meter offers a small, detachable jaw with 1.2 metres of coil that makes it easy to take and read measurements in tight or hard-to-reach places.

- 200 A AC and DC current measurement with detachable jaw
- 600 VAC and DC voltage measurement
- Detachable jaw makes accessing wires and viewing the display easier
- Built in flashlight/torch allows for easy illumination and identification of wires
- CAT III 600 V
- Compact design fits in your hand and can be used while wearing protective equipment
- State of the art signal processing allows for use in noisy electrical environments while providing stable readings
- Large, easy to read, backlight display automatically sets the correct measurement range so you do not need to change switch positions while taking a measurement
- Three year warranty

See detailed specifications chart on page 27.

**Recommended Accessories** Fluke 381 **TL175 TLK289** Industrial Master Test Lead Set See page 161 TwistGuard™ Test Leads See page 157 AC87 Heavy Duty Bus Bar Clip Set See page 158 **FTP-1** SureGrip™ Fused Test Probe Set See page 159 i2500-10 C345 10 inch iFlex<sup>®</sup> Flexible Current Probe Large Soft Case See page 169 See page 30 Fluke 365 **FTPL-1** SureGrip<sup>™</sup> Fused Test Probe and Lead Set TL71 Premium Test I Lead Set See page 157 See page 159 **TL220** SureGrip<sup>™</sup> Industrial Test **TL224** SureGrip™ Silicone Insulated Test Leads Lead Set See page 161 See page 158 **AC285** SureGrip<sup>™</sup> Alligator Clips See page 158 C43 Small Soft Case See page 169 **Included Accessories** 18-inch iFlex<sup>®</sup> Flexible Current

18-inch iFlex<sup>®</sup> Flexible Curren Probe (Fluke 381 only), Test Leads, Soft Carrying Case, Instruction Card, Safety Information Sheet, Two AA Alkaline Batteries.

#### **Ordering Information**

- FLUKE 381 Remote Display True-RMS AC/DC Clamp Meter with iFlex®
- FLUKE 365 Detachable Jaw True-RMS AC/DC Clamp Meter

Contact your local distributor for price and availability. fluke.co/wtb

34 Clamp Meters

## FLUKE ®

Clamp Meters

## Fluke 902 FC True-RMS HVAC **Clamp Meter**



#### Improve productivity in the field

The Fluke 902 FC delivers the features necessary to diagnose and repair HVAC systems. Additionally, with Fluke Connect® you can trend measurements, create and send reports right from the field, safely stay away from live equipment.

#### **Applications for HVAC**

- 200  $\mu\text{A}$  DC current measurements to measure flame rod
- Extended resistance range to measure thermistors up to  $60 \text{ k}\Omega$
- Capture flue gas temperature
- Measure start and run motor capacitors
- Measure performance of variable frequency drives
- Temperature measurement from -10°C to 400°C
- 1000 µF capacitance measurement
- · CAT III 600 V, CAT IV 300 V safety rating
- Three year warranty

Fluke 902 FC



Functions	Range	Resolution	Accuracy
A AC (via Jaw)	60/600 A	0.01/0.1 A	±(2.0% + 5 digits) (45-65 Hz) ±(2.5% + 5 digits) (65-400 Hz)
V AC	600 V	0.1 V	±(1.5% + 5 digits) (45-400 Hz)
V DC	600 V	0.1 V	±(1.5% + 5 digits)
Ohms	600/6,000 /60,000 Ω	0.1/1/10	±(1% + 5 digits)
μA	200 µA	0.1 µĀ	±(1% + 4 digits)
Contact Temperature	10 to 400°C	0.1 C/F	±(1% + 8 digits)
Capacitance	100.0/1000 µF	0.1/1 μF	±(1% + 4 digits)

## Fluke 368 FC/369 FC AC True-RMS Leakage Current Clamp Meters



Fluke 368 FC Fluke 369 FC

#### Measure leakage current to track small problems, avoid large problems

The Fluke 360 Series of True-RMS Leakage Current Clamp Meters help users detect, document, record and compare leakage current readings over time as a means of preventing unplanned downtime, and identifying intermittent GFCI and RCD trips, without taking equipment offline.

- True-RMS measurements for accuracy when measuring complex, non-sinusoidal waveforms
- Jaw size: 40 mm (368 FC) and 61 mm (369 FC)
- Current resolution 1  $\mu\text{A}/0.01$  mA and 0.01 A/0.1 A
- Frequency range 40 Hz to 1 kHz
- Selectable filter 40 Hz to 70 Hz or wideband 40 Hz to 1 kHz
- Highest resolution of 1 µA, measure up to 60 A
- · Forward-facing LED worklight for use in dark wiring cabinets
- · Backlit display; auto backlight off and auto power off for
- extended battery life.
- Wireless data connectivity via Fluke Connect<sup>®</sup>
- CAT III 600 V safety rating
- Three year warranty

specifications	
Measurement Function	Alternating current
AC Ampere Range	3 mA, 30 mA, 300 mA, 3 A, 30 A, 60 A
Range Selection	mA A: manual selection 3 mA, 30 mA, 300 mA: automatic selection 3 A, 30 A, 60 A: automatic selection
Frequency	40 Hz to 1 kHz
Crest Factor	Three



Grip™ Alligator Clips Su reGrip™ Insulated Test Leads See page 158 See page 158



80AK-A 80PK-8 Pipe Clamp Temperature Probe Thermoco Adapter mocouple Ada See page 163

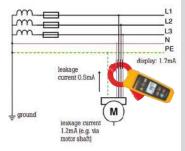




TPAK Magnetic Hanging Strap See page 171

C781 Meter Cas See page 170





#### **Included Accessories**

Fluke 902 FC: TL75 Test leads, 80BK Integrated DMM Temperature Probe, Two AA Alkaline Batteries, Soft Carrying Case, Statement of Calibration Practices and User Manual. Fluke 368 FC/369 FC: Soft Case, Two AA Batteries, Safety Manual.

#### **Ordering Information**

FLUKE 902 FC HVAC Clamp Meter

FLUKE 368 FC AC Leakage Current Clamp Meter

FLUKE 369 FC AC Leakage **Current Clamp** Meter



# Battery Analysers

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WEAR OVER SIZE

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BITL21

2.64 mg 13.21 VDC

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Fluke Battery Analysers are the ideal test tool for maintaining, troubleshooting and performance testing individual stationary batteries and battery banks used in critical battery back-up applications in data centres, telecom networks, power distribution systems and more. With an intuitive user interface, a compact design, and rugged construction Fluke Battery Analysers are designed to provide optimum performance and reliability.

#### 

**Battery Analysers** 

## Fluke BT500 Series Battery Analysers



Fluke BT521

Fluke BT510



#### More battery tests. Less time.

Fluke's BT500 Series Battery Analysers cover a broad range of battery test functions ranging from DC voltage and resistance tests to full condition testing using an automated string function testing and the test probe integrated infrared temperature measurement system. 500 Series Battery Analysers are designed for measurements on stationary batteries of all types.

- The world's fastest battery measurements reduce time of a typical battery measurement with 50% from 8 seconds to 4 seconds.
- Unique CATIII 600V safety rating
- Key measurements: Battery resistance, DC and AC voltage, DC and AC current, ripple voltage, frequency and battery temp.
- Sequence measurement mode: Automatic or manual sequence testing of battery strings with automatic measurement storage including voltage, resistance and temperature (with BTL21 intelligent test probe).
- Optimised user interface: Quick, guided setup ensures you're capturing the right data every time.
- Intelligent test probe set (BT520 and BT521): Integrated LCD display, infrared temperature measurement (BT521 only), verbal audio feedback and captures voltage readings and temperature logging automatically or via integrated save button
   Three year warranty

Functions	Range	Resolution	Accuracy	BT510	BT520*	BT521*
	3 mΩ	0.001 mΩ	1% + 8	•	•	•
Battery resistance <sup>1</sup>	30 mΩ	0.01 mΩ	0.8% + 6	•	•	•
Battery resistance.	300 mΩ	0.1 mΩ	0.8% + 6	•	•	•
	3000 mΩ	1 mΩ	0.8% + 6	•	•	•
	6 V	0.001 V	0.09% + 5	•	•	•
V DC	60 V	0.01 V	0.09% + 5	•	•	•
V DC	600 V	0.1 V	0.09% + 5	•	•	•
	1000 V	1 V	0.09% + 5			•
V AC (45 Hz to 500 Hz with 800 Hz filter)	600 V	0.1 V	2% + 10	•	•	•
Frequency (displayed with Vac and Aac) <sup>2</sup>	500 Hz	0.1 Hz	0.5% + 8	•	•	•
AC voltage ripple	600 mV	0.1 mV	3% + 20	•	•	•
(20 KHz Max)	6000 mV	1 mV	3% + 10	•	•	•
A DC/A AC (with accessory Fluke i410)	400 A	1 A	3.5% + 2			•
Temperature	0°C to 60°C	1°C	2°C			•
Meter mode	999 records for each measurement position with time stamp					
Sequence mode	Up to 100 profiles and 100 profile templates					

(Each profile stores up to 450 batteries) with time stamp

\*BT520ANG and BT521ANG for angled probe models

Specifications			
Size (HxWxD) and Weight	220 mm × 103 mm × 58 mm, 850 g		
Screen dimensions	77 × 56 mm		
Interface	USB mini		
Operating temperature	0°C to 40°C		
Lithium-ion battery charging temperature	0°C to 40°C		
Operating humidity	Non-condensing (10°C), <=80% RH (at 10°C to 30°C), <=75% RH (at 30°C to 40°C)		
IP rating	IP40		
Radio	FCC Class A		
Vibration requirements	MIL-PRF-28800F: Class 2		
Drop test requirements	1 metre		
Temperature coefficients	Add 0.1 $\times$ specified accuracy for each degree C above 28°C or below 18°C		
Safety compliance	600 V CAT III		

<sup>1</sup> The measurement is based on AC injection method. The injected source signal is <100 mA, 1 kHz.</p>
<sup>2</sup> Trigger level VAC: 10 mV. AAC: 10 A









Interactive Battery Intelligent Test Probe Analyser Test Probe



BT521 Intelligent Test Probes

#### **Included Accessories**

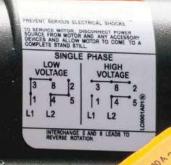
4-Wire Test Pin (set), BTL10 Basic Test Lead (set), TL175 TwistGuard™ Test Leads with Adapter, L300 Attachable LED Flashlight (2) (BT520 and BT521 only), BTL20 Intelligent Test Probe Set with Extender (no Temperature Sensor) (BT520 only), BTL21 Intelligent Test Probe Set with Extender and Temperature Sensor (BT521 only), i410 AC/DC Current Clamp (BT521 only), BP500 Lithium-ion Battery, BC500 AC Charger, Mini-USB Cable, Shoulder Strap, Belt Strap, Magnetic Hanging Strap, FlukeView® Battery Management Software, Soft Carrying Case, Spare Fuses (2), Battery Tags (BT520 and BT521 only).

#### **Ordering Information**

FLK-BT510	Basic Battery Analyser
FLK-BT520	Battery Analyser
FLK-BT521	Advanced Battery Analyser
FLK-BT520 ANG	Battery Analyser with Angled Probes
FLK-BT521 ANG	Battery Analyser with Angled Probes

## Electrical Testers

The Fluke line of electrical testers and voltage detectors are designed for use in every application and in nearly any environment. From non-contact voltage detectors and voltage testers with continuity detectors, to open-jaw current testers and open fork testers with FieldSense™ technology (for getting voltage and current measurements without test leads), these testers are accurate, safe and easy to use. You'll also find motor phase rotation testers and voltage meters that are safer than solenoid testers.



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**Electrical Testers** 

## Fluke T5 Series Electrical Testers



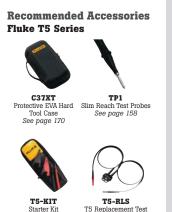
Fluke T5-600

Fluke T5-1000

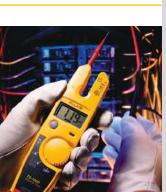
#### Fluke T5 Series Voltage, **Continuity and Current Testers**

The Fluke T5 Electrical Testers let you check voltage, continuity and current with one compact tool. OpenJaw™ current lets you check current up to 100 A - without breaking the circuit. Its tough test leads stow neatly in the back of the tester, making it easy to tote the T5 in your tool pouch. Detachable SlimReach™ test probes are customised for national electrical standards. The test leads accept optional accessories such as clips and specialty probes. Available in 600 V and 1000 V models.

- · Excellent front-line troubleshooting and measurement tool
- Available in 600 V and 1000 V models
- Digital display
- OpenJaw<sup>™</sup> current measurement
- Rotary switch selects volts, amps and ohms functions
- Heavy-duty test leads
- Two year warranty







Functions	T5-1000	T5-600
Measure AC/DC voltage	1000 V	600 V
Measure AC current (average)	100 A	100 A
Measure continuity	< 25 Ω	< 25 Ω
Measure resistance	1000 Ω	1000 Ω
DC polarity indicator	Yes	Yes
Detachable probe tips with optional probe tips styles	Yes	Yes
Cofeter actions	1000 V Overveltere CAT III	600 V Overveltege CAT III

1000 V Overvoltage CAT III 600 V Overvoltage CAT III Safety rating

\*Voltage levels will vary depending on country of intended use.

## Fluke VoltAlert<sup>™</sup> Family



VoltAlert<sup>™</sup> AC non-contact voltage testers from Fluke are easy to use - just place the tip to a terminal strip, outlet, or supply cord. When the tip glows red, you know there's voltage present.

Fluke now offers three models of noncontact voltage detectors, making sure you have the right tool for the job. Two year warranty.



Fluke LVD2

Functions	1AC-A1-II	LVD2
Voltage	90 V AC to 1000 V AC	90 V AC to 900 V AC
CAT Rating	CAT IV 1000 V	CAT IV 600 V
Voltage Detection	•	•
Batteries Included	•	•
On/Off Button	•	•
Voltbeat™	•	-
Audible/Silent	•	-
LED Flashlight	-	•

#### **Included Accessories**

Fluke T5-600 & T5-1000: Detachable Probes and Instruction Sheet.

Ordering I	nformation
------------	------------

FLUKE T5-600	Electrical Tester
FLUKE T5-1000	Electrical Tester
FLUKE 1AC-A1-II	VoltAlert™ Voltage Detector
FLUKE LVD2	Volt Light

Contact your local distributor for price and availability. fluke.co/wtb



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#### fluke.co/basictesters

# Fluke T6 Series Electrical Testers with FieldSense™



Fluke T6-1000 PRO





#### **Measure voltage without test leads**

Measure voltage up to 1000 V AC through the open fork, without test lead contact to live voltage.<sup>+</sup> Without opening covers or removing wire nuts; on wires up to 4/0 (120 mm<sup>2</sup>), carrying as much as 200 A. It will change your job.

- FieldSense<sup>™</sup> technology for AC voltage, current and frequency measurement without making electrical contact to live voltage<sup>+</sup>
- Simultaneous voltage and current display (T6-1000 & T6-1000 PR0) – shows all power supply measurements at a glance for efficient troubleshooting
- T6-1000 PRO features Visual Continuity<sup>™</sup> the screen automatically lights up green for continuity, perfect when it's too loud to hear the beeper
- Works with wire up to AWG 4/0 (17.8 mm jaw opening)
- HOLD button temporarily freezes the reading for easy viewing
- · Easy to read display with backlight
- Accepts optional Fluke TPAK Magnetic Meter Hanger for convenient operation
- Two year warranty

\*Voltage measurement requires capacitive path to ground, provided through user in most applications. Ground connection via test lead may be required in some situations.

#### **The Full Package**

The Fluke T6-1000 PRO Electrical Tester comes with a belt holster and black alligator clip as standard. Measure wires up to AWG 4/0 (120 mm<sup>2</sup>), carrying as much as 200 A and 1000 V AC, even with gloves on.

Specifications		<b>T6-600</b>	T6-1000/ T6-1000 PRO		
Function	Requires Test Leads	Range	Range	Resolution	Accuracy <sup>1</sup>
FieldSense™ AC voltage	No	600 V	1000 V	1 V	±(3% + 3 counts) <sup>2 3</sup> 45 Hz - 66 Hz
FieldSense™ AC current	No	200.0 A	200.0 A	0.1 A	±(3% + 3 counts) 45 Hz - 66 Hz
FieldSense™ frequency (Hz)	No		45 Hz – 66 Hz	1 Hz	$\pm (1\% + 2 \text{ counts})^3$
Volts AC	Yes	600 V	1000 V	1 V	±(1.5% + 2 counts) 45 Hz - 66 Hz
Volts DC	Yes	600 V	1000 V	1 V	±(1% + 2 counts)
Resistance	Yes	2000 Ω	2000 Ω	1 Ω	±(1% + 2 counts)
	Yes		20.00 kΩ	0.01 kΩ	±(1% + 2 counts)
	Yes		100.0 kΩ	0.1 kΩ	±(1% + 2 counts)
Visual Continuity:		No	No/Yes	1 V	±(1% + 2 counts)
Audible Continuity		Yes	Yes		
Safety (measurement category)		600 V CAT III	1000 V CAT III 600 V CAT IV		
Accessories Included		No	No/Yes		

Accuracy <sup>1</sup>:  $\pm 1$  [% of reading] + [number of least significant digits] ). Accuracy is specified for 1 year after calibration, at 18°C to 28°C (64°F to 82°F) with relative humidity to 90%. AC conversions are ac-coupled, RMS responding. Accuracy <sup>12</sup>: Add 3% without an external ground connection. External ground connection required for user wearing insulated gloves, standing on an insulated ladder and otherwise insulated from earth ground. Accuracy <sup>3</sup>: FieldSense<sup>44</sup> specified from 16V to 100% of range.



<b>Ordering Infor</b>	Ordering Information			
T6-600	Electrical Tester			
T6-1000	Electrical Tester			
T6-1000 PRO	PRO Electrical Tester			
T6-600/ 62MAX+/1AC	T6-600 Tester, 62MAX+ & 1AC-II Kit			
T6-HT6-1AC KIT	T6-1000 Tester, H-T6 Holster & 1AC Kit			
T6-1000/ PRV240FS	T6-1000 & PRV240FS Proving Unit Kit			



### 

#### NEW

## Fluke ST240+ RCD Socket Tester with Beeper





Fluke ST240+



## Quickly check for common wiring faults and RCD operation

- Simple operation Plug into a socket to quickly verify correct wiring or identify common wiring problems in both standard and RCD outlets with the bright, easy-to-see LED lights
- Know more faster with the handy chart quickly identify one of six wiring conditions for the outlet
- Verify RCD outlets with an integrated RCD test, you can feel secure knowing that your RCD equipped outlets are functioning properly
- Two year warranty

#### Fluke ST240+ Socket Tester with RCD

The Fluke ST240+ RCD Socket Tester checks that each wire in the outlet is properly connected to the building's electrical system. Via the bright LEDs and included chart, you can quickly and easily verify the wiring of an outlet. Being able to identify several common wiring errors, including reversed live and neutral wires and an Earth fault, the Fluke ST240+ will give you confidence on your next job.

#### Audible alert helps you work faster and safer

The Fluke ST240+ also gives you a unique audible alert anytime voltage is detected. Save time when trying to identify which circuit breaker is connected to which outlet. Just plug the socket tester in, walk to the circuit breaker panel, and listen for the beeper to turn off - or on - as you flip the breakers. Once it does, you've found the correct breaker. Time - and trips - saved.

When switched on, the integrated beeper can also alert you to hazardous voltage at the outlet, even if the wiring is incorrect. Working in an office, hospital or other location where you don't want to interrupt others? No problem – the beeper can be switched off.

#### One-button RCD tests

The included RCD test button on the Fluke ST240+ Socket Tester allows you to also test the operation of RCD outlets. With a single push, the ST240+ can verify the operation of your RCD equipped outlet. If the RCD trips as expected, perfect, you can move on. If not, it's time to take a closer look.

#### Fast visual identification of all 6 wiring conditions

The Fluke ST240+ has three bright, easy-to-see LED indictors. This lets you see one of six wiring scenarios at a glance:

- Correct installation
- Earth fault
- Neutral fault
- Live fault
- Live/Neutral reversed
- Live/Earth reversed

Functions	ST240+
Rated Operating Voltage	230 V ac +/-10% at 4mA
Wattage	0.92 W typical
Frequency	50 Hz
Integrated, switchable beeper	Yes, 60 db
RCD Test	Yes
Indicator Lights	1 red, 2 green LEDs
Safety Rating	300 V CAT II

#### **Recommended Accessories**





**Electrical Testers** 



## Included Accessories

#### **Ordering Information**

ST240+/ Socket Tester with ANZ LEDs, RCD Test Button, Beeper; ANZ Version

Contact your local distributor for price and availability. fluke.co/wtb



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fluke.co/basictesters

## Fluke T Series Voltage and **Continuity Testers**



Fluke T150



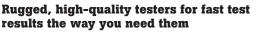






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- Compliant with regulation HSE GS 38 (tip caps) and IEC EN 61243-3: 2010
- Three year warranty



Fluke's family of Two-Pole Voltage Testers are built with state-of-the art measurement and safety technology. These testers offer everything you expect from Fluke and a little bit more.

• Rugged, high-quality construction is built to last. This includes a heavy duty molded case, a thicker cord with wear indicator, sturdy battery case, and well fitting and durable probe protector.

Fluke T110

Fluke T90

- Fast test results the way you need them, with large, easy-touse buttons, bright backlights, and clear audible and physical indicators designed for any work situation.
- Enhanced ergonomic design feels good in your hand, is easy to use (even with gloves on) and quick, secure probe docking.



C150 Soft Case See page 169

H15 Holster Continuity Tester Holster See page 171



Features	<b>T90</b>	<b>T110</b>	T130	T150
Backlit LED indicator	٠	•	•	٠
Backlit LCD Digital Display	-	-	LCD	LCD
Continuity test - visual results	٠	•	•	•
Continuity test - audible results	•	• with on/off	• with on/off	• with on/off
Vibratory indicator under load	-	• with on/off	• with on/off	• with on/off
Display Hold	-	-	•	٠
Voltage Test	•	•	•	٠
Indication of polarity	•	•	•	٠
Resistance measurement	-	-	-	٠
Switchable Load	-	•	•	٠
Single pole test for phase detection	٠	•	•	•
Rotary field indicator	-	•	•	٠
Probe tip protection	•	•	•	•
Voltage display with discharged batteries	•	•	•	٠
Electrical torch function		•	•	•
Wear indicator test lead wire	•	•	•	٠

Specifications	<b>T90</b>	T110	T130	T150	
Voltage AC/DC	12 V - 690 V		6 V	6 V - 690 V	
Continuity		0 -	400 kΩ		
Frequency	0 - 60 Hz	0 - 400 Hz			
Phase rotation	-		100 V - 690	V	
Resistance measurement		-		Up to 1999 Ω	
Response time (LED ladders)	< 0.1 s				
$200 \ k\Omega$ input impedance	Current drav	Current draw 3,5 mA @ 690 V, Current draw 1,7			
7 kΩ input impedance (with load buttons pressed)	-	- currer		ent draw 30 mA @ 230 V	
Safety rating	CAT II 690 V CAT III 690 V CAT III 600 V CAT IV 600 V		-		
IP rating	IP54	IP54 IP64			
Battery type	Alkaline supplied. usable with 1.2 V NiCD or NiMH rechargeable batteries				
Size (HxWxD)	100 mm × 250 mm × 125 mm			n	
Weight	1.3 kg				

#### **Included Accessories**

Two AA Batteries and Instruction Sheet.

#### **Ordering Information**

Voltage/Continuity Tester
Voltage/Continuity Tester with Switchable Load
Voltage/Continuity Tester with LCD Switchable Load
Voltage/Continuity Tester with LCD, OHMS, Switchable Load

Contact your local distributor for price and availability. fluke.co/wtb

# Fluke T130

#### FLUKE ®

## Fluke 9040 and 9062 Phase Rotation Indicators

Take the guesswork out of phase/motor rotation measurements





#### **Fluke 9040 Phase Rotation Indicator**

The Fluke 9040 is effective for measuring phase rotation in all areas where three-phase supplies are used to feed motors, drives and electrical systems. The Fluke 9040 is a rotary field indicator and can provide clear indication of the 3 phase via an LCD display and the phase rotation direction to determine correct connections. It allows rapid determination of phase sequence and has a voltage (up to 700 V) and frequency range suitable for commercial and industrial applications. Test probes supplied with the instrument have a variable clamping range for safe contact, especially in industrial sockets.

- 3 phase indication
- Indication of phase rotation
- Clear LCD display
- No battery required
- Two year warranty

## Fluke 9062 Motor and Phase Rotation Indicator

The unique Fluke 9062 provides rotary field and motor rotation indication with the benefits of contactless detection.

- 3 phase indication
- Indication of phase rotation
- Indication of motor rotation direction
- Contact free determination of the rotation direction of running motors
- Two year warranty

Made for commercial and industrial environments, the Fluke 9062 provides rapid indication of 3 phase rotation using test leads supplied or can be used to determine motor rotation on synchronous and asynchronous 3 phase motors. The contactless detection is ideal for use on motors where the shaft is not visible. Test probes supplied with the instrument have a variable clamping range for safe contact, especially in industrial sockets.

Specifications	9040	9062	
Voltage range	40 - 700 V	Up to 400 V	
Phase display	-	120 - 400 V AC	
Frequency range	15 - 400 Hz	2-400 Hz	
Operating time	Continuous	Continuous	
Size (HxWxD)	124 mm × 61 mm × 27 mm	124 mm × 61 mm × 27 mm	
Power supply	from unit under test	1 × 9 V	
Weight	0.20 kg	0.15 kg	

#### **Recommended Accessories**

TLK290 Flexible Socket Probe Set See page 159 TLK291 Fused Test Probe Set See page 159



**Electrical Testers** 



Determine the presence of phase sequence of multiphase electrical supplies.



Determine the rotation of running motors by placing the instrument on the motor casing.



Check the correct rotation of motors prior to connection.

#### **Included Accessories** Fluke 9040:

Alligator Clips - Black (3), Standard Test Probes - Black (3), Flexible Test Probes - Black (3), User Manual.

Fluke 9062: Alligator Clips - Black (3), Flexible Test Probes - Black (3), Test Leads - Black (3), 9V Battery, User Manual.

**Ordering Information** 

FLUKE-9040 Phase Rotation Indicator

FLUKE-9062 Motor and Phase Rotation Indicator

Contact your local distributor for price and availability. fluke.co/wtb



fluke.co/basictesters

## Fluke 2042 Cable Locator







## The multipurpose solutions to cable location

The Fluke 2042 is a professional general purpose cable locator. It is ideal for tracing cables in walls and underground, locating fuses/breakers on final circuits and locating interruptions and short-circuits in cables and electrical floor heating systems.

It can also be used for tracing metallic water and heating pipes. The unit is supplied as a complete kit comprising of a transmitter and receiver in a purposemade carry case. The receiver also incorporates a torch function for working in dimly lit locations.

- For all applications (live or dead cables) without additional instruments
- Set includes a transmitter and a receiver
- Proven digitally coded sender signal guarantees clear signal identification
- Transmitter with LCD-display for transmitting level, transmitting code and external voltage
- Receiver with a backlight LCD-display for level of receiving signal, code of receiving signal and live voltage indication
- · Automatic or manual adjustment of receiving signal sensitivity
- Switchable acoustic receiving signal
- Auto-Power-Off
- Additional torch lamp function for working in dark environments
- Additional transmitters are available for extension or to distinguish between several signals
- Two year warranty

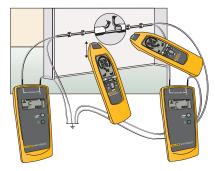
Specifications	Transmitter	Receiver	
Voltage Measurement Range	12 V, 50 V, 120 V, 230 V, 400 V		
Frequency Range	060 Hz		
Output signal	125 kHz		
Voltage	Up to 400 V AC/DC		
Main voltage detection		00.4m	
Operating Temperature	O to 40°C	0 to 40°C	
Storage Temperature	-20°C to +60°C	-20°C to +60°C	
Humidity (Without Condensation)	Max. 80% relative	Max. 80% relative	
Operating Altitude	Up to 2000 m	Up to 2000 m	
Electrical Safety	EN 61	010-1	
Overvoltage Category	Cat. III	1 300 V	
Voltage Test	•	•	
Indication of polarity	•	•	
Resistance measurement			
Batteries	6 pc Batteries 1.5 V	1 pc Battery 9 V	
Size (HxWxD)	190 mm × 85 mm × 50 mm	250 mm × 65 mm × 45 mm	
Weight	0.45 kg	0.36 kg	

#### **Recommended Accessories**





Location of fuses/breakers and assignment to circuits



Precise location of cable interruptions with additional transmitter

#### **Included Accessories**

TL27 Heavy Duty Test Lead Set (2), TP74 Lantern Tip Test Probe Set, AC285 Alligator Clip Set, Soft Carrying Case, Hard Case.

#### **Ordering Information**

FLUKE-2042 Cable Locator (Transmitter & Receiver)

FLUKE-2042T Cable Locator Transmitter

Contact your local distributor for price and availability. fluke.co/wtb

## Laser Levels

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From point and line to rotary lasers, the Fluke laser range provide bright, crisp reference points and lines for quick and accurate layout of many jobs.

and accurate layout of many jobs. PLS tools were developed out of necessity by professional contractors with of 50 years of experience in commercial and residential interior and external layouts.

## **PLS Laser Levels**



PLS 3G



PLS 180R



#### Point Laser (3R/G, 5R/G)

The professional self-leveling three-point (3R/G) and five-point (5R/G) laser level, available in red or green laser, allows for fast, accurate layout of reference points. Three year warranty.

#### **Combo Line Laser (6R/G)**

Plumb, level, and square with one tool. This professional self-leveling combination point and cross line laser level, available in red or green laser, includes vertical and horizontal modes with lines and points combined. Three year warranty.

#### Line Laser (180R/G)

Plumb, level, and square with one tool. This professional self- leveling cross line laser level, available in red or green laser, includes vertical and horizontal modes allowing for fast, accurate, level and plumb reference lines. Three year warranty.

#### **SLD Laser Line Detector**

Laser line detector compatible with the PLS 6 and PLS 180 laser levels, for use in outdoor, or in an area with bright overhead lighting. Visual and audible indicators for ease of use. Includes mounting clamp for quick and steady positioning.

Models	PLS 3R/G KIT	PLS 5R/G KIT	PLS 6R/G KIT	PLS 180R/G KIT
Laser Function	-	_	_	
Laser type	3-point	5-point	Crossline	Crossline
Laser colour	Red / Green	Red / Green	Red / Green	Red / Green
Accuracy	< 3 mm @ 10 m	< 3 mm @ 10 m	< 3 mm @ 10 m	< 3 mm @ 10 m
Batteries	(3) AA alkaline	(3) AA alkaline	Rechargable Battery Pack	Rechargable Battery Pack
Included in Box				
Laser level	3R/G Z	5R/G Z	6R/G Z	180R/G Z
Canvas pouch	•	•	•	•
PLSBP5 alkaline pack	•	•	•	•
FS floor stand	•	•	•	•
PLSMLB wall bracket	•	•	•	•
Reflective target	•	•	•	•
PLSC18 carrying case	•	•	•	•
UB9 wall/ceilng bracket				•
Application Guide				
Electrical	•	•	•	•
HVAC	•	•	•	•
Framing	•	•	•	•
Carpentry			•	•
Foundations			•	•
Floor and tile			•	•
Acoustic ceiling			•	•
Painting			•	•
Window and glass	•	•	•	•
Other Configuration				
Tools and pouch only	3R/G Z	5R/G Z	6R/G Z	180 R/G Z
Kit with detector				180 R/G SYS



#### **Power On**

The PLS 6R/G and PLS 180R/G Kits and Systems come with a rechargeable battery pack included.



#### **Included Accessories**

Bare Tool: Canvas Pouch

Kit: Canvas Pouch, Carry Case, Three AA Batteries, Floor Stand, Wall Bracket, Reflective Target. 6R/G and 180R/G models with Rechargable Battery Pack. 180R/G models with Wall/Ceiling Bracket.

System: 6R/G and 180R/G models with Canvas Pouch, Carry Case, Three AA Batteries, Floor Stand, Wall Bracket, Reflective Target, Line Detector, Rechargable Battery Pack 180R/G models with Wall/Ceiling Bracket.

#### **Ordering Information**

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PLS 3R Z	Red/Green 3-Point
PLS 3G Z	Laser Level
PLS 3R KIT	Red/Green 3-Point
PLS 3G KIT	Laser Level Kit
PLS 5R Z	Red/Green 5-Point
PLS 5G Z	Laser Level
PLS 5R KIT	Red/Green 5-point
PLS 5G KIT	Laser Level Kit
PLS 6R Z	Red/Green Combo
PLS 6G Z	Point Laser Level
	Red/Green Combo Point Laser Level Kit
	Red/Green Combo Point Laser Level System
PLS 180R Z	Red/Green Combo
PLS 180G Z	Point Laser Level
PLS 180R RBP KIT PLS 180G RBP KIT	Red/Green Combo Point Laser Level Kit
PLS 180R RBP	Red/Green Combo
SYS	Point Laser Level
PLS 180G RBP	System
SYS	

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## Laser Levels



## PLS 3x360R and 3x360G **Three-plane Laser Levels**



PLS 3x360R



PLS 3x360G

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#### Lighten your toolbelt – plumb, level and square with one tool

The PLS 3x360R and 3x360G Three-plane Laser Levels combine the best qualities of your favourite PLS gear, now with best-in-class accuracy and new features including a rechargeable battery pack with charging adaptor, and a pendulum lock for added protection during transportation.

- Accuracy of 2 mm at 10 metre distance
- Pendulum lock
- Out-of-level warning
- · Replaceable glass inserts and metal towers
- IP54 protection rating to limit dust and water entry
- Three year warranty

#### PLS, The Professional Standard – Built by contractors for contractors

The PLS 3x360R and 3x360G provide bright, crisp reference points and lines for quick and accurate layout. The 3x360R and 3x360G fill the gap in Fluke's legacy products that are now discontinued, including the HVL100, PLS 360 and PLS 480.

Key Features	PLS 3x360R	PLS 3x360G		
Laser Function				
Battery				
Battery	Lithium-ion, 3.	6 V, 5200 mAh		
Battery Life, Continuous Use (Typical)	3 beams: ≥ 9 hours 1 beam: ≤ 30 hours	3 beams: ≥ 5 hours 1 beam ≤ 17 hours		
Line Fan Angle				
Horizontal	36	SO°		
Front Vertical	36	SO°		
Side Vertical	360°			
Working Range				
Without Line Detector	20 m	35 m		
With Line Detector	50 m	65 m		
Accuracy				
Accuracy	±2 mm @ 10	Om distance		
Laser Levelling				
System		Pendulum		
Range	Self-level Out of self-le	$\lim_{n \to \infty} \leq 4^{\circ}$		
Levelling Time		econds		
General Specification				
IP Rating	IP	54		
Weight (With Battery)		kg		
Li-ion Battery Safety	IEC 6	•		
Laser Safety				
Light Source	Semiconductor laser diode			
Max Output Power	< 1 mW			
Wavelength				
Red	635 nm	±10 nm		
Green	520 nm ±10 nm			
Electromagnetic Com	upatibility (EMC)			
International	IEC 61	326-1		





PLS HG13X360R/ PLS 3x360 MLB PLS HG13X360G PLS Housing Glass Insert and Tower for Adjustment Insert and Tower for PLS 3x360R/G











PLS RBP5 Li-ion battery with charging cord and adaptors





Battery charging cord with adapters only



**Included Accessories** PLS 3x360R/PLS 3x360G Bare Tool: Canvas Pouch

PLS 3x360R/PLS 3x360G Kit: RBP5 (Li-ion), Power Supply, 3x360 Magnetic L-Bracket, Red/Green Reflective Target, Canvas Pouch, Blow Mold Case

#### **Ordering Information**

•	
PLS 3x360R Z Tool	Three-plane Laser Level Red
PLS 3x360G Z Tool	Three-plane Laser Level Green
PLS 3x360R Kit	Three-plane Laser Level Kit Red
PLS 3x360G Kit	Three-plane Laser Level Kit Green

Contact your local distributor for price and availability. fluke.co/wtb

# Laser Levels

## PLS RRT4/ PLS GRT4 Red/Green Reflective Target

## PLS H2, HV2R and HV2G Rotary Laser Levels



PLS HV2G

#### Designed for any construction job site

These professional-grade tools offer the accuracy and durability you can expect from PLS, a Fluke Company. The PLS Rotary range is ideal for use by general contractors, electricians, plumbers and landscapers in both interior and exterior applications.

#### **H2 Rotary Laser Level**

The PLS H2 model is a horizontal only rotary laser that offers a simple one button operation.

- The H2 is a horizontal-only rotary laser. The H2 is easy-to-use and fully self-leveling, designed for interior and exterior layout projects.
- This fully automatic unit offers one-button operation and is ideal for large exterior layout applications including concrete forms, slabs, and other horizontal leveling applications.
- Three year warranty

#### HV2R (Red Laser) and HV2G (Green Laser)

Offering a rugged ergonomic design and simplified controls, the PLS HV2R/G emits a laser line in the horizontal or vertical plane. The HV2R/G rotary lasers also emit a point from the top when placed in the vertical position.

- The HV2G rotary laser level emits a self-leveling horizontal laser plane and can be used in the vertical position to emit a vertical laser plane. Applications include setting foundations and footings, concrete pours, drywall terracing, contour framing and suspended ceiling installation.
- Three year warranty

Specifications	H2	HV2R	HV2G
Laser	Class II Red	Class II Red	Class II Green
Laser axis	Horizontal Only	Horizontal and Vertical	Horizontal and Vertical
Accuracy	≤ 2.2 mm @ 30 m	≤ 2.2 mm @ 30 m	≤ 2.2 mm @ 30 m
Auto-leveling range	±5 degrees	±5 degrees	±5 degrees
Manual slope range	±5 degrees	±5 degrees	±5 degrees
Working range	≤ 30 m without XLD laser detector ≤ 300 m with XLD laser detector	≤ 30 m without XLD laser detector ≤ 300 m with XLD laser detector	≤ 30 m without XLD laser detector ≤ 300 m with XLD laser detector
IP Rating	IP67	IP67	IP67
Battery Life	> 60 hours	> 60 hours	> 60 hours



Ordering Info	mation
PLS H2 Z	Horizontal Red Rotary Laser
PLS H2 KIT	Horizontal Red Rotary Laser Kit
PLS H2 SYS	Horizontal Red Rotary Laser System
PLS HV2R Z PLS HV2G Z	Manual Slope R/G Rotary Laser Bare Tool
PLS HV2R KIT PLS HV2G KIT	Manual Slope R/G Rotary Laser Kit
PLS HV2R SYS PLS HV2G SYS	Manual Slope R/G Rotary Laser System

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48 Laser Levels

Laser Levels

## Fluke 406E, 410, 417D and 424D Laser Distance Meters



Fluke 406E





Fluke 417D



Fluke 424D

**Professional grade distance** measuring tools that are fast, easy to use and fit in your pocket

Measure farther, with greater accuracy, in more situations.

- Measure with greater accuracy: Up to ±1 mm, no scales to interpret or misread (424D)
- Do the work of two: Instead of holding the tape, your helper can do other jobs
- The most advanced 2 laser technology for distance measurement
- Speed up the job: Easily measure hard-to-access areas, like high ceilings, without climbing a ladder
- Keep it on the level: New inclination sensor on the Fluke 424D helps with leveling, height tracking, measuring around obstacles
- Reduce estimating errors, let the meters do the math: Find area and volume. Easily add and subtract distances. Use Pythagoras calculations for height
- Improved battery life: Automatic shut-off feature
- Improved visibility with backlit screen
- Three year warranty (417D & 424D), one year warranty (406E & 410)

#### The Fluke 424D Laser Distance Meter offers:

- · Improved visibility with backlit screen
- · Tripod mode allows you to mount to a tripod for measuring long distances
- · Stake out function
- · Enhanced Pythagoras calculation for determining distance indirectly from three other measurements
- Audible keypad feedback
- · Storage of the last twenty measurements for quick recall of distance
- Strong environmental protection with IP54 (water spray and dust proof) sealing
- · Inclination sensor for taking measurements in hard to reach areas
- · Compass provides a "heading" for distance measurement
- Automated end-piece correction: when measuring from an edge or corner, a built-in sensor detects the position of this bracket and automatically changes the reference point

Key Features	417D	406E	410	424D
Maximum measurement distance	40 m	60 m	100 m	100 m
Accuracy	±2 mm	±2 mm	±2 mm	±1 mm
Battery life (no. of measurements)	3000	5000	3500	5000
Area measurement	•	•	•	•
Volume measurement		•	•	•
Pythagoras calculations		•	•	•
Plus and minus calculations		•	•	•
Measurement storage		30 sets	100 sets	20 sets
Backlight				•
Minimum/Maximum				•
Audible keypad feedback				•
Tripod mount			•	•
Corner angle measurement				•
Dust and splash proof	IP54	IP54	IP64	IP54
Compass				•
Inclination sensor				•
Automated end-piece correction				•
Laser Class	2	2	2	2





Fluke 417D/62MAX+ Laser **Distance Meter/Infrared Thermometer Combo Kit** 

For more details see page 189



#### **Included Accessories**

417D & 424D: Two AAA Batteries, User Manual CD, Quick Reference Guide, Vinyl Carrying Pouch, Lanvard,

406E & 410: User manual, Battery, Vinyl Carrying Pouch, Qualification Certificate, Lanyard (Fluke 410), Charging Cable (Fluke 410).

#### **Ordering Information**

FLUKE-406E	Laser Distance Meter, 60 m
FLUKE-410	Laser Distance Meter, 100 m
FLUKE-417D	Laser Distance Meter, 40 m
FLUKE-424D	Laser Distance Meter, 100 m
FLUKE-417D 62 MAX+ KIT	Laser Distance Meter/Infrared Thermometer Combo Kit

Contact your local distributor for price and availability. fluke.co/wtb

## Infrared Thermometers

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Don't get burned by a motor, or have hot and cold air blowing in your face from your HVAC system or blowers while taking measurements. You can trust in Fluke Infrared Thermometers to get accurate temperature readings from a safe distance.

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## **Infrared Thermometer Selection Guide**

		F		A REAL PROPERTY AND INC.					
	Fluke 62 MAX	Fluke 62 MAX+	Fluke 64 MAX	Fluke 561	Fluke 566	Fluke 568/568Ex	Fluke 572-2	Fluke VT06	Fluke VT08
Temperature range	-30 to 500°C	-30 to 650°C	-30 to 600°C	-40 to 550°C	-40 to 650°C	-40 to 800°C	-30 to 900°C	-20 to 400°C	-20 to 400°C
Distance to spot	10:1	12:1	20:1	12:1	30:1	50:1	60:1		
Thermometer display	Digital Infrared	Digital Infrared	Digital Infrared	Digital Infrared	Digital Infrared	Digital Infrared	Digital Infrared	Visual Infrared	Visual Infrared
Accuracy	1.5%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	±2°C or 2% @ 23°C ±5°C	±2°C or 2% @ 23°C ±5°C
Response time	<500 mSec	< 300 mSec	< 500 mSec	<500 mSec	<500 mSec	<500 mSec	<500 mSec		
Recommended distance to spot	Up to 2 m	Up to 2 m	Up to 2 m	Up to 2.5 m	Up to 4.5 m	Up to 7.5 m	Up to 9 m		
Adjustable emissivity	•	•	•	•	•	•	•	•	•
MIN/MAX readings	•	•	•	•	•	•	•	•	•
AVG readings	•	•	•		•	•	•		
DIF readings	•	•	•	•	•	•	•		
Backlit LCD	•	•	•	•	•	•	•		
Audible Hi/Lo alarm			•		•	•	•		
Visible Hi/Lo alarm			•		•	•	•	•	•
Includes contact probe					•	•	•		
Probe input (types)				Thermocouple K	Thermocouple K	Thermocouple K	Thermocouple K		
Data logging (number of measurements)			99 points		20 points	99 points	99 points	>50,000 images	>50,000 images
PC interface						USB	USB 2.0	USB Type C	USB Type C
Software compatible						•	•	•	•

**Recommended Applications** 



**Plant/Facilities Maintenance** Preventive and Predictive Maintenance Energy Eudits Vehicle and Fleet Maintenance Programs

Faulty Electrical/Circuit Connections Petrochemical/Hazardous Locations Motors, Pumps and Bearings

Heating/Ventilation/Air Conditioning/Refrigeration

Leaky Ductwork Thermostats Temperature Balancing Steam Distribution Systems **Compressor Lines** 



**Manufacturing Processes** Molding Temperature Measurement Printing, Paper and Converting Thermoforming Plastics Electronics Paint Curing/Drying Food Chemical and Pharmaceutical



Safety and protection Fire Localisation Hazardous Materials Faulty Ballasts Search and Rescue **Smoldering Embers** Equipment Maintenance



Infrared Thermometers

## Fluke VT06 and VT08 Visual Infrared Thermometers



#### **Detect Issues Instantly and Accurately**

Fluke Visual Infrared Thermometers combine the convenience of a spot thermometer with the visual advantage of an infrared camera creating a brand-new tool category. Compact and intuitive, the Fluke VTO6 and VTO8 Visual Infrared Thermometers blend a visual image with a heat map overlay, to help quickly identify the location of issues.

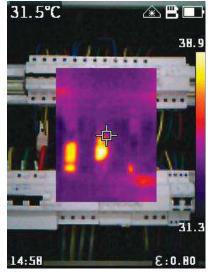
- Built-in digital camera: Every Fluke Visual Infrared thermometer has a built-in digital camera
- Temperature alarms and automated monitoring features: Identify intermittent problems by monitoring equipment over time or get alerts when a temperature is outside the expected range
- Easy blending of visual image with infrared heat map in real time (VTO8)
- Maintain a frame of reference by placing an infrared window within the visual image to highlight the point of interest with Picture in Picture (PIP) mode (VTO8)
- Quickly locate the target to be tested with the built-in laser pointer
- No training required: Fully automatic with built-in intelligence
- True pocket size design: Forty percent smaller than entry-level infrared cameras
- Rugged design with IP65 ingress protection and drop tested to 2 metres
- One year warranty

Key features	VT06	VT08	
IR Resolution	120 × 90		
Thermal Sensitivity/NETD	<60 mK		
Field of view (H $\times$ V)	50° × 37.5°		
Focusing System	Focus free		
Image Mode	IR IR, visible image, PIP		
Colour Palettes	Ironbow, Blue-Red, High-Contrast, Amber, Hot Metal, Grayscale		
Internal storage	14 GB (>50 000 images)		
File format	JPEG compression format (.jpg)		
PIP mode	No	Yes	
Temperature Range	-20°C to 400°C (not sp	pecified below -10°C)	
Temperature Accuracy	±2°C or 2% @ 23°C ±5°	°C, whichever is greater	
Auto high/low temperature capture, center point temperature	Yes		
Alarm	Maximum/minimum temperature alarm in full screen		
Visible lens	No	Yes	
Flashlight	No Yes		
PC analyse software	Yes		
Battery Type	Rechargeable Li-ion battery, unremovable		
Battery operation time	≥8 hrs	≥5 hrs	
Display	2.4-inch (6.096 cm) LCD		

#### **Recommended Accessories**









#### **Included Accessories**

Wrist Strap, Getting Started Manual, Charger + Adapter, USB Type-C Data Cable, Warranty Card, Certificate of Conformity.

#### **Ordering Information**

FLK-VT06	Visual Infrared Thermometer
FLK-VT08	Visual Infrared Thermometer

Contact your local distributor for price and availability. fluke.co/wtb



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nfrared Thermometers

## Fluke 560 and 570 Series Infrared Thermometers



Fluke 561

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## Fluke 561, 566 and 568 Infrared and Contact Thermometers

With a straight-forward user interface and soft-key menus, the Fluke 561, 566 and 568 make even complex measurements easy. With just a few pushes of a button you can easily adjust emissivity, start data logging, or turn on and off alarms. With a rugged, easy-to-use design, the Fluke 561, 566 and 568 can stand up to tough industrial, electrical, and mechanical environments.

- Confidently measure more surfaces, with adjustable emissivity and built-in materials table
- Log and download measurements for reporting (568)
- Audible and visual alarms
- Min/Max/Dif functions
- Includes KTC bead probe and compatible with any k-type thermocouple
- Two year warranty

Specifications	561	566	568/568 Ex	
Infrared temperature range	-40°C to 535°C	to 535°C -40°C to 650°C -40°C to 800°C		
Accuracy	Greater of $\pm 1\%$ or $\pm 1^{\circ}C$			
Distance to Spot (D:S)	12:1 30:1 50:1			
Sighting	Laser point			
Typical distance to target	Up to 2.5 m	Up to 4.5 m Up to 7.5 m		
Contact temperature range	-40°C to 550°C	-40°C to 550°C -270°C to 1372°C		
Number of on-board memory locations	-	20	99	
PC download and software	-	<ul> <li>– FlukeView<sup>®</sup> Forms</li> </ul>		
Material type adjustment (emissivity)	Hi/Med/Lo	Material table or 0.1 to 1.00 by 0.01		
High and low alarms	-	High and low alarms		



Fluke 572-2

#### Fluke 572-2 High Temperature Infrared Thermometer

The Fluke 572-2 Infrared Thermometer is the one product you can use in high temperature industrial environments all around the world. This is the best choice for when you need accurate results for high temperature readings from a long distance.

- Measure -30°C to 900°C
- 60:1 distance to spot ratio with dual laser sighting for fast, accurate targeting
- Last reading Hold (20 seconds)
- High and low temperature alarm
- Data storage and review (99 data sets)
- Compatible with standard mini-connector K-type thermocouples, including ones you already own
- Current Temperature plus MAX, MIN, DIF, AVG displays
- Adjustable emissivity and predefined emissivity table
- FlukeView<sup>®</sup> Forms documenting software
- Two year warranty

Specifications	572-2
Infrared temperature range	-30°C to 900°C
Infrared accuracy (calibration geometry with ambient temperature 23°C $\pm$ 2°C)	$\geq 0^\circ C: \pm 1^\circ C \text{ or } \pm 1\% \text{ of the reading, whichever is greater} \\ \geq -10^\circ C \text{ to } <0^\circ C: \pm 2^\circ C \\ <-10^\circ C: \pm 3^\circ C \end{cases}$
Distance:Spot	60:1
Laser sighting	Offset dual laser, output <1 mW
Hi/Low alarms	Audible and two-colour visual
Min/Max/Avg/Dif	Yes
Data storage	99 points
K-type thermocouple input temperature range	-270°C to 1372°C
K-type thermocouple input accuracy (with ambient temperature 23°C $\pm$ 2°C)	< -40°C: $\pm$ (1°C + 0.2°/1°C) ≥ -40°C: $\pm$ 1% or 1°C, whichever is greater

#### Speciality Model Fluke 568Ex Intrinsically Safe Infrared Thermometer

- Measure -40°C to 800°C
- 50:1 distance to spot ratio with dual laser sighting for fast, accurate targeting
- Display resolution 0.1°C of reading
- Adjustable emissivity and predefined emissivity table
- Safety Certification ATEX/ IECEx for Class 1, Div 1, Div 2, Zone 1 and 2 hazardous environments

See Intrinsically Safe products on page 138



#### **Included Accessories**

560 Series: Thermocouple K-type Velcro Pipe Probe (561 only), K-type Thermocouple Bead Probe (566 & 568 only), FlukeView\*Forms Software (568 only), USB Cable (568 only), Hard Carrying Case, Two AA Batteries and User Manual with Measurement Guide.

**572-2:** K-type Thermocouple Bead Probe, USB 2.0 Computer Interface Cable, FlukeView<sup>®</sup> Forms Documenting Software, Hard Carrying Case, Getting Started Guide and User Manual (CD).

#### Ordering Information

FLK-572-2	IR Thermometer
FLUKE-561	HVACPro Infrared Thermometer
FLUKE-566	IR Thermometer
FLUKE-568	IR Thermometer
FLUKE-568 Ex	Intrinsically Safe IR Thermometer

## Fluke 60 Series Infrared Thermometers



 $\Diamond$ 

#### Fluke 62 MAX, 62 MAX+ and 64 MAX IR Thermometers

The Fluke 62 MAX, 62 MAX+ and new 64 MAX IR Thermometers have the precision you need to do your job accurately and will not break the budget. Designed and tested to survive a 3 metre drop, you can count on these lightweight, compact infrared thermometers to work when you need them to work-even in the harshest environments and when you're not able to be there.

- Precise laser technology for more accurate and repeatable measurements
- Temperature accuracy of up to  $\geq$  0°C: ±1°C or ±1% of reading whichever is greater with 20:1 distance to spot ratio (64 MAX)
- Flashlight (64 MAX) and large, easy-to-read backlit LCD display for easy viewing even in dark environment
- IP54 rated for extra protection against airborne contaminants
- Get your tool to work when you can't-set time and desired interval between measurements and Auto Capture will capture spot temperatures unattended (64 MAX)
- 99 data point logging (64 MAX)
- Displays the minimum, maximum or average temperature, or the difference between two measurements
- Hi and Lo alarms for rapid display of measurements outside set limits
- Dual rotating lasers to help you identify area to be measured (62 MAX+)
- Small and lightweight, fits easily into your tool box
- Three year warranty

Specifications	62 MAX	62 MAX+	64 MAX
Temperature range	-30°C to 500°C	-30°C to 650°C	- 30°C to 600°C
Accuracy	±1.5°C or ±1.5% of reading, whichever is greater	±1.0°C or ±1.0% of reading, whichever is greater	±1.0°C or ±1.0% of reading, whichever is greater
	-10°C to 0°C: ±2.0 -30°C to -10°C: ±3.0	-10°C to 0°C: ±2.0 -30°C to -10°C: ±3.0	-10°C to 0°C: ±2.0 -30°C to -10°C: ±3.0
Emissivity	0.10 to 1.00		
Optical resolution	10:1 (calculated at 90% energy)	12:1 (calculated at 90% energy)	20:1 (calculated at 90% energy)
Compliance	EN/IEC 61010-1: 2001		
Laser safety	FDA and EN 60825-1 Class II		

#### **Recommended Accessories**



Electrical Tester Holster See page 171 Tripod Mounting Accessory for 64 MAX See page 155

**Recommended Kits** Bundle & Save

H6

Fluke 116/62 MAX+ Technician's Combo Kit

For more details see page 184

#### Fluke T6-600/62 MAX+/1AC-II Infrared Thermometer and Electrical Tester Kit

For more details see page 186

#### Fluke 417D/62MAX+ Laser Distance Meter/Infrared Thermometer Combo Kit

For more details see page 189

#### Fluke 62MAX+/323/1AC Combo Kit

For more details see page 189



#### **Included Accessories**

Fluke 64 MAX, 62 MAX and 62 MAX+: Two AA Batteries and Instruction Sheet.

#### **Ordering Information**

FLUKE-64 MAX	Single Laser IR Thermometer, 10:1 Spot
FLUKE-62 MAX+	Dual Laser IR Thermometer, 12:1 Spot
FLUKE 62 MAX+/323/1AC	IR Thermometer Clamp Meter and Voltage Detector Kit
FLUKE-64 MAX	IR Thermometer
FLUKE-T6-600/ 62MAX+/1AC	T6-600 Tester, 62MAX+ & 1AC-II Combo Kit
1587KIT/62 MAX+	2-in-1 ADV Elec Kit with 62MAX+ i400 AC Current Clamp

Contact your local distributor for price and availability. fluke.co/wtb

Infrared Thermometers

## Fluke 50 Series II Thermometers

handheld test tool.

• Min/Max/Avg

accuracy

Lab accuracy in a field thermometer



TUV

Fluke 53 II B

• Temperatures displayed in°C,°F, or Kelvin (K) • Three year warranty **Powerful data logging** 

• Large backlit dual display

The Fluke 50 Series II Contact Thermometers offer

fast response and laboratory accuracy in a rugged

Laboratory accuracy: ±(0.05% + 0.3°C)

• Electronic offset function maximises overall

• Supports a wide range of thermocouple types

## capabilities

The Fluke 53 II B and 54 II B can log up to 500 points of data to internal memory.

- User-adjustable recording intervals
- Real-time clock captures the exact event time
- Recall function lets logged data be easily reviewed
- Download data to optional FlukeView<sup>®</sup> PC software



Fluke 52 II

HER BORE-18 The BORE-28 SureGrip** Piercing Temperature Probe FIRE BORE-26 The BORE-27 Marging** Industrial Surface Temperature Probe	<b>Recommended Accessories</b>	
SureGrip <sup>ass</sup> Industrial Surface Temperature Probe		
Temperature Probe		
	10	

specifications	51 11	54 11	53 II B	54 II B
Thermocouple types	J,K,T,E	J,K,T,E	J,K,T,E,N,R,S	J,K,T,E,N,R,S
Number of inputs	Single	Dual	Single	Dual
Time stamp	Relative Time	Relative Time	Time of Day	Time of Day
Splash/Dust resistant	•	•	•	•
Dual display with backlight	•	•	•	•
Min/Max/Avg recording	•	•	•	•
(T <sub>1</sub> -T <sub>2</sub> ) True differential	-	•	-	•
Data logging up to 500 points	-	-	•	•
IR data port for interface to PC	-	-	•	•
Compatible with FlukeView $^{\ensuremath{\mathbb{R}}}$ Software	-	-	•	•
Battery life		1000 hours	typical, AA	
Size (HxWxD)		173 mm × 86	mm × 38 mm	
Weight		0.4	kg	

Temperature range and accuracy	
J-type Thermocouples	-210°C to 1200°C
K-type Thermocouples	-200°C to 1372°C
T-type Thermocouples	-250°C to 400°C
E-type Thermocouples	-150°C to 1000°C
N-type** Thermocouples	-200°C to 1300°C
R** and S-type** Thermocouples	0°C to 1767°C
Temperature accuracy above -100°C:	
J, K, T, E, and N-type**	±[ 0.05% + 0.3°C ]
R** and S-type**	±[ 0.05% + 0.4°C ]
Temperature accuracy below -100°C:	
J, K, E, and N-types	±[ 0.20% + 0.3°C ]
T-type	±[ 0.50% + 0.3°C ]

#### **Included Accessories**

Fluke 50 Series Thermometers: Impact Absorbing Holster, Two Bead Probe Thermocouples 80PK-1 (54 and 52 only), One Bead Probe Thermocouple, 80PK-1 (51 and 53 only).

Fluke FoodPro (FP): AA Battery and Quick Start Guide.

Ordering Informati	on
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FLUKE 51 II	Single Input Digital Thermometer
FLUKE 52 II	Dual Input Digital Thermometer
FLUKE 53 II B	Single Input Digital Thermometer with Data Logging
FLUKE 54 II B	Dual Input Digital Thermometer with Data Logging
FLUKE FP	FoodPro™ Food Safety Thermometer

Contact your local distributor for price and availability. fluke.co/wtb



# Industrial Imaging

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Thermal Imaging, Borescopes and Industrial Diagnostics expedite inspections and make crucial maintenance decisions with the latest advancements in technology. The Fluke range of Thermal Imaging Cameras offer the highest resolution necessary to identify areas of concern for non-invasive preventive maintenance inspections. High-definition diagnostic borescopes offer an industrial-tough solution for inspecting machinery with difficult to reach spaces; whilst Fluke Sonic Industrial Imagers provide leading edge technology taking ultrasonic leak detection to a new level of efficiency and accuracy.

## **Infrared Camera Selection Guide**

TiX580			Yes, in software.	°C -20 °C to 1,000 °C					e field of view	le	Yes, calculates distance to the target for precisely focused images and displays distance on screen						
TIX501		640 × 480 (307,200 pixels)	I	-20 °C to 650 °C	0.93 mrad, D:S 1065:1	SOmK			Yes, focused throughout the field of view	very. Single. Tim	mages and displa			l sharing		oattery pack	
Ti480 PRO		640 : (307,20	Yes, in software.	-20 °C to 1,000 °C	0.93 mrad,		34° H × 24° V	15 cm	Yes, focuse	Yes, for consistently in-focus images. Every. Single. Time	or precisely focused i	Yes	nere available)	Yes*, connect your camera to your smartphone, and images taken automatically upload to the Fluke Connect <sup>m</sup> app for saving and sharing	red image	2-3 hours continuous use per battery pack	
Ti401 PRO				-20° C to 650° C		75mK				Yes, for consister	ance to the target f		ind WiFi to LAN (w)	o the Fluke Connec	letails to your infra	2-3 hours	
Ti300+		320 × 240 (110,592 pixels)		-20° C to	1.86 mrad, D:S 532:1	751					Yes, calculates dista		lroid™ 4.3 and up, a	omatically upload to	ntext of the visible d		(standard)
TiS75+		384 × 288 (110,592 pixels)		-20° C to 550° C	1.91 mrad	40mK	42° H × 30° V	50 cm		Manual Focus		Manual Focus	)S 4s and later), And	nd images taken au	100%. Adds the co	3.5 hours continuous (without Wifi)	Two years (standard)
TiS60+		320 × 240 (76,800 pixels)	1	-20° C to 400° C	1.86 mrad, D:S 532:1	45mK	34.1° H × 25.6° V	46 cm	I	Fixed Focus		Fixed Focus	to PC, iPhone <sup>™</sup> and iPad <sup>™</sup> (iOS 4s and later), Android <sup>™</sup> 4.3 and up, and WiFi to LAN (where available)	your smartphone, a	AutoBlend continuous 0% to 100%. Adds the context of the visible details to your infrared image	4 hours continuous use per battery pack	
TiS55+		256 × 192 (49,152 pixels)		-20° C to 550° C	1.91 mrad	40mK	28° H × 20° V	50 cm		Manual Focus	I	Manual Focus	Yes, to PC, iPI	mect your camera to	AutoBler	3.5 hours continuous (without Wifi)	
TiS20+/ Ti20+ MAX		× 90 ) pixels)		-20° C to 400° C (150° C for TiS20+)	D:S 130:1	60mK	50° H × 38° V	cm		Focus		Fixed Focus		Yes*, cor		≥ 5 hours continuous (without WiFi)	
PTi120		120 × 90 (10,800 pixels)		-20° C to 400° C (	7.6 mrad, D:S 130:1	60)	50° H >	50 cm		Fixed Focus		Fixed				≥ 2 hours continuous (without WiFi)	
	Key Features	Infrared Resolution	SuperResolution	Temperature Range	IFOV with Standard Lens (spatial resolution)	Thermal Sensitivity	Field of View	Minimum Focus Distance	MultiSharp Focus	LaserSharp Auto Focus	Laser Distance Meter	Advanced Manual Focus	Wireless Connectivity	Fluke Connect <sup>TM</sup> App Compatible	IR-Fusion Technology	Battery Life	Warranty

Industrial Imaging

## **Fluke Thermal Imaging Software**





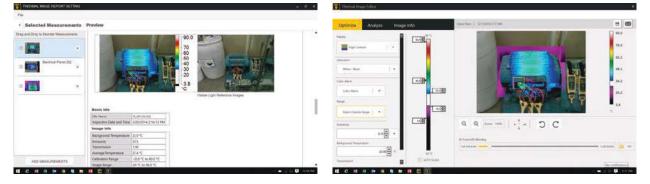
#### Fluke Connect<sup>®</sup> Desktop for Thermal Imaging

Get the most out of your thermography program. Create professional inspection reports in minutes while efficiently capturing full radiometric data to support preventive and predictive maintenance programs with the new Fluke Connect<sup>®</sup> Desktop software.

- · Easily edit and optimise images to visualise equipment status
- Combine infrared and visible images for simpler analysis using picture-in-picture mode and image blending
- · Create detailed reports in minutes and save customised report templates
- $\bullet\,$  Connect a camera to your computer wirelessly with the built in Fluke Camera WiFi
- Never lose your data automatically save all your thermal images and reports in the Fluke Connect\* cloud storage, accessible anytime on PC or Mobile App
- Organise images and easily search by asset, severity, and image title
- Enhance inspection credibility by incorporating live readings of energised circuits and operational equipment from Fluke Connect® enabled test tool into your infrared image
- Share images immediately with team members with the Fluke Connect® Mobile App

 $Fluke\ Connect^{\tiny (b)}\ Desktop\ has\ all\ the\ same\ features\ as\ SmartView\ and\ more,\ with\ intuitive\ navigation\ interface\ and\ the\ advantage\ of\ Fluke\ Connect^{\tiny (b)}\ cloud\ storage.$ 

Download Fluke Connect® Desktop FREE from the Fluke website and the Fluke Connect® Mobile app from the mobile IOS or Android app store.



#### Get more out of your thermal inspections with Fluke Connect® Wireless Modules

You can connect up to 5 Fluke Connect<sup>®</sup> Wireless modules with a Fluke Infrared Camera, whilst incorporating live readings on the infrared image. The below table highlights a list of Fluke Connect<sup>®</sup> enabled tools that are compatible with Fluke Infrared Cameras.

## Fluke Connect<sup>®</sup> Compatibility Guide

Fluke Connect* Tools	Fluke Connect* App	3000 FC	902 FC	376/375 /374 FC	a3000 FC a3001 FC	a3002 FC	a3003 FC a3004 FC	v3000 FC	v3001 FC	t3000 FC
Fluke Connect <sup>®</sup> App – iOS and Android™	•	٠	•	•	•	٠	•	•	٠	•
TiX580 Infrared Camera	•	•	•	•	•	•	•	•	٠	•
Ti480PRO Infrared Camera	•	•	•	•	•	•	•	•	•	•
PTi120/TiSxx Series Infrared Cameras	•	•	•	•	•	•	•	•	•	•





#### Get the FREE Fluke Connect® App!

Download the free Fluke Connect® Desktop from the Fluke website and the Fluke Connect® Mobile app from the mobile IOS or Android app store.





## Fluke PTi120 Pocket Infrared Camera





Fluke PTi120



## Infrared troubleshooting power you need, right in your pocket

A fully radiometric thermal imager with a 3.5'' LCD touchscreen that offers IR-Fusion<sup>TM</sup> to blend a visible light image with an infrared image to easily locate problems. The PTil2O has built in WiFi that allows you to connect your camera to the Fluke Connect® App and share images remotely with your team. Compact and easy to use, the Fluke PTil2O should be your first line of defense with maintenance work.

- 120 × 90 infrared resolution (10,800 pixels)
- -20°C to 400°C temperature measurement
- range
- 3.5" (8.89 cm) LCD touchscreen display with intuitive interface for easy troubleshooting
- 1 metre drop tested
- IP54 enclosure rating
- Touchscreen IR-Fusion blends a visible light image with an infrared image, simply slide your finger across the screen to adjust
- Two year warranty







Key leatures	PT1120
IFOV (Spatial Resolution)	7.6 mRad
Infrared Resolution	120 × 90
Field of View	50° H × 38° V
Frame Rate	9 Hz
Distance to Spot	130:1
Temperature Measurement Range (not calibrated below -10°C)	-20°C to <b>400°C</b>
Thermal Sensitivity	60 mK
Focus system	Fixed focus, minimum focus distance 22.8 cm
Centre-point temperature	Yes
Spot temperature	Hot and cold spot markers
Battery	$\geq$ 2 hours (without WiFi), can be charged via USB cable
Torch	Yes
Fluke Connect $^{\otimes}$ Instant Upload	Yes, connect your camera to your building's WiFi network, and images taken automatically upload to the Fluke Connect <sup>®</sup> mobile App for storage and viewing on your PC.



#### Get the FREE Fluke Connect® App!

By using the Fluke Connect<sup>®</sup> App, you can efficiently and safely capture, store and share maintenance data without leaving the field. You can securely connect and collaborate with others, so they can see what you see.



#### Included Accessories Soft Case, Lanyard and USB cable.

**Ordering Information** 

FLK-PTi120 9Hz

Fluke Pocket Infrared Camera

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Contact your local distributor for price and availability. fluke.co/wtb

## **Fluke Performance Series Infrared Cameras** TiS20+, TiS20+ MAX, TiS55+, TiS60+ and TiS75+



Fluke TiS75+



#### Easy-to-use frontline troubleshooting

Easily see potential problems with blended IR and visual images, on a large 3.5 inch LCD display. Fluke Performance Series Infrared Cameras are one-handed pistol grip models that make on-site thermal inspections quicker and easier.

#### **Manual Focus**

Focus is one of the most critical aspects of a thermal image because it cannot be altered with software. Both manual and fixed focus options are available on the latest TiS55+ and TiS75+ infrared cameras, leveraging the advantages of both optical systems and making this ideal for both seasoned thermographers and users new to thermography.

- Measure up to 550°C (TiS55+ and TiS75+) to handle all applications
- Manual and fixed focus (TiS55+ and TiS75+)
- IS3 and AVI video recording (TiS75+ only)
- Dew point calculation (TiS75+ only)
- Digitally document critical information with your infrared image using IR-PhotoNotes™ or voice annotation with TiS55+, TiS60+ and TiS75+
- Make decisions in real time-wirelessly sync images from your camera, create and email reports all with your smart phone and the Fluke Connect® App
- Monitor battery charge and avoid unexpected loss of power with the smart battery with LED charge indicator
- · Two year warranty

Key features	TiS20+	TiS20+ MAX	TiS55+	TiS60+	TiS75+			
Infrared Resolution	120 × 90 (10,800 pixels)	120 × 90 (10,800 pixels)	256 × 192 (49,152 pixels)	320 × 240 (76,800 pixels)	384 × 288 (110,592 pixels)			
IFOV (Spatial Resolution)	7.6 mRad	7.6 mRad	1.91 mRad	1.86 mRad	1.91 mRad			
Field of View	50° H × 38° V	50° H × 38° V	28° H × 20° V	34.1° H × 25.6° V	42° H × 30° V			
Thermal Sensitivity (NETD)**	60 mK	60 mK	40 mK	45 mK	40 mK			
Temperature Measurement Range	-20°C to 150°C	-20°C to 400°C	-20°C to 550°C	-20°C to 400°C	-20°C to 550°C			
Focus Systems	Fixed focus	Fixed focus	Manual focus and 1 metre focus marker	Fixed focus	Manual focus and 1 metre focus marker			
IR-Fusion AutoBlend Continuous 0% to 100%.	Yes	Yes Yes, including Picture in Picture (PIP)						
Display	3.5 inch (landscape) 320 × 240 LCD touch screen	3.5 inch (landscape) 320 × 240 LCD touch screen	3.5 inch (landscape) 640 × 480 LCD touch screen	3.5 inch (landscape) 320 × 240 LCD	3.5 inch (landscape) 640 × 480 LCD touchscreen			
Colour Alarms	-	-	Yes <sup>1</sup>	Yes <sup>1</sup>	Yes <sup>1</sup>			
IR PhotoNotes and Voice Annotations	-	-	Yes <sup>1</sup>	Yes <sup>1</sup>	Yes <sup>1</sup>			
Software	Fluke Connect <sup>®</sup> Desktop Software – full analysis and reporting software with access to the Fluke Connect <sup>®</sup> system							

1 Refer to product datasheet for more details.





Combine with a Fluke ClirVu® Infrared Window to conduct thermal inspections without having to open the electrical panel.

#### **Included Accessories**

Infrared camera: AC Power Supply, Lithium-ion Smart Battery, USB Cable and Soft Transport Bag.

Fluke TiS55+ also includes 4GB Micro-SD-Card, Hand Carrying Case and adjustable Hand Strap.

Fluke TiS60+ & TiS75+ also includes 4GB Micro-SD-Card, Two-bay Smart Battery Charger, Two Lithium-ion Smart Batteries, Hand Carrying Case and adjustable Hand Strap.

#### **Ordering Information**

FLK-TIS20	Infrared Camera
FLK-TIS20+ MAX	Infrared Camera
FLK-TIS55+ 27Hz	Infrared Camera
FLK-TIS60+ 9Hz	Infrared Camera
FLK-TIS60+ 30Hz	Infrared Camera
FLK-TIS75+ 27Hz	Infrared Camera

Contact your local distributor for price and availability. fluke.co/wtb

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## Fluke Professional Series Infrared Cameras Ti300+, Ti401 PRO and Ti480 PRO



Fluke Ti401 PRO

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Get clear, accurate focus on objects near and far with MultiSharp<sup>™</sup> focus<sup>1</sup>, or focus with laser speed and accuracy on your designated target with LaserSharp® Auto Focus. Easily navigate the menu and view images on a 3.5 inch, 640 x 480 touchscreen. Get more from your camera with an optional 2x or 4x telephoto or wide angle smart lens - no calibration required.

- Get 4x the pixel data with SuperResolution, which captures multiple images and combines them to create a 1280 x 960 image (Ti480 PRO)
- Save time-wirelessly sync images directly from your camera to the Fluke Connect® system, and attach to an asset record or work order
- Reduce the need to take notes in the field with two helpful features:
  - IR-PhotoNotes<sup>™</sup> annotation system captures digital images of the surrounding area to reference conditions or actual location
  - Any additional details can also be saved to the file with voice annotation
- Field of view (34  $^{\circ}\text{H}$  x 24  $^{\circ}\text{V}$ )
- View all your assets with increased accuracy using one of the four optional lenses (macro, wide-angle, 2x telephoto and 4x telephoto)
- Two year warranty

Key Features	Ti300+	Ti401 PRO	Ti480 PRO					
Infrared Resolution	320 x 240 (76,800 pixels)							
SuperResolution	No	No	Yes, in software. Captures and combines 4x the data to create a 1280 x 960 image					
IFOV with Standard Lens (Spatial Resolution)	1.85 mRad, D:S 532:1	D:S 1065:1						
Field of View		34 °H x 24 °V						
Thermal Sensitivity (NETD)**	≤ 0.075 °C at 30 °C	target temp (75 mK)	≤ 0.05 °C at 30 °C target temp (50 mK)					
Temperature Measurement Range	-20 °C to +650 °C	-20 °C to +650 °C	-20 °C to +1,000 °C					
LaserSharp™ Auto Focus and Manual Focus	Yes Yes with MultiSharp™ Focus option							
Laser Distance Meter	Yes, calculates distance to the target for precisely focused images and displays distance on screen							
Optional Lenses	Wide angle,	2x and 4x telephoto, 25 m	icron macro					
IR-Fusion Technology	Yes, adds the conte	ext of the visible details to y	our infrared image					
Display	3.5 inch (la	ndscape), 640 x 480 LCD To	ouch Screen					
Frame Rate		60 Hz or 9 Hz versions						
Voice Annotation		recording time per image; r Bluetooth headset available						
Text Annotation	Yes. Including standar	d shortcuts as well as user	programmable options					
Video Recording	No	No	Standard and radiometric					
Remote Control Operation	No	Remote display through Fluke Connect	Remote display and control operation through Fluke Connect					
Alarms	High temperature, 1	low temperature, and isothe	erms (within range)					
Wireless Connectivity		atible. Wireless connectivity er), Android™ 4.3 and up, a						
Software	Full analysis and reporting software with access to the Fluke $Connect^{\scriptscriptstyle (\!$							



**Recommended Accessories** 

FLK-LENS/WIDE2



#### **Included Accessories**

AC Power Supply and Battery Pack Charger, Two Rugged Lithium-Ion Smart Battery Packs, USB Cable, HDMI Video Cable, 4GB Micro SD Card, Adjustable Hand Strap.

#### **Ordering Information**

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FLK-TI300+ 9Hz	Infrared Camera
FLK-TI300+ 60Hz	Infrared Camera
FLK-TI401 PRO 9HZ	Infrared Camera
FLK-TI401 PRO 60HZ	Infrared Camera
FLK-TI480 PRO 9HZ	Infrared Camera
FLK-TI480 PRO 60HZ	Infrared Camera

Contact your local distributor for price and availability. fluke.co/wtb

# Industrial Imaging

Additional Smart Battery Charger

FLK-LENS/TELE2

Thermography Principles Book

#### fluke.co/infrared



## Fluke Expert Series Infrared Cameras TiX501 and TiX580







## Tablet sized screen, more details, faster decisions.

You need maximum flexibility with an ergonomic design that allows you to easily navigate over, under and around hard-to-reach objects. With a lens that rotates a full 240 degrees and a tablet-sized 5.7 inch touchscreen LCD, you can aim and focus from a comfortable angle and easily capture the target that was once impossible to see.

- Resolution: 640 × 480 (307,200 pixels)
- Temperature range: TiX501 -20 °C to +650 °C TiX580 -20 °C to +1000 °C
- Premium in-field viewing experience with a 5.7 inch responsive touchscreen LCD
- See the details you need with smart lenses— 2x and 4x telephoto, wide angle, and 25 micron macro—no calibration required, interchangeable between compatible cameras
- See, save and share from the field and connect to the largest selection of wireless test and
- measurement tools with the Fluke Connect® App
- Two year warranty

#### LaserSharp<sup>®</sup> Auto Focus

Get an in-focus image like never before with just a touch of a button. LaserSharp® Auto Focus, exclusive to Fluke, uses its built-in laser distance meter to calculate the distance to your designated target with pinpoint accuracy. On target and in-focus. Every. Single. Time.

#### **Brilliant Image Quality**

Enhanced image quality and temperature measurement accuracy – turn your  $640 \times 480$  images (307,200 pixels) into  $1280 \times 960$  images (1,228,800 pixels). That's  $4 \times$  the resolution and pixels with SuperResolution.

Key Features	<b>TiX580</b>	TiX501					
Infrared Resolution	640 × 480 (307,200 pixel) SuperResolution mode: 1280 × 960 (1,228,800 pixels) (TiX580)						
IFOV (Spatial Resolution)	0.93	mRad					
Field of View	34° H	× 24° V					
Distance to Spot	753:1						
Thermal Sensitivity	$\leq$ 0.05°C at 30°C target temp (50 mK)						
Temperature Range	-20°C to +1,000°C	-20°C to +650°C					
Optional lenses	Pre-calibrated smart optional l	enses: wide angle, 2x telephoto					
Wireless Connectivity		ss connectivity to PC, iPhone $^{\ast}$ and iPad $^{\ast}$ 4.3 and up, and WiFi to LAN					
IR-Fusion®	AutoBlend <sup>™</sup> mode,	continuous blending					
Picture-In-Picture (PIP)	Y	es					
Software	Fluke Connect <sup>®</sup> (web, mobile and desktop)						
Video recording	Standard an	d radiometric					
Alarms	High temperature, low temperatu	ure, and isotherms (within range)					





#### **Included Accessories**

AC Power Supply and Battery Pack Charger, Two Lithium-ion Smart Battery Packs, USB Cable, HDMI Video Cable, Hard Carrying Case, Adjustable Neck and Hand Strap, Bluetooth Headset (where available), Warranty Registration Card and Calibration Certificate. Flash Drive includes Product Manuals and SmartView<sup>®</sup> Software.

Ordering Information					
FLK-TiX501 60Hz	Infrared Camera				
FLK-TiX501 9Hz	Infrared Camera				
FLK-TiX580 60Hz	Infrared Camera				
FLK-TiX580 9Hz	Infrared Camera				

Contact your local distributor for price and availability. fluke.co/wtb

Industrial Imaging

## Fluke RSE30 and RSE60 Thermal Cameras





Fluke RSE30 NEW



Fluke RSE60 NEW

 $\langle \! \circ \! \rangle$ 

#### **Fixed mount Thermography**

The Fluke RSE30 and RSE60 are fixed mount thermography cameras that can be used for measuring and visualising surface temperature across various industries including the automotive industry, chemical and petrochemical processing, electronics manufacturing, food and beverage manufacturing, pharmaceutical, and metallurgy industries.

Fluke offers four models in the RSE series with varied resolution and thermal sensitivity.

#### Fluke's New Infrared Detection Solutions: RSE30 and RSE60

- Wide temperature range for varied applications: -20° C to 650° C (RSE30/RSE60) and -20° C to 2000° C options (RSE30H/RSE60H)
- Resolution of 640×480 (RSE60/60H) and 384×288 (RSE30/30H)
- Auto-focus system automatically locks onto the target under test, saving time and removing the need for manual adjustments
- 10 colour palettes, such as ironbow, black-white, and rainbow
- Experience smooth testing with 30Hz frame rate video • streaming and a data output bandwidth of 1.8Mb
- User definable measurement points (5), lines (10), and areas (10) to meet the needs of multi-point testing
- Use SmartView IR Software for more analysis functions · Standard, wide-angle, and telephoto lenses support
- additional options
- · Two year warranty

#### **Specifications**

Features	RSE30	RSE60	RSE30H	RSE60H				
Infrared Resolution	384 x 288	640 x 480	384 x 288	640 x 480				
Detector Type	F	Focal Plane Array FPA, Uncooled Microthermal						
Thermal Sensitivity (NETD)*	<50 mk	<30 mk	<50 mk	<30 mk				
Temperature Range	-20°C to 650°C	-20°C to 650°C	-20°C to 2000°C	-20°C to 2000°C				
Temperature measurement area	Support 5 temperature measurement points, 10 temperature measurement lines, 10 temperature measurement areas, support Modbus output (the Modbus output is mutually exclusive with the pan-tilt control)							
Colour Palettes	10 colour palettes, including ironbow, black-white, rainbow, etc., the palettes can be inverted							
Video	Main stream Pixel: 384 x 288 Frequency: 30 Hz Bandwidth: 1.8 Mb Sub stream Pixel: 384 x 288 Frequency: 30 Hz Bandwidth: 100 Kb	Main stream Pixel: 640 x 480 Frequency: 30 Hz Bandwidth: 2.5 Mb Sub stream Pixel: 320 x 240 Frequency: 30 Hz Bandwidth: 100 Kb	Main stream Pixel: 384 x 288 Frequency: 30 Hz Bandwidth: 1.8 Mb Sub stream Pixel: 384 x 288 Frequency: 30 Hz Bandwidth: 100 Kb	Main stream Pixel: 640 x 480 Frequency: 30 Hz Bandwidth: 2.5 Mb Sub stream Pixel: 320 x 240 Frequency: 30 Hz Bandwidth: 100 Kb				

#### **Optional Lenses**

Features	RSE30	RSE60	RSE30H	RSE60H
Lens Name/ Lens Parameters	Field of View (FOV) Spatial Resolution (IFOV) Minimum Focus Distance			
Standard Lens	Focal Length	Focal Length	Focal Length	Focal Length
	25° x 18.7°	25° x 18.7°	25° x 18.7°	25° x 18.7°
	1.13 mrad	0.68 mrad	1.13 mrad	0.67 mrad
	0.3 m	0.3 m	0.5 m	0.5 m
	15 mm	25 mm	15 mm	25.3 mm
Wide-Angle Lens	50° x 37.5°	50° x 37.5°	50° x 37.5°	50° x 37.5°
	2.07 mrad	1.31 mrad	2.32 mrad	1.39 mrad
	0.3 m	0.3 m	0.5 m	0.7 m
	8.2 mm	13 mm	7.34 mm	12.2 mm
Telephoto Lens	12° x 8.9°	12° x 8.9°	12° x 8.9°	12° x 8.9°
	0.57 mrad	0.34 mrad	0.53 mrad	0.32 mrad
	1 m	1 m	1.5 m	5 m
	30 mm	50 mm	32.2 mm	53.9 mm





RSE30-2X RSE30-2X TELE LEN WIDE LEN RSE30 12C Tele Len, Non-Calibrated Non-Calibrated







RSE60-2X TELE LEN

RSE60-2X WIDE LEN

RSE60 12C Tele Len, RSE60 50C Wide Len, Non-Calibrated Non-Calibrated

#### **Included Accessories**

Thermal Camera, Standard Lens, Lens Cover, Power Adapter, Power Connector, Ethernet Cable, Document Pouch, (Safety Sheet, Quick Reference Guide, Warranty Card), Accessory Bag, Tripod Adapter, 4 M2\*5 Screws, Allen Key, Packaging Box.

#### **Ordering Information**

RSE30 384*288 Fixed Thermal Camera, Gt6, 30hz, APAC
RSE60 640*480 Fixed Thermal Camera, Hs5, 25hz, APAC
RSE30h 384*288 2000c Fixed Thermal Camera, Gt6, 30hz, APAC
RSE60h 640*480 2000c Fixed Thermal Camera, Hs5, 25hz, APAC

Contact your local distributor for price and availability. fluke.co/wtb

## Fluke CV Series ClirVu® Infrared Windows





Fluke CV200

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Fluke CV300

#### Compliance without compromise. Safety without sacrifice.

Increase the safety and speed of electrical thermal imaging inspections with the Fluke  $\text{ClirVu}^{\oplus}$  IR Windows. Reduce the risk of arc-flash and electrocution, increase the safety of your personnel and reduce the time and cost of preventive maintenance.

- Save time with a quick and easy 5 minutes or less installation
  - One technician
  - One hole with standard Greenlee<sup>®</sup> punch
    Panel door does not need to be removed
  - Grounds instantly to metal enclosure with patent-pending AutoGround<sup>™</sup> process

 Maintains panel arc test ratings up to 63 kA when properly installed

 Torture Tested<sup>™</sup> to the highest arc blast test ratings

- IEEE C37.20.7: 63 kA Arc tested at KEMA, UL50/50E/50V, UL1558, IEC60529-1: IP67, IEC 60068, NEMA 4/12, CSA C22.2 N0.14-13:2012, and CE

- Convenience of both quick turn (CV400, CV300, CV200) or security keyed access (CV401, CV301, CV201)
- Fluke IR Windows offered in three sizes 50 mm, 75 mm and 95 mm
- Work permit requirements and NFPA 70E processes are significantly reduced
- Full PPE is often not required so inspections are done faster and more conveniently
- Lifetime replacement warranty against manufacturing defects

Specifications	CV400	CV401	CV300	CV301	CV200	CV201
Size	95 mm 75 mm 50 mm				mm	
Voltage Range	Any					
NEMA Environment Type	Type 4/12 (indoor/outdoor)					
AutoGround™	Yes					
ClirVu® Optic			Ye	s		
Operating temperature		-40°C to	+ 232°C and	+ 260°C Inte	ermittent	
Body material		EZAC & ZA-2	27 High Stren	gth Zinc/ Alu	minum Alloy	
Ratings and testing						
Arc-Tested (IEEE C37.20.7)		63 k/	A for 30 cycles	s @ 60 Hz at 1	KEMA	
UL 50V component recognition		Yes				
UL 50/NEMA Environmental Rating	NEMA Type 4/12					
UL 1558	Yes					
CSA C22.2 No.	Yes					
CSA Type Rating	Type 4 IEC 62271-100, 200:					
IP rating	IP67 at TUV					
Lloyds Register	Up to 11 kV marine switchgear, indoor or outdoor (offshore only)					
Vibration rating	IEC60068-2-6 at TUV					
Humidity rating			IEC60068-	2-3 at TUV		
Install						
Actual mounting hole diameter required	115.4	2 mm	89.89	) mm	61.37	/ mm
Greenlee Punch Kit = Punch/Die	7421 2984AV/	3B = /2983AV	7391 1431AV/	3B = /1432AV	76B 441AV/	-
Door Latch	Hand Turn	Security Key	Hand Turn	Security Key	Hand Turn	Security Key
Optics						
Optic insert diameter	95 :	mm	75 :	mm	50 1	mm

#### Quick & Easy Installation in 5 minutes or less







#### **Included Accessories**

Hand Turn Door Latch (CV200, 300 & 400), Security Key Door Latch (CV201) and Warranty Statement.

Fluke IR Windows are supplied complete, assembled and ready for installation.

#### **Ordering Information**

FLUKE-CV200	50 mm, Infrared Window, Hand Turn Door Latch
FLUKE-CV201	50 mm, Infrared Window, Security Key Door Latch
FLUKE-CV300	75 mm, Infrared Window, Hand Turn Door Latch
FLUKE-CV301	75 mm, Infrared Window, Security Key Door Latch
FLUKE-CV400	95 mm, Infrared Window, Hand Turn Door Latch
FLUKE-CV401	95 mm, Infrared Window, Security Key Door Latch

Contact your local distributor for price and availability. fluke.co/wtb

## **Fluke Lenses Telephoto, Wide Angle and Macro**

#### **Telephoto Lenses**

The difference between finding and potentially diagnosing the problem, and not seeing any discrepancy at all. Get the detail you need, even from a distance, when you view your target magnified 2 or 4 times more than a standard lens.

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		-

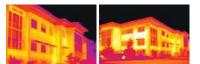
Standard

4x Telephoto

#### Wide Angle Lenses

When working in a tight space, see a larger target from a close distance. Ideal for roof and building inspection or for looking through IR Windows.

2x Telephoto

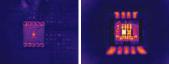


Standard Lens

Wide Lens see both sides of the building at the same time from the same distance

#### **Macro Lenses**

Get an incredibly detailed image of very small objects-as small as 25 microns, smaller than the average human hair.



Standard

25 Micron Macro Lens — see detail in very small objects

Model number	Ti480PRO	<b>TiX580</b>
TI-LENS/TELE2 2x Telephoto infrared smart lens†	•	•
TI-LENS/WIDE2 Wide Angle Infrared Smart Lens†	•	•
FLK-Lens/4xTele2 4x Telephoto infrared smart lens†	•	•
FLK-Lens/25Mac2 25 Micron macro infrared smart lens†	•	•

†The lenses for TiX580, Ti480PR0 are smart lenses. They come pre-calibrated and don't require calibration to a specific camera, so they are interchangeable between compatible cameras.

Features	RSE30	RSE60	RSE30H	RSE60H
Lens Name/ Lens Parameters	Field of View (FOV) Spatial Resolution (IFOV) Minimum Focus Distance Focal Length			
Standard Lens	25° x 18.7°	25° x 18.7°	25° x 18.7°	25° x 18.7°
	1.13 mrad	0.68 mrad	1.13 mrad	0.67 mrad
	0.3 m	0.3 m	0.5 m	0.5 m
	15 mm	25 mm	15 mm	25.3 mm
Wide-Angle Lens	50° x 37.5°	50° x 37.5°	50° x 37.5°	50° x 37.5°
	2.07 mrad	1.31 mrad	2.32 mrad	1.39 mrad
	0.3 m	0.3 m	0.5 m	0.7 m
	8.2 mm	13 mm	7.34 mm	12.2 mm
Telephoto Lens	12° x 8.9°	12° x 8.9°	12° x 8.9°	12° x 8.9°
	0.57 mrad	0.34 mrad	0.53 mrad	0.32 mrad
	1 m	1 m	1.5 m	5 m
	30 mm	50 mm	32.2 mm	53.9 mm

#### **Optional Lenses**

RSE30 12C Tele Len, Non-Calibrated, RSE30 50C Wide Len, Non-Calibrated, RSE60 12C Tele Len, Non-Calibrated, RSE60 50C Wide Len, Non-Calibrated.

#### **Ordering Information**

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RSE30H-2X TELE LEN	RSE3OH 12C Tele Len, Non-Calibrated
RSE30H-2X WIDE LEN	RSE30H 50C Wide Len, Non-Calibrated
RSE60H-2X TELE LEN	RSE60 12C Tele Len, Non-Calibrated
RSE60H-2X WIDE LEN	RSE60 50C Wide Len, Non-Calibrated
FLK-LENS/ TELE2	2x Telephoto Infrared Smart Lens
FLK-LENS/ 4XTELE2	4x Telephoto Infrared Smart Lens
FLK-LENS/ WIDE2	Wide Angle Infrared Smart Lens
FLK-LENS/ 25MAC2	25 Micron Macro Infrared Smart Lens

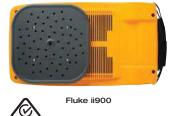
Contact your local distributor for price and availability. fluke.co/wtb

# Industrial Imaging



## Fluke ii900 Sonic Leak Detection Industrial Imager





#### A fast, simple way to detect compressed air, steam, gas and vacuum leaks.

Equipped with an array of microphones for an expanded field-of-view, the handheld Fluke ii900 Sonic Industrial Imager enables maintenance teams to quickly and accurately locate air, gas and vacuum leaks in compressed air systems; even in noisy environments

- 7 inch 1280 × 800 LCD with capacitive touchscreen
- Frequency band of 2 kHz to 52 kHz (detected 150 ml/min leak at 7 bar for 10 mins)
- SoundMap<sup>™</sup> overlay for visual leak detection
   Capture images in IPEG or PNG format with u
- Capture images in JPEG or PNG format with user input notes function
  Capture videos in MP4 format
- Capture videos in MP4 forma
   Manual frequency filtering
- Two year warranty

#### SoundSight™ Technology

Specifically designed for noisy production facilities the new SoundSight<sup>TM</sup> technology is simple to learn and easy to implement. The 7" LCD touchscreen overlays a SoundMap<sup>TM</sup> on a visual image for quick leak location identification. The straightforward, intuitive interface allows technicians to isolate the sound frequency of the leak to filter out loud background noise. In a matter of hours, the team can inspect the entire plant – during peak operations. For the first time, you can quickly and easily identify the air leak repairs needed to ensure efficient operations and reduce utility bills. Images can be saved and exported for reporting purposes. Never leave air leaks unattended again.

#### With minimal training, the ii900 enables you to:

- Fast, simple leak location identification
- Optimise air compressors delay the capital expense of installing additional compressors
- Ensure proper air pressure to pneumatic equipment
- Lower energy and gas costs and reduce leak detection time
- Improve reliability of the production line
- Discover the volume or cost of leaks instantly on screen
- Online Leak Estimation Size scaling to align reporting requirements
- CO2 Emissions estimator for your environmental reporting requirements
- Asset impaction classifications allow customers to easily report leaks as found and as repaired

Key Features	ii900
Sensor	
# of Microphones	64 digital MEMS microphones
Frequency Band	2 kHz to 52 kHz
Sound Pressure Sensitivity	150 ml/min leak at 7 bar from 10 metres
Operational Distance Range	0.5 to 50 metres
Built-in Digital Camera (visible	e light)
Field of view	65° ±3°
Focus	Fixed lens
Acoustic Measurements	
Measurement Range	29.7 dB to 120 dB SPL at 2 kHz 16 dB to 106.3 dB SPL (±1 dB) at 19 kHz 21.4 dB to 117 dB SPL (±1 dB) at 52 kHz
General Specifications	
Battery Life	6 hours/battery (product includes spare battery)
Main Unit Rating	Ingress Protection (IEC 60529) IP40 protection against particles 1mm or greater
Sensor Head Rating	Ingress Protection (IEC 60529) IP51 protection against dust and dripping water

#### Try the Virtual Demo

See sound now. Take a virtual tour of the Fluke ii900 and ii910 Acoustic Imagers.





#### **Recommended Accessories**



**BP291** 4500 mAh capacity Li-ion Battery See page 177





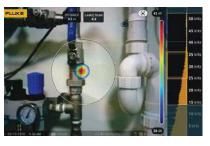


FLK-TIX5XX-NECK Neck Strap

**CXT1000** Hard Carry Case See page 170







#### **Included Accessories**

AC Power Supply, Battery Pack Charger, Two Lithium-ion Smart Battery Packs, USB Cable, Rugged, Hard Carrying Case, Two Rubber Array Covers, Adjustable Hand Strap and Neck Strap.

#### Ordering Information

Fluke-II900	Sonic Industrial
	Imager

Contact your local distributor for price and availability. fluke.co/wtb

## Fluke ii910 Precision Acoustic Imager



#### A fast, easy way to detect, locate and analyse partial discharge in one tool.

The ii910 is the all-in-one tool maintenance teams have been waiting for when it comes to leak and partial discharge (PD) issues. Quickly scan the environment and get all the pictures/videos you need with a simple one-button capture. No additional tools, equipment or cumbersome cables required. The ii910 Acoustic Imager's ground-breaking technology makes it a cost-efficient, safe, effective, and comfortable tool for teams who inspect and maintain power distribution and industrial high voltage equipment.

- 7 inch 1280 × 800 LCD with capacitive touchscreen
- Detection range of 0.5 m to 120 m
- Frequency band of 2 kHz to 100 kHz
- SoundMap<sup>™</sup> overlay for visual PD detection
- Captures videos in MP4 format
- Manual frequency filtering
- Two year warranty

#### SoundSight<sup>™</sup> Technology for partial discharge detection

Partial Discharge is a very serious issue that you would like to be able to monitor quickly and easily. Whether you are inspecting insulators, transformers, switch gears or high voltage powerlines you need to be sure that you spot a problem quickly and early. Partial discharge that goes unchecked can cause blackouts, fires, explosions, or death from arc flashes. In addition to the danger that partial discharge poses to human lives and the environment, there is a significant monetary risk of downtime. Having equipment go down can cost millions of dollars per hour of downtime.

The Fluke ii910 Precision Acoustic Imager is the perfect tool for teams that are constantly inspecting and maintaining power distribution and industrial high voltage equipment. The ii910 provides a safe quick and easy way to detect and locate partial discharge in order to maintain high voltage equipment and prevent catastrophic events. With the SoundSight™ technology the ii910 translates the sounds that it hears into a visual representation so that you can quickly locate problem areas. The higher frequency capability of the ii910 allows for earlier detection to facilitate early maintenance planning.

Key Features	ii910	
Sensor		
Frequency Band	2 kHz to 100 kHz	
Nominal Frame Rate	25 fps	
Detection Range	0.5 to 120 metres	
<b>Built-in Digital Camera</b>	(visible light)	
Field of View	63° ±5°	
Focus	Fixed lens	
Display		
Size	7" LCD with backlight, under-sunlight readable	
Resolution	1280 × 800 (1,024,000 pixels)	
Touchscreen	Capacitive	
Acoustic Image	Yes, SoundMap™ image	
Acoustic Measurements		
Measurement Range	12.1 dB SPL to 114.6 dB SPL ±1 dB SPL 2 kHz 4.4 dB SPL to 101.2 dB SPL ±2 dB SPL 19 kHz 12.8 dB SPL to 119.2 dB SPL ±1 dB SPL 35 kHz 19.8 dB SPL to 116.1 dB SPL ±3 dB SPL 52 kHz 41.4 dB SPL to 129.0 dB SPL ±1 dB SPL 80 kHz 54.4 dB SPL to 135.5 dB SPL ±1 dB SPL 100 kHz	
Auto Max/Min dB Gain	Auto or manual, user selectable	
Frequency Band Selection	User selectable through user-made pre-sets or manual entry	
<b>General Specifications</b>		
Battery Life	6 hours/battery (product includes spare battery)	
Main Unit Rating	IP40 protection against particles 1 mm or greater and dripping water	
Weight	2.15 kg	
General Safety	IEC 61010-1	

Learn More

#### **Recommended Accessories**



4500 mAh capacity Li-ion Battery See page 177



Industrial Imaging













FLK-TIX5XX-NECK Neck Strap









#### **Included Accessories**

AC Power Supply, Battery Pack Charger, Two Lithium-ion Smart Battery Packs, USB Cable, Rugged Hard Carrying Case, Two Rubber Array Covers, Adjustable Hand and Neck Strap.

#### **Ordering Information**

fluke.co/ii910anz

Fluke-II910 Precision Acoustic Imager

Contact your local distributor for price and availability. fluke.co/wtb



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## Fluke DS703 FC High Resolution Diagnostic Scopes



#### Gritty, industrial, expensive equipment? Diagnose before teardown with the durability of Fluke

Industrial inspections require a powerful diagnostic borescope designed to stand up to the dirtiest, most harsh environments. Fluke Diagnostic Scopes put high-resolution images in the palm of your hand.

- High definition probe with dual-view cameraHigh Resolution
- DS703 FC- 1200 × 720 (864,000 pixels)
- Processing speeds that render a smooth, clear, consistent image
- 7" LCD screen for easy viewing
- Macro to micro zoom function
- Adjustable lighting to capture the best image
- Up is Up<sup>®</sup> technology for an appropriate orientation, regardless of the probe location
- True 720p video
- Two year warranty

# Recommended Accessories Image: Second accessories FLK-3.8MM Scope Improbe, forward view FLK-5.5MM Scope Improbe, dual view FLK-5.5MM Scope Probe articulating FLK-5.5MM Scope Porward view, 200M probe reel

#### Fluke DS703 FC High Resolution Diagnostic Scope with Fluke Connect\*

Rugged, high-definition industrial 1280 × 720 resolution Diagnostic Scope with Wi-Fi capability. 7" capacitive touch screen for accurate diagnostics in difficult to reach spaces. 720p video recording inspection camera. Up is Up® technology rotates the display screen to allow for consistent image display, regardless of the orientation of the probe.

Specifcations	DS703 FC
Length	1.2 metre
Туре	Detachable, semi-ridged, waterproof, immersible to 1 metre or more in depth
Diameter	8.5mm, optional 3.8, 5.5 and 9mm probes available
Material	Elastomer coated steel
Lighting	Adjustable LED, one front, one side
Illumination	53 lux
Camera	Dual view camera, forward and side
Resolution	1200 × 720 (864,000 pixels)
Still image format	JPG
Video recording format	AVI
Video output format	MPEG compression
Digital zoom	Adjustable from 1× to 8× zoom
Field of view	68°
Depth of field	25 mm to infinity
Video resolution	720p
Minimum focus distance	10 mm
Focus type	Fixed
Rotation	180°
Streaming video	Via HDMI and Fluke Connect®
LCD screen	
Touch screen	Capacitive touch screen
Size	17.79 cm
Refresh rate	30 Hz
UpisUp® technology	Real-time upright adjustment for image
LED backlight	Adjust display brightness for optimal viewing
Instant upload to the cloud	Yes, with Fluke Connect <sup>®</sup>



#### **Included Accessories**

Hand Strap, USB Cable, AC Power Supply/Battery Charger, TPAK Magnetic Hanger, Protective EVA Case.

#### **Ordering Information**

FLK-DS703High ResolutionFCDiagnostic Scope

Contact your local distributor for price and availability. fluke.co/wtb

# Renewable Energy

The solar industry is accelerating with an estimated market value of nearly \$370 billion by 2030. With market growth comes improved solar technology and a more affordable transition to solar. Solar technicians and managers need to be able to install and service equipment quickly, safely, and efficiently.



## **Solar energy solutions**

Clean Tech			Electrical Measurement Tools		Insulation and Power Quality			Temperature
Multifunction PV tester	Irradiance meter	EVSE tester	Digital multimeter	Clamp meter	Insulation tester	Insulation tester	Power quality analyser	Thermal imager
SMFT-1000	IRR 1	FEV300	87V MAX	393 FC	1587 FC	1555 FC	1777	<b>С</b> Ті480 РКО





## **Solar Advisor**

• Mechanical and electric

Focus:

design

#### Job needs:

- ▲ Irradiance meter/PV tester
- Digital multimeter
- Troubleshooting Clamp meter
  - 0 Temperature/Thermal

#### Inverter boxes



#### Focus:

- Lead preventative maintenance
- Troubleshooting
- Monitoring

#### Job needs:

- Irradiance meter/PV tester
- Digital multimeter
- Clamp meter
- Temperature/Thermal 0
- Insulation and power quality
- Battery analyser  $\star$
- Insulated hand tools

## **Solar energy solutions**

Get more information on solar energy solutions at fluke.co/solar Based on you. Built by Fluke.



Learn how Fluke solutions can save you time and money while increasing your productivity at www.fluke.com.au

	Battery Analyser	Earth Ground		Software		Accessories	
Temperatu	re Battery analyser	Earth ground	Stakeless clamp	Fluke Connect <sup>TM</sup>	TruTest™	Insulated hand tools	Test leads
VTOB	• * * * * * * * * * * * * * * * * * * *	1625-2	1630-2			f i i i ARA	PVLEAD 1, PVLEAD 3

## **RENEWABLE ENERGY TOOLS**

Solar energy and electric vehicle charging infrastructure is expanding worldwide at a fast pace. From grid-tied and off-grid, to hybrid and backup systems, critical infrastructure must be maintained maintained to ensure its reliability and efficiency.

The growth of the solar energy industry requires new solar testing equipment solutions for electricians, PV installers, and technicians. From solar clamp meters, solar irradiance meters and photovoltaic (PV) testers for residential needs, to tools for commissioning new PV arrays or performing routine maintenance on solar farms or photovoltaic power stations, Fluke test equipment has you covered.





## **Irradiance and Temperature**

Fluke Irradiance Meters have been designed from the ground up to simplify the installation, commissioning, and troubleshooting of photovoltaic arrays, allowing you to measure irradiance, temperature, inclination and direction of the solar array in a single handheld tool.

Whether working on a roof-mounted system or on a large field installation, Fluke Irradiance Meters are the single-handed solution that every solar installer and technician needs in their tool bag. See pages 73

## Multifunction Tests and I-V Curve Tracing

Test that PV systems are performing to their optimal power output as well as operating safely. Designed for PV professionals that provide installation, commissioning and maintenance services, you can rely on Fluke to provide a complete PV testing solution that conforms to IEC 62446-1 standards.

Fluke's multifunction PV tester includes a full sequence of safety and performance tests quickly and accurately to save you time and money with features like auto testing, instant on-screen I-V curve results, and a unique "Keep the Leads" system which allows for multiple tests through a one-time setup of test leads. See pages 74

## Solar Data Management and Reporting Software

Whether you are analysing panel efficiency through I-V curves, or safety testing the system through the Category 1 test regime in conformance to IEC 62446-1, proper data management is critical for producing easy-to-understand reports for clients.

TruTest<sup>™</sup> enables solar testing, asset management, data storage, and reporting on a single software platform that covers all your certification and documentation needs. See pages 75



## Electric Vehicle Charging Station Operation

Test the safety and performance of electric vehicle (AC) charging stations (EVSEs) with Fluke's EVSE testing solutions to verify their correct operation after install, during periodic maintenance, and when troubleshooting.

Fluke EVSE test adapters simulate the presence of electric vehicles, allowing you to conduct safety and functionality tests in combination with appropriate test instruments, such as installation testers, digital multimeters, or oscilloscopes. This gives you easy access to tests including ground fault checks, wire insulation tests, and voltage and duty cycle measurements all with a single adapter. See pages 77

## Fluke IRR1-SOL Solar Irradiance Meter



Fluke IRR1-SOL



#### One easy-to-use tool for installing, testing, maintaining, and reporting on solar panels and photovoltaic systems.

The Fluke IRR1-SOL Irradiance Meter has been designed from the ground up to simplify the installation, commissioning and troubleshooting of photovoltaic arrays and solar panels. Whether surveying, installing, executing maintenance, or checking the performance of solar panels or photovoltaic systems there are four critical measurements that any technician will require.

The Fluke IRR1-SOL Irradiance Meter is a single tool that allows you to measure:

- **Solar irradiance:** Make instantaneous measurements to determine the watt per square metre solar irradiation, required by IEC 62446-1 standard
- Ambient and PV module temperature: Measure temperature by either placing the meter directly on the panel or by connecting the external probe
- Array orientation: Find cardinal direction with the built-in compass
- **Tilt angles:** Verify inclination of a roof or panel with the tilt function
- Two year warranty

#### Built to go where you go

With a rugged, compact design, a protective carrying case, and an easy-to-read, high contrast LCD screen to read measurements in direct sunlight, the IRR1-SOL can go where you go. The simple user interface, instantaneous solar irradiation measurements, and built-in temperature sensor make it east to meet the IEC 62445-1 requirements for testing, documenting, and maintaining photovoltaic systems.

Key Features	IRR1-SOL			
Irradiance				
Measuring Range	0 to 1400 W/m <sup>2</sup>			
Resolution	1 W/m <sup>2</sup>			
Measuring Accuracy	±(5% + 5 Digit)			
Temperature Measure	ement			
Measuring Range (°C)	-30°C to 100°C			
Resolution	0.1°C			
Measuring Accuracy	±1°C @ -10°C to 75°C ±2°C @ -30°C to -10°C ±2°C @ 75°C to 100°C			
Note: Temperature me	asurement response time: ~ 30 seconds			
Inclination Angle				
Measuring Range	-90° to +90°			
Resolution	0.1°			
Measuring Accuracy	±1.5° @ -50° to +50° ±2.5° @ -85° to -50° and +50° to +85° ±3.5° @ -90° to -85° and +85° to +90°			
Compass				
Measuring Range	0° to 360°			
Resolution	l°			
Measuring Accuracy	±7°			
Note: a) Measurements valid for device inclination between $-20^{\circ}$ and $+20^{\circ}$ to horizontal. Measurements				

a) Measurements valid for device inclination between -20° and +20° to horizontal. Measurements taken outside that range appear as "---". b) Result is referred to magnetic North

Protection					
IP Protection	IP40				
<b>General Specification</b>	General Specifications				
Battery Life (typical)	50 hours (> 9000 readings)				
Weight	231 g				

#### **The IRR1-SOL Includes:**

- A high precision mono-crystalline solar sensor for irradiance measurements up to 1400 W/m<sup>2</sup>
- Two options for temperature measurement – a built-in sensor and an external suction mount probe
- An integrated compass
- An inclination sensor for the tilt function

#### Learn More







fluke.co/solar

## Work in the Solar Industry?

Visit the link to learn how Fluke tools can help with the future of power.



#### **Included Accessories**

FLK-80PR-IRR External Temperature Probe with Suction Cup, C250 Carrying Case with Shoulder Strap, Four AA Alkaline Batteries and User Manual.

#### **Ordering Information**

fluke.co/wtb

Fluke IRR1-SOL Solar Irradiance Meter

Contact your local distributor for price and availability.

Renewable Energy

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## Fluke SMFT-1000 Multifunction **PV Tester & IV Curve Tracer**





Fluke SMFT-1000 NEW



Fluke SMFT-1000 Pro NEW



The NEW Fluke SMFT-1000 Multifunction PV Tester and Performance Analyser & I-V Curve Tracer presents an all-in-one test solution to verify Photovoltaic (PV) system performance and safety. This device also expedites reporting by allowing you to easily import measurement results directly from the meter to a computer and quickly generate comprehensive and visual client reports. The Fluke SMFT-1000 is designed for PV professionals that provde installation, commissioning and maintenance services to systems that operate at 1000V DC or under. The Fluke SMFT-1000 provides a complete PV testing solution that conforms to IEC 62446-1 standards.

#### This device performs a series of critical tests for periodic inspections of PV systems:

Full sequence safety testing – IEC 62446-1 Category 1:

- Protective resistance earth (RLO)
- Voltage on open circuit, including polarity (VOC)
- Short circuit current (ISC)
- Insulation resistance (RINS)

ROI and system performance testing - IEC 62446-1 Category 2:

- I-V Curve tracing and software analysis with TruTest
- Irradiance, temperature, tilt, and cardinal direction

#### Features and benefits:

- Includes wireless irradiance meter no leads required
- Use Fluke's 'Keep the Leads' system to perform multiple tests with a single test lead setup, saving time and minimising user error.
- Integrated on-screen experience for I-V curve
- Includes TRuTest<sup>™</sup> Software for Pro
- Three year warranty

Protective conductor resistance (RLO)							
Display Range	Measuring Range	Resolution	Accuracy				
0.00 Ω – 19.99 Ω	0.20 Ω – 19.99 Ω	0.01 Ω	± (2 % + 2 Digit)				
20.0 Ω- 199.9 Ω	20.0 Ω – 199.9 Ω	0.1 Ω	± (2 % + 2 Digit)				
200 Ω – 2000 Ω	200 Ω – 2000 Ω	1 Ω	± (5 % + 2 Digit)				
Test current	≥ 200 mA (≤ 2Ω + Rcomp)						
Test voltage	4 V DC - 10 V DC						
1	PV module/PV string, op	en-circuit voltage (VOC	)				
Display Range	Measuring Range	Resolution	Accuracy				
0.0 V – 99.9 V	5.0 V – 99.9 V	0.1 V	± (0.5 % + 2 Digit)				
100 V - 1000 V	100 V - 1000 V	1 V	± (0.5 % + 2 Digit)				
Polarity test	YES						
PV module/PV string, short-circuit current (ISC)							
Display Range	Measuring Range	Resolution	Accuracy				
0.0 A – 20.0 A	0.2 A – 20.0 A	0.1 A	± (1 % + 2 Digit)				





Visit the link to learn how Fluke tools can help with the future of power.



fluke.co/solar

**Recommended Kits** 



Solar Tools Kit with 87V MAX Digital **Multimeter and Solar Test Leads** 



Solar Tools Kit with Fluke 393 FC **Clamp Meter and Solar Test Leads** 



Solar Tools Kit with 393 FC Clamp Meter, Irradiance Meter and Solar **Test Leads** 

For more details see page 76



#### **Included Accessories**

Fluke SMFT-1000/Pro: Fluke SMFT-1000-BP Professional Tool Backpack, SMFT-1000 Multifunction PV Analyser, IRR2-BT Wireless Solar Irradiance Meter Pro, 80PR-IRR External Temperature Probe, i100 AC/ DC Current Clamp 100 A, TP1000 Test Probe with Remote Test Button, TL1000 Test Lead Set, TL1000-MC4 Test Lead Set, TL1000/30M Test Lead on Reel, Coupler Set, (6) AA Batteries, PVLEAD3 MC4 Solar Clamp Test Lead Set,TruTest<sup>™</sup> Advanced Data Management and Reporting Software

#### **Ordering Information**

oracing mit	// mation
FLK- SMFT-1000/ KIT	Multifunction PV Analyser, Clamp, Irradiance Meter w/ Probe, Kit
FLK- SMFT-1000/ PRO	Multifunction PV Analyser SMFT- 1000 w/Trutest & Power Leads

Contact your local distributor for price and availability. fluke.co/wtb

#### FLUKE ®

Renewable Energy

# Fluke TruTest<sup>™</sup> Data Management and Reporting Software



#### The easy-to-use data management solution

Fluke TruTest<sup>™</sup> Software is designed to eliminate the hassle associated with traditional solar system data management and reporting. Whether you are analyzing panel efficiency through I-V curves, or safety testing the system through the Category 1 test regime in conformance to IEC 62446-1, proper data management is critical for producing easy-to-understand reports for clients. Compatible with the Fluke SMFT-1000 Multifunction PV Tester and Performance Analyzer, TruTest<sup>™</sup> Software allows you to quickly and easily import measurement results directly from your solar multifunction tester to computer, organize and analyze the data, compare individual asset data against previous measurements imported and provide a comprehensive and visual client report.

With a streamlined user interface and intuitive workflow, measurement data can be easily formatted into printable test certificates and reports complete with your company logo and electronic signature.

- Easily manage measurement data
- Quickly create test certificates and reports
- Free updates for 5 years after installation
- Easy data collection and database transfers
- Enables manual data entry
- Intuitive user interface
- · Fast and simple operations

#### **System Requirements**

Туре	Requirement		
Operating system	<ul> <li>Microfoft Windows 10, 64-bit and 32-bit (recommended)</li> <li>Microfoft Windows 8/8.1, 64-bit and 32-bit</li> <li>Microfoft Windows 7 with Service Pack 1, 64-bit and 32-bit</li> </ul>		
System memory	Minimum 4 GB RAM (64-bir) or 2 GB RAM (32-bit)		
Hard disk space	Minimum 2 GB available hard disk space		
Display resolution	Minimum screen resolution 1366 x 768		
Communication interfaces	USB		

#### Streamlined data management

Manage test results, client and site data with ease, and create reports quickly using the intuitive, modern user interface and custom-report builder.

#### Single solar platform

TruTest<sup>™</sup> enables solar testing, asset management, data storage and reporting on a single software platform that covers certification and documentation needs.

#### **Dashboard interface**

On-screen intuitive dashboard interface allows the user to see the status of all their clients instantly and navigate to further levels of detail if desired.

#### **Comprehensive reporting**

Fluke TruTest<sup>™</sup> Software simplifies the reporting process so you can produce easy-to understand test certificates and reports as quickly as possible, saving you time and money. Easily visualize the status of assets with clear pass/fail results. Tests in accordance with standards such as IEC 62446-1 and EU directive 2009/104/EC (BetrSichV) are available at the touch of a button, and a pre-configured template ensures that no matter your testing standards TruTest<sup>™</sup> Software has you covered.

#### Demo Software and Software Packages

Free demonstration software is available at www.fluke.com/ trutestsoftware. After downloading start the installation by double clicking on the software file. The setup program will guide you through the installation procedure. Please follow the installation instructions displayed on the screen.

After purchasing TruTest<sup>™</sup> Lite or TruTest<sup>™</sup> Advanced, you will be provided with a code that will give you full access to the features purchased.







#### **Ordering Information**

FLK-TRUTEST- LITE	Fluke Trutest Software License Code - Lite
FLK-TRUTEST- ADV	Fluke Trutest Software License Code - Advanced

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## Three NEW Fluke Kits for Solar **PV** Testina



Solar Tools Kit with 87V MAX Digital Multimeter and Solar Test Leads NEW



Solar Tools Kit with Fluke 393 FC Clamp Meter and Solar Test Leads NEW



Solar Tools Kit with 393 FC Clamp Meter, Irradiance Meter and Solar Test Leads





#### Solar Tools Kit with 87V MAX Digital **Multimeter and Solar Test Leads**

The Fluke 87V MAX is the ideal electrical troubleshooting solution for solar inverters, combiner boxes, and battery storage systems. Safely connect the Pomona PVLEAD1 MC4 Test Leads to the meter to validate voltage from individual panels or a series of panels in a photovoltaic (PV) array.

- · 4-metre drop tested with industrial casing and holster
- · Measure the voltage of PV arrays safely and accurately • IP67 case for extreme environments
- Meter rated to CAT III 1000 V / CAT IV 600 V
- MC4 test lead sets rated to CAT III 1000 V / CAT IV 600 V
- Three year warranty

#### Solar Tools Kit with Fluke 393 FC Clamp **Meter and Solar Test Leads**

The Fluke 393 FC CAT III 1500 V True-RMS Clamp Meter with iFlex is designed for solar photovoltaic installation technicians and maintenance professionals working in high voltage DC environments.

- · Measure safely with this CAT III rated clamp meter
- · Thin jaw for access to cables in crowded combiner boxes
- Sturdy IP54 rating for outdoor use and on solar arrays
- · Work efficiently with DC power measurement, audio polarity, and visual continuity
- Pomona PVLEAD1 and PVLEAD3 Test Lead Sets are rated to CAT III 1000 V / CAT IV 600 V
- Three year warranty

#### Solar Tools Kit with 393 FC Clamp Meter, **Irradiance Meter and Solar Test Leads**

The Fluke IRR1-SOL Solar Irradiance Meter provides four critical photovoltaic measurements including irradiance, temperature, tilt, and compass orientation required to install, verify, and report on the performance of a photovoltaic systems.

- Measure safely with CAT III 1500 V rated clamp meter
- · Thin jaw for access to cables in crowded combiner boxes
- · Work efficiently with DC power measurement, audio polarity and visual continuity
- Pomona PVLEAD1 and PVLEAD3 Test Lead Sets are rated to CAT III 1000 V / CAT IV 600 V
- Three year warranty

Specifications: Pomona PVLEAD1 and PVLEAD3 MC4 Solar Clamp Test Lead Set						
	Pomona PVLEA	D1	Pomona PVLEAD3			
	MC4 to 4 mm Test Lea	d Set	MC4 Solar Clamp Meter Test Lead Set			
Contact	Brass, nickel plate	d	В	Brass, nickel plated		
Length	1524 mm		914.4 mm, 305 mm			
Voltage	CAT II 1000 V CAT IV 600 V					
Current	20 amp					
Standards	IEC 61010-031					
Specifications: Fluke	FLK-IRR1-SOL Solar Irra	diance Meter	r			
	Irradiance Inclination Angle Temperature Measurement					
Measuring Range	0 to 1400 W/m <sup>2</sup>	-90° t	o +90°	-30 °C to 100 °C		
Resolution	1 W/m <sup>2</sup>	0	.1°	0.1 °C		
Measuring Accuracy	± (5 % + 5 Digit)	-85° to -50° ar ±3.5° @ -90° to	o +50°, ±2.5° @ nd +50° to +85°, p -85° and +85° +90°	±1 °C @ -10 °C to 75 °C ±2 °C @ -30 °C to -10 °C and 75 °C to 100 °C		
IP Protection	IP40					
LxWxH	150 mm x 80 mm x 35 mm					
Weight	231 g					





#### **Included Accessories**

Solar Tools Kit with 87V MAX Digital **Multimeter and Solar Test Leads:** TL175 TwistGuard Test Leads, AC175 Alligator Clips, 80BK-A Temperature Probe, Removable Holster with Test Lead Storage, Three AA Batteries (installed), Pomona PVLEAD1 MC4 to 4mm Test Lead Set, User Manual

Solar Tools Kit with 393 FC Clamp Meter and Solar Test Leads: CAT III 1500V Rated Test Leads with Right Angle Plugs with Safety Caps, iFlex 18-inch Flexible Current Probe, TPAK Magnetic Meter Hanger, Premium Carrying Case, Pomona PVLEAD1 MC4 to 4mm Test Lead Set, Pomona PVLEAD3 Solar Clamp Test Lead Set, **User Manual** 

Solar Tools kit with 393 FC Clamp Meter, Irradiance Meter and Solar Test Leads: CAT III 1500V Rated Test Leads with Right Angle Plugs with Safety Caps, iFlex 18 inch Flexible Current Probe, TPAK Magnetic Meter Hanger, Premium Carrying Case, FLK80PR-IRR External Temperature Probe with Suction Cup, C25C Carrying Case with Shoulder Strap, (4) AA Alkaline Batteries (installed), Pomona PVLEAD1 MC4 to 4mm Test Lead Set, Pomona PVLEAD3 Solar Clamp Test Lead Set, User Manual

#### **Ordering Information**

FLK-393FC- PVLEAD	Fluke 393 FC Clamp Meter and MC4 Test Leads Bundle
FLK-393-IRR- PVLEAD	Fluke 393 FC Clamp, IRR1 Irradiance Meter, MC4 Test Leads Bundle
FLK-87V MAX-PVLEAD1	Fluke 87V MAX DMM and PVLEAD1 MC4 Test Leads Bundle

Contact your local distributor for price and availability. fluke.co/wtb

#### NEW

## Fluke FEV300 Electric Vehicle **Charging Station Adapter**







Fluke FEV300

NEW

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#### Test and troubleshoot the functionality and safety of electric vehicle power supply equipment

The NEW Fluke FEV300 Electric Vehicle Charging Station Test Adapter simulates the presence of an electric vehicle, allowing you to conduct safety and functionality tests in combination with appropriate test instruments such as installation testers (for example the Fluke 1664 FC Installation Multifunction Tester), digital multimeters (such as the Fluke 87V MAX Industrial Multimeter) or oscilloscopes (such as the Fluke 120B Series Industrial ScopeMeter®). With the FEV300 Adapter Kit, charging stations can be tested in accordance with IEC/EN 61851-1 and IEC/HD 60364-7-722.

The Fluke FEV300 is designed for electricians and technicians that install electric vehicle charging stations to verify the station is working properly after installation, during periodic maintenance, or when troubleshooting.

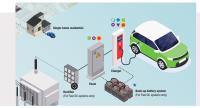
- Suitable for AC charging stations with mode 3 and connector Type 1 and Type 2
- Enables you to test in a safer manner compliant to the required standard. Eg AS3000
- Use the PE Pre-Test safety feature to test the PE conductor for dangerous voltage against earth
- Use the CP control pilot for vehicle simulation and PP Proximity Pilot for cable simulation
- Includes measuring terminals L1, L2, L3, N and PE to connect a test device such as an installation tester to perform safety and functional tests
- IP54 rating for limited dust ingress and water splash protection
- · Three year warranty

Type 1 Connector Type 1 plug vehicle connector See page 167 **Recommended Kits** Bundle & Save Fluke FEV300 with Type 1 and 2 Connector Fluke FEV300 with Type 2 Connector Fluke FEV300 with 1664 FC

For more details see page 189

**Recommended Accessories** 

Specifcations	FEV300		
Input voltage	Up to 250 V (single phase system) / up to 480 V (three phase system), 50/60 Hz, max 10 A		
EV connector (Type 2)	AC charging mode 3, suitable to IEC 62196-2 type 2 socket outlet or fixed cable with vehicle connector (type 2, 7P three-phase)		
EV connector (Type 1)	AC charging mode 3, suitable to IEC 62196-2 type 1 or SAE J1772 with vehicle connector (type 1, 5P single-phase)		
Operating temperature	-20°C to 40°C		
Storage temperature	-20°C to 50°C		
Operating humidity range	10% to 85% relative humidity non-condensing		
Storage relative humidity	0% to 85% non-condensing		
Dimensions $(H \times W \times D)$	Approx. 220 mm x 110 mm x 45 mm without cable assembly		
Weight	Approx. 2 kg		
Safety standards	IEC 61010-1, Pollution Degree 2 IEC 61010-2-030		
Measurement category	CAT II 250 V		
IP protection class	IP54		



#### Work in the eMobility and EVSE solutions **Industry?**

Visit us to learn how Fluke tools can help with eMobility and EVSE solutions.



fluke.co emobility

#### **Included Accessories**

FLK-FEV300/TY2 & TY1: FEV300 Type 2 & Type 1 Connector, Soft Carrying Case, **User Manual** 

FLK-FEV300/TY2: FEV300 Type 2 Connector, Soft Carrying Case, User Manual FLK-FEV300/Kit: FEV300 Type 2 Connector, Soft Carrying Case, User Manual

#### **Ordering Information**

FLK-	Test Adapter
FEV300/TY1	w/ Type 1 & 2
& TY2	Connector
FLK-	Test Adapter w/
FEV300/TY2	Type 2 Connector
FLK-	Test Adapter w/
FEV300/Kit	1664 FC

Contact your local distributor for price and availability. fluke.co/wtb

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#### **Renewable Energy**

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# Environmental Testing

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To maintain acceptable temperature, humidity and ventilation levels for occupant health and comfort, to help regulate building health and manage increasing energy costs, you can rely on Fluke's range of HVAC & environmental testing equipment to get the job done.

## Indoor Air Quality Meter Selection Guide

218

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	-tours and			
Models	Fluke 971	Fluke 922	Fluke 985	Fluke CO-220
Record storage	99	99	10,000	
Downloadable data	No	No	USB or Ethernet	No
Battery type	(4) AAA	(4) AA	Rechargeable Li-Ion 7.4 V 2600 mAh	(1) 9V
Warranty	2 years	2 years	1 year	1 year
Indoor air diagnostic applic	ations			
Air velocity		•		
Air pressure		•		
Air flow (volume)		•		
Carbon dioxide				
Carbon monoxide				•
Temperature	•	•		
Humidity	•	•		
Dew point/wet bulb	•			
Particle concentration counting			•	
Air pressure/air velocity/air	flow			
Air pressure range		±4000 Pascals/±16 in H <sub>2</sub> 0/±400 mm H <sub>2</sub> 0/±40 m bar/±0.6 psi		
Air pressure accuracy		±1% + 1 Pascal/±1% + 0.01 in H 0/±1% + 0.1 mm H 0/±1% + 0.01 m bar/±1% + 0.0001 psi		
Air velocity range		250 to 16,000 fpm/1 to 80 m/s		
Air velocity accuracy		±2.5% of reading at 2000 fpm (10.00 m/s)		
Air flow (volume) range		0 to 99,999 cfm		
Air flow (volume) accuracy		Accuracy is a function of velocity and duct size		
Temperature relative humid	lity			
Temperature range	-20°C to 60°C (-4°F to 140°F)	0°C to 50°C (32°F to 122°F)		
Temperature accuracy	0°C to 45°C (±0.5°C); -20°C to 0°C and 45°C to 60°C (±1.0°C)	0°C to 50°C (±.01°C)		
Relative humidity range	5% to 95% RH	0% to 90% RH		
Relative humidity accuracy	10% to 90% RH @ 23°C (±2.5% RH); < 10% or > 90% RH @ 23°C (±5.0% RH)	0% to 90% RH @ 23°C (±2.0% RH)		
Carbon dioxide/carbon mon	oxide			
Carbon dioxide range				
Carbon dioxide accuracy				
Carbon monoxide range				0 to 1000 ppm
Carbon monoxide accuracy				5% or ±2 PPM
Particle counting				
Flow rate			2.83 L/min (0.1 cfm)	
Particle size range			0.3 μm - 10.0 μm (6 channel)	
Cound modes			Raw counts, #/m³, #/ft³, #/liter in Cumulative or Differential mode	
Counting efficiency			50% @ 0.3 μm; 100% for particles > 0.45 μm (per ISO 21501)	
Concentration limits			10% @ 4,000,000 particles per ft³ (per ISO 21501)	

## FLUKE ®

**Environmental Testing** 

## Fluke 922 Airflow Meter/Micromanometer



## The Fluke 922 helps you analyse airflow easily

The Fluke 922 makes airflow measurements easy by combining three tools: differential pressure, airflow, and velocity into a single, rugged meter. The 922 was designed and built for how (and where) you do your job, with performance, ruggedness and ease of use, setting the Fluke 922 apart from the competition. The bright white display and ruggedised holster and wrist strap let you take the Fluke 922 into less than ideal environments. The colourcoded hoses help you keep track of where your readings are coming from. The simple, intuitive interface means you can measure pressure, velocity, or airflow at the push of a button.

- Powerful meter provides differential and static pressure, air velocity and flow readings
- Convenient coloured hoses help proper interpretation of pressure readings
- Easy to use without sacrificing performance
- Bright, backlit display for clear viewing
- User-defined duct shape and size for maximum airflow accuracy
- Resolution down to 0.001 in H20  $\,$
- 99 point data storage capacity
  - Min/Max/Average/Hold functions for easy data analysis
  - Auto power off saves battery life
  - Two year warranty

#### Use the Fluke 922 Micromanometer to:

- Measure pressure drops across key HVAC equipment to drive peak performance and extend equipment life
- Match ventilation to occupant loads
- Monitor indoor vs. outdoor pressure relationships and manage the building envelope
- Promote indoor comfort and quality
- · Perform duct traversals for accurate airflow readings

922

#### Specifications

Operating Temperature	0°C to +50°C						
Storage Temperature	-40°C to +60°C						
Operating Relative Humidity	Non condensing (<10°C) 90% RH (10°C to 30°C) 75% RH (30°C to 40°C) 45% RH (40°C to 50°C) without Condensation						
IP Rating	IP40						
Operating Altitude	2000 m						
Storage Altitude	12000 m						
EMI, RFI, EMC	Meets requirements for EN61326-1						
Vibration	MIL-PREF-28800F, Class 3						
Max Pressure at Each Port	10 PSI						
Data storage	99 readings						
Size (HxWxD)	175 mm × 77.5 mm × 41.9 mm						
Weight	0.64 kg						
Battery	Four AA batteries						
Battery Life	375 hours without backlight, 80 hours with backlight						

	Range	Accuracy
Air pressure	±4000 Pa ±16 in H20 ±400 mm H20 ±40 mbar ±0.6 PSI	$\begin{array}{c} \pm 1\% + 1 \text{ Pa} \\ \pm 1\% + 0.01 \text{ in H20} \\ \pm 1\% + 0.1 \text{ mm H20} \\ \pm 1\% + 0.01 \text{ mbar} \\ \pm 1\% + 0.0001 \text{ PSI} \end{array}$
Air velocity	250 fpm to 16,000 fpm (1 to 80 m/s)	±2.5% of reading at 2000 fpm (10.00 m/s)
Air flow (volume)	0 to 99,999 cfm 0 to 99,999 m <sup>3</sup> /hr 0 to 99,999 l/s	Accuracy is a function of velocity and duct size
Temperature	0°C to 50°C	0.1°C



#### **Included Accessories**

**Fluke 922:** Two Rubber Hoses, Wrist Strap, Four AA Batteries 1.5 V Alkaline, User Manual and Soft Carrying Case.

Fluke 922 Kit: Fluke 922 Airflow Meter, 30.48 cm Pitot Tube, ToolPak, Two Rubber Hoses, Wrist Strap, Four AA Batteries, User Manual and Hard Carrying Case.

#### **Ordering Information**

FLUKE-922 Airflow Meter

FLUKE-922/KIT Airflow Meter Kit

Contact your local distributor for price and availability. fluke.co/wtb

Environmental Testing

## Fluke 985 Airborne Particle Counter



Fluke 985

#### Troubleshooting indoor air quality made easy

The Fluke 985 Particle Counter is ideal for troubleshooting and monitoring indoor air quality issues and verifying HVAC filter performance in critical locations. With its easy to read and fully configurable channel display, lightweight yet rugged form and highly accurate measurements, the Fluke 985 is the perfect tool for the maintenance, HVAC, and IAQ professional.

- Six channels and particle size range of 0.3 μm to 10.0 μm: Assures accurate measurements even for critical locations requiring ISO Class 5 – 9 certification
- Ultra-lightweight and ergonomic design: Promises easy single-hand operation in tight or awkward spaces with less operator fatigue
- Long battery life: Ten hours of standard-use battery life to last a full work day
- Large 3.5 inch QVGC colour display: Easy navigation and viewing with the intuitive icons and large font options
- 10,000 record storage: Quick access to historical data
- **On-screen data presentation:** Data can be viewed in a traditional tabular or trend graph view at the user's preference
- **Personalised setting and configurations:** Customisable settings for the display, sample methods, and alarm settings for sample count
- Data export options: Download data to a PC using a USB memory stick, USB cable or Ethernet connection. No special software is required to download or view data
- Option password control: Confirms security when required
- **USB/Ethernet charge cradle:** Assures device is always ready to go when needed
- One year warranty

Specifications	985
Channels	0.3 µm, 0.5 µm, 1.0 µm, 2.0 µm, 5.0 µm, 10.0 µm
Flow rate	0.1 cfm (2.83 L/min)
Light source	775 nm to 795 nm, 90mW class 3B laser
Count modes	Raw counts, #/m³, #/ft³, #/liter in Cumulative or Differential mode
Counting efficiency	50% @ 0.3 $\mu$ m; 100% for particles > 0.45 $\mu$ m (per ISO 21501)
Zero count	1 count/5 minute (JIS B9921)
Concentration limits	10% at 4,000,000 particles per ft3 (per ISO 21501)
Data storage	10,000 records (rotating buffer)
Alarms	Counts, low battery, sensor fail
Delay time	0 to 24 hours
Sample inlet	Isokinetic probe
Security	Administrator password control (optional)
Communication mode	USB or Etheret
Calibration	PSL particles in air (NIST traceable)
Size (HxWxD)	272 mm × 99 mm × 53 mm
Weight	0.68 kg
Power adapter	100 V AC to 240 V AC, 12 V DC, 2.5 A
Rechargeable battery	Li-ion 7.4 V 2600 mAh; 10 hours typical use (5 hours continuous sampling) / 3.5 hours)
Operating environment	$10^{\circ}$ C to $40^{\circ}$ C / < 95% non-condensing relative humidity
Storage environment	-10°C to 50°C /Up to 98% non-condensing relative humidity

## **Specialty Model**

#### CO-220 Carbon Monoxide Meter

Measures CO levels in industrial environments, commercial or residential buildings where accumulation of combustion gas is possible.



- Stand-alone CO meter that does not require a digital multimeter
- Large backlit LCD displays CO levels from 0 ppm to 999ppm
- Beeper triggers with increasing frequency as CO levels rise
- MAX hold function stores and displays the maximum CO level
- Automatic sensor zeroing and self-test upon startup

For more information, go to fluke.com/en-au/co-220

#### **CO-205 Aspirator Kit**

The CO-205 flue gas sampling accessory kit contains all the components necessary to provide a clean sample for the Fluke family of gas measuring devices. The CO-205 Accessory Kit includes:

- Stainless steel sampling tube
- Industrial-grade hand operated aspirator to draw flue sample
- Easily replaceable particulate filter
- Specially designed nose cap for connection to the Fluke CO-220

#### **Included Accessories**

Fluke 985: Cradle for charging and USB and Ethernet Communications, ENET CATSE 7-foot Cable, USB-A Cable to Mini-B 6-foot Cable, 12V DC Power Supply, Zero Count Inlet-Filter, Filter Adapter, Sample Inlet Protective Cap, Hard Case, Getting Started Manual and User Manual (CD).

Fluke CO-220: C50 Soft Carrying Case and Battery.

#### **Ordering Information**

FLUKE-985 Particle Counter

FLUKE-CO-220 Carbon Monoxide Meter

FLUKE-CO-205 Aspirator Kit

## Fluke 971 Temperature Humidity Meter



Temperature and humidity are two important factors in maintaining optimal comfort levels and good indoor air quality. Quickly and conveniently take accurate humidity and temperature readings with the Fluke 971.

It is invaluable for facility maintenance and utility technicians, HVAC-service contractors, and specialists who assess indoor air quality (IAQ). Lightweight and easy to hold, it's the perfect tool for monitoring problem areas. With a rugged holster and protected sensor, the Fluke 971 is built to perform and made to last.

- New and improved digital sensor for faster response times
- Backlit dual display of humidity and temperature
- $\bullet\,$  Measures dew point and wet bulb temperatures
- 99 record storage capacity
- Ergonomic design with belt clip and protective holster
- Compact and lightweight at 188 g
- Temperature range from -20°C to  $60^\circ\text{C}$
- Relative humidity from 5% to 95%
- Min/Max/Avg/Hold functions
- Low battery indicator
- One year warranty



Specifications	971
Temperature range	-20°C to 60°C
Temperature accuracy 0°C to 45°C -20°C to 0°C and 45°C to 60°C	±0.5°C ±1.0°C
Resolution	0.1°C
Response time (temperature)	500 ms
Temperature sensor type	NTC
Relative humidity range	5% to 95% R.H.
Relative humidity accuracy 10% to 90% R.H. @ 23°C <10%, >90% R.H. @ 23°C	±2.5% R.H. ±5.0% R.H.
Humidity sensor	Electronic capacitance polymer film sensor
Data storage	99 points
Response time (humidity)	For 90% of total range - 60 sec with 1 m/s air movement

#### General

Operating temperature	Temperature: -20°C to 60°C Humidity: 0°C to 60°C
Storage temperature	-20°C to 55°C
Battery life	4 AAA alkaline, 200 hours
Safety	Complies with EN61326-1
Size (HxWxD)	194 mm × 60 mm × 34 mm
Weight	0.188 kg

Fluke RLD2 UV Refrigerant Leak Detector Flashlight

Leak detection made easy. The compact, easy-touse, RLD2 UV flashlight uncovers refrigerant leaks instantly. Use the UV light to



find the leakage area, then, use the laser pointer to pinpoint the exact leak location. With 100,000 hours of life, and four operating modes, this versatile leak detector is a must have for HVAC technicians.

- Six UV LEDs (395 nm wavelength) detect leak detection dyes
- Laser pointer clearly locates centre of the UV field for accuracy
- Three LED flashlight with 100,000 hour LED life
- Four operating modes: flashlight, UV light, laser light, UV/laser light combination
- Convenient detachable key chain carabiner and AAA battery included

#### **Recommended Accessories**



**C1600** Gear Tool Box See page 170

#### **Included Accessories**

Fluke 971: Four AAA Alkaline Batteries, Operation Manual. Fluke RLD2: Chain Carabiner and Batteries.

#### **Ordering Information**

FLUKE-971 Temperature Humidity Meter

FLUKE-RLD2 Refrigerant Leak Detector

Contact your local distributor for price and availability. fluke.co/wtb

Environmental Testing

# Fluke 930 Non-Contact & 931 Dual-Purpose Tachometers



Where equipment needs quick troubleshooting to diagnose problems, the Fluke 930 or 931 is the right tool for the job. The Fluke 930 is equivalent to a Fluke 931 with the ability to measure via stroboscope in non-contact mode only. With the ability for contact measurement and non-contact combined, the Fluke 931 provides greater flexibility.

- Signal detection reminder minimises false readings
- Maximum/Minimum/Average value and final readings
- Easily switch between contact and non-contact measurement modes (Fluke 931 only)
- Includes different speed measuring heads to adapt to different measurement occasions (Fluke 931 only)
- One year warranty

## Fluke 925 Vane Anemometer



#### Easy-to-use and economical anemometer

The Fluke 925 is an economical and durable vane anemometer designed to conveniently measure wind speed, air flow and wind temperature. With a separate air flow sensor and display, it provides the user the flexibility to measure air flow in a variety of locations. Vane anemometers are well suited to measure air flow in residential and commercial buildings as part of regular maintenance checks.

- Ability to measure wind speed in metres per second
- Data capture using one button and the ability to average multiple readings
- Min and Max alarm setting to alert the user when limits have been met
- Two year warranty

## Fluke 941 Light Meter



The Fluke 941 is a handheld light meter/luminometer than can measure the visible light produced by a variety of light sources, including fluorescent, metal halide, high pressure sodium, or incandescent lamps. The Fluke 941 is a portable tool that measures light up to 20,000 fc (foot-candles) or 200,000 lux with an accuracy of 0.01 fc/lux.

- Measure in lux or foot-candles and switch between display options with one button
- Data hold to freeze reading on the digital display
- Min/Max ability to show high and low readings
- One year warranty

## Fluke 945 Sound Meter



The Fluke 945 Sound Meter has been designed to meet the measurement requirements of Safety Engineers, Health Industrial Safety Officers, and Quality Control Standards across a wide variety of industrial environments.

It offers two types of measurements: A weighting and C weighting. The A weighting is for general noise sound level, and the C weighting is for measuring sound level of acoustic material in various environments. The Fluke 945 conforms to the IEC651 Type 2, ANSI S1.4 Type 2, and JISC1502 requirements for sound level meters.

- - 6
- Auto rangingOne year warranty

Data storageMin/Max

- **Fluke 925 Applications**
- Clean rooms or other locations with installed filter systems
- Environmental health and safety personnel, and construction research institutions
- HVAC system suppliers, installers and maintenance technicians
- Food and beverage, pharmaceutical and electronic manufacturing, and building fire protection industries



#### **Fluke 945 Applications**

- Sound testing for research environments
- Heavy and light industry sound testing
- Healthcare environment testing
- Safety testing



#### Included Accessories

Fluke 925: Instruction Guide. Fluke 930 and 931: 0.1m wheel, conical speed measuring head, inner cone speed measuring head, lengthening rod, 10 reflective strips and 9 V battery, Instruction Guide and User Manual.

FLUKE-925	Vane Anemometer
FLUKE-930	Non-Contact Tachometer
FLUKE-931	Contact and Non-Contact Dual-Purpose Tachometer
FLUKE-941	Light Meter
FLUKE-945	Sound Meter

Contact your local distributor for price and availability. fluke.co/wtb

Fluke 945

## Insulation Testers

A-Xov

Whether you work on motors, generators, cables, or switch gear, the Fluke digital insulation resistance tester range provide noise-free, reliable results. With advanced performance, the insulation tester line is designed to be safe, simple to use and gimmick-free. A perfect solution for insulation testing, troubleshooting, commissioning and preventative maintenance applications.

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FLUKE 1535 INSULATION TESTER

	1555	250 V, 500 V, 1000 V, 2500 V, 5000 V, 10 000 V	200 KΩ - 2 TΩ	•	•	•		1000 @ 10 000 V	•	(99 locations)		LCD / Analogue Bar Graph									•				•		•		•	ო	Rechargeable
1 Miles	1550C	250 V, 500 V, 1000 V, 2500 V, 5000 V	200 KΩ - 1 TΩ	•	•	•		1000 @ 5000 V	•	(99 locations)		LCD / Analogue Bar Graph									•				•		•		•	ю	Rechargeable
	1537	250 V, 500 V, 1000 V, 2500 V	200 KN - 500 GN	•	•		•			•		LCD / Analogue Bar Graph	•		•		•	•											•	ო	8× AA (IEC LR6)
	1535	250 V, 500 V, 1000 V, 2500 V	200 KN - 500 GN	•	•							LCD / Analogue Bar Graph																		1	8× AA (IEC LR6)
22	1587T	50 V, 100 V	0.01 MΩ - 100 MΩ		•			1000	•	•		Digital LCD	•		•	•	•	•		•	•	•	•	•			•	•		ю	4× AA (NEDA 15 A or IEC LR6)
1953. 1953.	1587 FC	50 V, 100 V, 250 V, 500 V, 1000 V	0.01 MΩ - 2 GΩ	•	•			1000	•	••		Digital LCD	•		•	•	•	•	•	•	•	•	•	•	•		•	•		ю	4× AA (NEDA 15 A 4× AA (NEDA 15 A or IEC LR6) or IEC LR6)
ES.	1577	500 V, 1000 V	0.1 MΩ - 600 MΩ		•			1000	•	•		Digital LCD	•		•	•	•										•	•		ю	(NEDA 15 A 4× AA (NEDA 15 A EC LR6) or IEC LR6)
	1507	50 V, 100 V, 250 V, 500 V, 1000 V	0.01 MΩ - 10 GΩ	•	•		•	1000	•	•	•	Digital LCD	(200 mA)		•		•										•	•		1	4× AA (NEDA 15 A or IEC LR6)
	1503	500 V, 1000 V	0.1 MΩ - 2 GΩ		•			1000	•	•	•	Digital LCD	(200 mA)		•		•										•	•		1	4× AA (NEDA 15 A 4× AA or IEC LR6) or 1
	<b>Insulation Test Functions</b>	Test Voltages	Insulation Resistance Test Range	Polarisation Index/Dielectric Absorption Ratio	Auto Discharge	Time Ramp Test (Breakdown)	Pass/Fail Comparison	Estimated Number of Insulation resistance Tests	Voltage >30 V Warning	Memory Remote Test Probe	Lo Ohms	Display	Continuity	<b>Multimeter Functionality</b>	AC/DC Volts	Current	Resistance	Temperature (contact)	Temperature Compensation	Lo-Pass Filter	Capacitance	Diode Test	Frequency	MIN/MAX	Fluke Connect <sup>®</sup> enabled	Other	Hold/Lock	Backlight	Software	Warranty (in years)	Battery

## **Insulation Tester Selection Guide**

+ With Fluke IR FC Connector.



Insulation Testers

## Fluke 1587 FC and 1577 **Insulation Multimeters**





Fluke 1587 FC



#### Two powerful tools in one.

The Fluke 1587 FC and 1577 Insulation Multimeters combine a digital 1 kV insulation tester with a fullfeatured, true-RMS digital multimeter in a single compact, handheld unit, which provides maximum versatility for both troubleshooting and preventive maintenance.

- Insulation test (1587 FC: 0.01 M $\Omega$  to 2 G $\Omega$ ) (1577: 0.1 MΩ to 600 MΩ)
- Insulation test voltages (1587 FC: 50 V, 100 V, 250 V, 500 V, 1000 V), (1577: 500 V, 1000 V) for many applications
- · Live circuit detection prevents insulation test if voltage > 30 V is detected for added user protection
- Auto-discharge of capacitive voltage for added user protection
- Filter for motor drive measurements (1587 FC only)
- AC/DC voltage, DC millivolts, AC/DC milliamps, resistance  $(\Omega)$ , and continuity
- Capacitance, diode test, temperature, Min/Max, and frequency (Hz) (1587 FC only)
- · Auto power off to save battery power
- Large display with backlight and large digits
- Included accessories: Remote probe, test leads and probes, alligator clips, (Type K thermocouple, 1587 FC only)
- Accepts optional Fluke TPAK magnetic hanging system to free your hands for other work
- Rugged, utility hard case allows you to bring everything you need for the job
- Three year warranty

#### The Fluke 1587 FC Insulation Multimeter adds four powerful diagnostic functions through the Fluke Connect® Measurements app:

- PI/DAR timed ratio tests with TrendIt<sup>™</sup> graphs identifies moisture and contaminated insulation problems faster
- Memory storage through Fluke Connect<sup>®</sup> eliminates writing down results, reduces errors and saves data for historical tracking over time
- Temperature Compensation through app for establishing accurate baselines and relevant historical comparisons

Specifications	1587 FC	1577
Insulation test voltages 50 V, 100 V, 250 V, 500 V, 1000 V $$	•	
Insulation test voltages 500 V, 1000 V		•
Insulation resistance	0.01 MΩ to 2.0 GΩ	0.1 M $\Omega$ to 600 M $\Omega$
Auto-discharge of capacitive voltage	•	•
Insulation test smoothing reading	•	
Frequency	•	
Capacitance	•	
Diode test	•	
Temperature	•	
Min/Max	•	
Low-pass filter (for work on VSDs)	•	
AC/DC voltage	•	•
DC millivolts	•	•
AC/DC milliamps	•	•
Resistance	0.1 Ω to 50 MΩ	0.1 Ω to 50 MΩ
Continuity	•	•
Remote probe, test leads, alligator clips	•	•
Type K thermocouple	•	
Rugged, utility hard case	•	•
Auto power off	•	•



Fluke 1587 FC/MDT **Advanced Motor and Drive Troubleshooting Kit** 

#### For more details see page 186

#### **Included Accessories**

Remote Probe, Test Leads, Alligator Clips, K-type Thermocouple (1587 FC only), Hard Case, User Documentation.

#### **Ordering Information**

FLUKE- 1577	Insulation Multimeter
FLUKE-	Telecommunications
1587T	Insulation Multimeter
FLUKE-	Insulation Multimeter
1587FC	with Fluke Connect®
FLUKE-	FC 2-in-1 Adv Motor
1587/MDT	& Drive Kit w/ 9040,
FC Kit	i400
FLUKE- 1587/I400 FC KIT	FC 2-in-1 Insulation Multimeter with i400
	FC 2-in-1 Adv Elec Kit w/62MAX+ i400

Contact your local distributor for price and availability. fluke.co/wtb

Insulation Testers

## Fluke 1535 and 1537 Insulation Resistance Testers



Fluke 1537



Fluke 1535



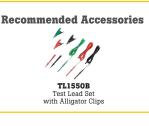
#### Quick, safe and accurate testing.

Perform insulation tests quickly, safely and accurately with the new Fluke 1535 and Fluke 1537. These models also come with advanced features and functions like analog bar graph, ramp voltage, polarity index, Dielectric Absorption Ratio, and Dielectric Discharge (Fluke 1537) test, which help to effectively find defects such as insulation breakdown, severe overheating and equipment ageing.

- Preset test voltage: 250 V, 500 V, 1000 V, 2500 V
- Insulation measurement: 200 k $\Omega$  to 500 G $\Omega$
- Automatically calculate Polarity Index (PI) and Dielectric Absorption Ratio (DAR)
- Digitalised insulation test with analogue bar graph
- Automatically calculate Dielectric Discharge (DD) with Fluke 1537
- 5mA shortage current ensures faster and reliable test result (Fluke 1537)
- Three year warranty (1537), one year warranty (1535)

Features	1535	1537
Basic Insulation Features		
Insulation test voltage (preset): 250 V, 500 V, 1000 V, 2500 V	٠	•
Insulation test voltage trim		•
Step mode (100 V/s)		•
Insulation test: 200 k $\Omega$ to 500 G $\Omega$	•	•
Shortage current	2 mĀ	5 mA
Auto-discharge of capacitive voltage	•	•
Advanced Analysis of Insulation Performance		
Polarity Index (PI)	•	•
Dielectric Absorption Ratio (DAR)	•	•
Dielectric Discharge (DD)		•
Breakdown voltage indicator		•
Comparison of insulation test results		•
Timed test		•
Multimeter		
AC voltage		•
DC voltage		•
Resistance		•
Continuity		•

Fluke 1535 & 1537 Insulation Resistance Testers												
Range	200 kΩ to 500 kΩ			50 MΩ to 500 MΩ	0.5 GΩ to 5.00 GΩ	5.0 GΩ to 50.0 GΩ	50 GΩ to 500 GΩ					
Resolution	1 kΩ	10 kΩ	100 kΩ	1 MΩ	10 MΩ	500 MΩ	5 GΩ					
Accuracy	5%	5%	5%	5%	5%	5% to 20%	20%					
Leakage Cur	rent measure	ement										
Range				1 nA to 1 mA								
Accuracy				±(0% + 2 nĀ	)							
Capacitance	measuremer	ıt										
Range			0.0	01 µF to 2.00	μF							
Accuracy			±(15	5% rdg + 0.03	3 μF)							
Test voltage	for insulation	n resistance										
Range			2	50 V to 2500	V							
Accuracy				±(3% + 3V)								









Fluke 1537 with included accessories

#### **Included Accessories**

Test Lead Set with Alligator Clips (Red, Black, Green), Test Probes (Red, Black), Soft Carrying Case, USB Cable (1537 only).

#### **Ordering Information**

FLUKE-2500 V Insulation1535/APACTester

FLUKE-2500 V Advanced1537/APACInsulation Tester

Contact your local distributor for price and availability. fluke.co/wtb



#### fluke.co/insulationtesters

## Fluke 1507 and 1503 Insulation **Resistance Testers**





These lightweight, affordable insulation testers are perfect for troubleshooting, commissioning and preventive maintenance applications.

- Automatic calculation of polarisation index and dialectric absorption ratio (1507 only)
- Multiple test voltages: 50 V, 100 V, 250 V, 500 V, 1000 V (1507 only)
- Remote test probe for rapid testing
- Insulation test range 0.01  $M\Omega$  to 10 G $\Omega$  (1507), 0.1  $M\Omega$  to 2000 MΩ (1503)
- Compare (Pass/Fail) function for repetitive tests ٠ (1507 only)
- · Live circuit detection prevents insulation test if voltage > 30 V is detected
- Auto-discharge of capacitive voltage
- AC/DC voltage: 0.1 V to 600 V
- Lo ohms/Earth-bond continuity (200 mA) for checking connections and motor windings
- Resistance: 0.01  $\Omega$  to 20.00  $\Omega$
- One year warranty

Features	1503	1507
User selectable test voltages for many applications	•	•
Additional test voltages 50 V, 100 V, 250 V		•
Special remote control probe for easy and safe measurements	•	•
Auto-discharge of capacitive voltage for added user protection	•	•
Live circuit detection prevents insulation test if voltage > 30 V is detected for added user protection	•	•
Save both time and money with Automatic calculation of Polarisation Index and Dielectric Absorption Ratio		•
Auto Power off to save batteries	•	•
Large display with backlight	•	•
Continuity function (200 mA)	•	•
Compare function (pass/fail) for fast repetitive tests		•

Insulation	1503	1507
Insulation test range	0.1 MΩ to 2000 MΩ	0.01 MΩ to 10 GΩ
Test voltages	500 V, 1000 V	50 V, 100 V, 250 V, 500 V, 1000 V
Test voltage accuracy	+ 20%, - 0%	+ 20%, - 0%
Insulation test current	1 mA nominal	1 mA nominal
AC/DC Voltage measurement	600 V (0.1 V resolution)	600 V (0.1 V resolution)
Resistance measurement range	0.01 Ω to 20 kΩ	0.01 Ω to 20 kΩ
Auto discharge	Discharge time < 0.5 second for $C = 1 \ \mu F$ or less	Discharge time < 0.5 second for $C = 1 \ \mu F$ or less
Maximum capacitive load	Up to 1 µF	Up to 1 µF
Open circuit test voltage	> 4 V , < 8 V	> 4 V , < 8 V
Short circuit current	> 200 mA	> 200 mĀ
General		
Battery life		000 hours t: >1000 tests
Size (HxWxD)	203 mm × 100	) mm × 50 mm
Weight	0.5	5 kg



Wiring test in a small distribution box – all in one spot

#### **Included Accessories**

TL224 Test Leads, TP74 Test Probes, Clips PN 1958654 (red) and PN 1958646 (black), Holster, Remote Probe and User Manual.

Ordering Infor	mation
FLUKE-1507	Insulation Tester
FLUKE-1503	Insulation Tester

Contact your local distributor for price and availability. fluke.co/wtb

Fluke 1503

**Insulation Testers** 

## Fluke 1555 and 1550C Insulation Resistance Testers



## Powerful troubleshooting and predictive maintenance tools.

The Fluke 1555 and redesigned Fluke 1550C Insulation Resistance Testers offer digital insulation testing up to 10 kV, making them ideal for testing a wide range of high voltage equipment including switchgear, motors, generators and cables.

- · Capacitance and leakage current measurement
- Ramp function for breakdown testing
- Warning function alerts the user that line voltage is present and gives a voltage reading up to 600 V AC or DC for increased user safety
- Measurements can be stored in up to 99 memory locations, and each location is assigned a unique, defined label for easy recall
- Automatic calculation of Dielectric Absorption (DAR) and Polarisation Index (PI) with no additional setup
- Three year warranty

The tester's accuracy is specified for one year after calibration at operating temperatures of 0°C to 35°C. For operating temperatures outside the range (-20°C to 0°C and 35°C to 50°C), add  $\pm$ .25% per °C, except on the 20% bands add  $\pm$ 1% per °C.

	Insulation resistance measu	rement
Test voltage (DC)	Range	Accuracy (±reading)
250 V	< 250 kΩ 250 kΩ to 5 GΩ 5 GΩ to 50 GΩ > 50 GΩ	unspecified 5% 20% unspecified
500 V	< 500 kΩ 500 kΩ to 10 GΩ 10 GΩ to 100 GΩ > 100 GΩ	unspecified 5% 20% unspecified
1000 V	< 1 ΜΩ 1 ΜΩ to 20 GΩ 20 GΩ to 200 GΩ > 200 GΩ	unspecified 5% 20% unspecified
2500 V	< 2.5 ΜΩ 2.5 ΜΩ to 50 GΩ 50 GΩ to 500 GΩ > 500 GΩ	unspecified 5% 20% unspecified
5000 V	< 5 ΜΩ 5 ΜΩ to 100 GΩ 100 GΩ to 1 ΤΩ > 1 ΤΩ	unspecified 5% 20% unspecified
10000 V (1555 only)	< 10 MΩ 10 MΩ to 200 GΩ 200 GΩ to 2 TΩ > 2 TΩ	unspecified 5% 20% unspecified
Functions	Range	Accuracy (±reading)
Leakage current	1 nA to 2 mA	±(5% + 2 nA)
Capacitance measure	ement 0.01 uF to 15.00 μF	±(15% rdg + 0.03 μF)

## Combine the IR3000 FC Connector and Fluke Connect<sup>®</sup>, to perform advanced insulation testing for preventive and PdM tasks through:

30 V to 600 V AC/DC, 50/60 Hz



Live circuit warning

 PI (polarity index) and DAR (dielectric absorption ratio) tests with TrendIt<sup>™</sup> graphs to identify problems faster

 $\pm(15\% + 2V)$ 

- Wireless transfer of test results from the tool to Fluke Connect<sup>®</sup> eliminates error-prone paperwork and saves your technician's time
- Temperature Compensation through Fluke Connect<sup>®</sup> App helps establish accurate baselines and relevant historical comparisons



Recommended Kits Bundle & Save Fluke 1550C 5 kV Insulation Tester Kit

Fluke 1550C FC 5 kV Insulation Tester Kit with IR 3000FC

Fluke 1555 10 kV Insulation Tester Kit

Fluke 1555 10 kV Insulation Tester Kit with IR 3000FC

For more details see page 186

#### **Included Accessories**

Test Cables with Alligator Clips (red, black, green), Infrared Adapter with Interface Cable, FlukeView\* Forms Basic CD, AC Power Cord, Soft Carrying Case, User Manual, Quick Reference Card, Software License Agreement, Registration Card, FlukeView\* Forms Installation Guide, USB-IR Cable Installation Guide, USB-IR Cable Installation Guide, IP67 Hard Case (Kit only), Certificate of Calibration (Kit only), Ruggedised Alligator Clips (Kit and 1555 only), IR3000FC1550 Connector (FC models only).

#### **Ordering Information**

FLUKE-1550C 5 kV Insulation Tester

FLUKE-1550C	5 kV Insulation Tester
FC	with IR 3000FC
FLUKE-1555	10 kV Insulation Tester
FLUKE-1555	10 kV Insulation
FC	Tester with IR 3000FC
FLUKE-1550C	5 kV Insulation Tester
KIT	Kit
FLUKE-1550C	5 kV Insulation Tester
FC KIT	Kit with IR 3000FC
FLUKE-1555	10 kV Insulation
KIT	Tester Kit
FLUKE-1555	10 kV Insulation Tester
FC KIT	Kit with IB 3000FC



# Earth Ground Testers

It is critical for facilities to have grounded electrical systems, so that in the event of a lightning strike or utility overvoltage, current will find a safe path to earth.

## Fluke 1620-2 Series Geo Earth Ground Testers



Fluke 1625-2





Fluke 1623-2

The Fluke 1623-2 and 1625-2 Earth Ground Testers offer data storage and download capabilities via USB port, have a large display and world class accessories that will simplify and speed up testing time.

These unique earth ground testers that can perform all four types of earth ground measurement:

- 3 and 4-Pole Fall-of-Potential (using stakes)
- 4-Pole Soil Resistivity testing (using stakes)
- Selective testing (using 1 clamp and stakes)
- Stakeless testing (using 2 clamps only)
- IP56 rated for outdoor use
- Professional carrying case
- USB data storage and transfer
- Two year warranty

## In addition, the Fluke 1625-2 offers these advanced features:

- Automatic Frequency Control (AFC) identifies existing interference and chooses a measurement frequency to minimise its effect, providing more accurate earth ground value
- R\* measurement calculates earth ground impedance at 55 Hz to more accurately reflect the earth ground resistance that a fault-toearth ground would see
- Adjustable limits for quicker testing

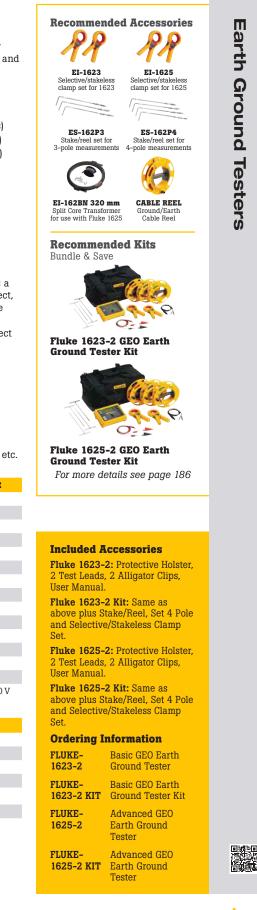
#### Earth ground resistance and soil resistivity should be measured when:

- Designing earth ground systems
- Installing new ground system and electrical equipment
- Periodically testing ground and lightning protection systems
- Installing large electrical equipment such as transformers, switchgears, machines, etc.

Features	1623-2	1625-2
One-button measurement concept	•	
3- and 4-pole Fall of Potential, earth resistance loop testing	•	•
4-Pole soil resistivity testing	•	•
2-Pole resistance measurement AC		•
2-and 4-pole resistance measurement DC		•
Selective testing, no disconnection of ground conductor (1 clamp)	•	•
Stakeless testing, quick ground loop testing (2 clamps)	•	•
Measuring frequency 128 Hz	•	
Earth impedance measurement at 55 Hz		•
Automatic frequency control (AFC) (94 - 128 Hz)		•
Measuring voltage switchable 20/48V		•
Programmable limits, settings		•
Continuity with buzzer		•
Dust/water resistance	IP56	IP56
Safety rating	CAT II 300 V	CAT II 300 V

Specifications	1623-2	1625-2	
Resistance ranges	0 to 20 kΩ	0 to 300 kΩ	
Operating error	±10%	±5%	
Test voltage	48 V	20 / 48 V	
Short circuit current	> 50 mA	250 mA	
Weight	1.1 kg (including batteries)	1.1 kg (including batteries)	
Size (HxWxD)	133 mm × 250	mm × 187 mm	
Battery type	6 × AA alk	taline cells	

These products are for unpowered installations measuring grounding connections.



## Fluke 1630-2 FC Earth Ground Clamp Meter





#### Stakeless earth ground loop and AC leakage current clamp for fast, safe indoor/outdoor earth ground resistance and AC leakage current tests.

Heavy-duty clamp jaw stays in alignment and in calibration even in every day, on-the-job industrial environments. Test the grounding components of equipment in hardto-reach spaces, including areas that are indoors or fully paved and do not permit driving auxiliary test stakes. Stay on line—identify ground loop resistance without the need to disconnect then reconnect the earth electrode from the system.

#### **Stakeless measurement**

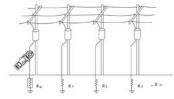
The 1630-2 FC clamp measures earth ground loop resistances for multi-grounded systems using the dualclamp jaw. This test technique eliminates the dangerous and time-consuming activity of disconnecting parallel grounds, as well as the process of finding suitable locations for auxiliary test stakes. You can also perform ground tests in places that were previously difficult: inside buildings, on power pylons or anywhere you don't have access to soil to place auxiliary test stakes. With this test method, a twoprocess measurement is made around the earth ground wire or bus bar using the specially-designed jaw of the 1630-2 FC clamp. Auxiliary test stakes are not used at all. A known voltage is induced by the source in the clamp, and the current is measured by the sensor in the clamp. The tester automatically determines the earth loop resistance for this section of the earthing system.

One year warranty.

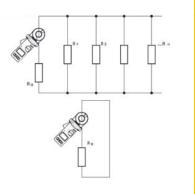
<b>Electrical spe</b>	ecifications			
Maximum volt ground	age to earth	1000 V		
Battery type		4 × 1.5 V AA alkaline I	EC/EN LR6	
Battery life		More than 15 hours		
Frequency ran	ige	40 Hz to 1 kHz		
Ingress protec	tion	IEC/EN 60529: IP30 with jaw closed		
LCD	Digital reading	9999 counts		
	Refresh rate	4 Hz		
Reference tem	perature	23°C ±5°C		
Display Readin Specification v Resistance Sta	with Loop	Input (Ω)	Minimum	Maximum
		0.474	0.417	0.531
		0.5	0.443	0.558
		10	9.55	10.45
		100	96	104.0
Data logging o	capacity	Minimum of 32,760 me	asurements	
Safety	General	IEC/EN 61010-1: Polluti	on Degree 2 IEC/EN 615	557-1
	Measurement	IEC/EN 61010-2-032: C	AT IV 600 V / CAT III 10	V 000
Current clamp current measu	0	IEC/EN 61557-13: Class 2, ≤30 A/m		
Resistance to	Earth	IEC/EN 61557-5		
Effectiveness protective mea		IEC/EN 61557-16: cutof	f frequency 20 kHz (-3 o	dB)

# General specifications Conductor size 40mm approximately Dimensions (H×W×D) 283 mm × 105 mm × 48 mm Weight 880 g

Ground Resistance Measurement Principle



Equivalent Circuit Diagram





#### **Included Accessories**

Hard Case, Loop Resistance Standard, Four AA Batteries, Safety Information Guide and Quick Reference Guide.

#### **Ordering Information**

Fluke-1630-2 FC Earth Ground Loop and Leakage Clamp

Contact your local distributor for price and availability. fluke.co/wtb



# Installation Testers

24010

12F9

2607

12F12

26Q11

12F15-2

50000 - SO 100

26013

26012

2609

13F11

Safety and performance are two of the most critical requirements for any electrical system. Good quality insulation, a properly working grounding system and active protection assure the safety of people, electrical systems and buildings, and protect them against electrocution, fire and other equipment damage.

## Fluke 1660 Series **Multifunction Installation Testers**



The Fluke 1660 Series Multifunction Installation Testers verify the safety of electrical installations in domestic, commercial, and industrial applications. They can ensure that fixed wiring is safe and correctly installed to meet the requirements of IEC 60364 and all relevant local standards. The Fluke 1664 FC and 1663 also feature a 6mA DC Type B RCD test suited for safely testing electric vehicle charging stations. Three year warranty.

#### Fluke 1664 FC – The comprehensive tester for advanced users

The Fluke 1664 FC is the only installation tester that protects connected appliances from damage during insulation tests, and allows you to share your test results wirelessly by smartphone with coworkers or customers. Fluke's patented Insulation PreTest stops you from performing tests with appliances that are connected to the system during test. This helps eliminate accidental damage and keeps your customers happy.

In addition, the Fluke 1664 FC offers you the power of Fluke Connect<sup>®</sup>. Now you can send test results straight from your Fluke 1664 FC to your smartphone and seamlessly transmit those results to other members of your team.

#### Fluke 1663 - The ideal tester for professional troubleshooters

This instrument is ideal for professional users' high-end functionality, advanced measurement capability, yet it is still easy to use.

#### Fluke 1662 - A solid, basic installation tester

The Fluke 1662 gives you Fluke reliability, simple operation and all the testing power you need for basic installation testing.

Measurement function	1664 FC	1663	1662
Insulation PreTest safety function	•	-	-
Insulation at L-N, N-PE inputs	•	-	-
Auto Test sequence	•	-	-
Loop and line resistance– $m\Omega$ resolution	•	-	-
Continuity at L-N, N-PE inputs	•	•	-
Test smooth dc sensitive RCDs (Type B/B+)	•	•	-
Earth resistance	•	•	-
Wiring polarity checker, detects broken PE and N wires	•	•	•
Insulation resistance	•	•	•
Continuity and resistance	•	•	•
Measure motor windings with continuity test (@ 10 mA)	•	•	•
Loop and line resistance	•	•	•
Prospective earth fault current (PEFC/IK)	•	•	•
Prospective short-circuit current (PSC/IK)	•	•	•
RCD trip time	•	•	•
RCD trip current (ramp test)	•	•	•
Measures trip time and current for RCD type A and AC in one test	•	•	•
Automatic RCD test sequence	•	•	•
Phase sequence test	•	•	•
Other features			
Fluke Connect <sup>®</sup> compatibility	•	-	-
ShareLive <sup>™</sup> calling	•	-	-
On/Off switchable auto-start for RCD and Looptest	•	•	•
Self-test	•	•	•
Memory, interface			
Z Max memory	•	•	-
Memory	•	•	•
IR-USB and BLE interface (when used with optional FVF software)	IR-USB/BLE	IR-USB	IR-USB





To address the increasing demands for reporting and documentation, we've added FlukeView<sup>®</sup> Forms Software to the Fluke 1663 and 1664 FC Testers.

#### **Included Accessories**

Six AA (IEC LR6) Batteries, C1600 Hard Carrying Case, Zero Adapter, Heavy Duty Mains Cord, STD Standard Test Lead Set, Padded Carrying and Waist Strap, Quick Reference Guide, TP165X Remote Control Probe and Lead Set, User Manual on CD

#### **Ordering Information**

Fluke 1664 FC/ FVF AU	Multifunction Installation Tester with Auto Test, Insulation PreTest, Fluke Connect® compatibility with FlukeView® Forms Software
Fluke	Multifunction Installation
1663/	Tester with FlukeView®
FVF AU	Forms Software
Fluke	Multifunction Installation
1662 AU	Tester

Contact your local distributor for price and availability. fluke.co/wtb





## Fluke 6200-2 and 6500-2 Portable Appliance Testers



Fluke 6200-2



Fluke 6500-2



#### Perform more tests each day

The Fluke 6200-2 and 6500-2 Portable Appliance Testers (PAT) have redesigned auto-test capabilities to help you increase the number of portable appliance tests completed each day. It is designed to enable you to work faster without compromising safety – yours or your customer's. Two year warranty.

#### The Fluke 6200-2 Portable Appliance Tester offers:

- · Dedicated key for each test for 'one- touch' testing
- Pre-set pass/fail levels to save time
- Large display for easy reading
- Single mains socket for appliance connection
- Separate IEC socket for easy mains/extension lead testing
- Detachable test leads for quick field replacement
  Integral carrying handle

## The Fluke 6500-2 Portable Appliance Tester delivers all of this capability, plus:

- Integral QWERTY keyboard for rapid data entry
- Additional Compact Flash memory card capability for back-up data storage and USB port for transfer to PC
- Large backlit graphics display
- Pre-set, auto-test sequences for user convenience
- Integral site, location and description codes for faster data processing
- Memory review facility for more on-site control

Measurement functions	6200-2	6500-2
LN Mains Volts	•	•
Outside Limits Indicators	•	•
Null out facility for earth bond lead	•	•
Protective Earth Resistance PE (200 mA)	•	•
Protective Earth Resistance PE (25 A)	•	•
Insulation 500 V DC	•	•
Insulation 250 V DC	-	•
Protective Earth Conductor Current	•	•
Touch Current	•	•
RCD Test	-	•
Substitute leakage current	•	•
Appliance Power kVA	•	•
Appliance Load Current	•	•
Seven Segment Custom LCD	•	-
Colour dot matrix display	-	•
Back Light	•	•
USB Flash drive port	•	•
USB Port-Printing/downloading	-	•
External printer output	•	•
Front Panel QWERTY Key pad	-	•
IEC Lead Test	•	•
Auto-testing	-	•
Pass / Fail Level Programmable Indicators	-	•
Data Storage	-	•
Limited Data Storage	-	•
Polarity Checks	•	•
Graphical Help Menu Online	-	•
Programme Mode	-	•
Real time clock	-	•

#### **Recommended Accessories**



**SP-SCAN-6000** Barcode Scanner (6500-2 only)

**C1600** Rugged, molded plastic case See page 170

#### **Included Accessories**

Test Lead, Test Probe, Alligator Clip, Mains Cord, USB Stick and Cable (6500-2 only), Hard Carrying Case, Quick Reference Guide and User Manual on CD.

#### **Ordering Information**

FLUKE-6200-	Portable
2 AU	Appliance Tester

FLUKE-6500-Portable2 AUAppliance Tester

Contact your local distributor for price and availability. fluke.co/wtb



# Power Quality

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Whether you're in an industrial plant, manufacturing facility or a utility, Fluke Power Quality and energy management tools are designed to assist in capturing the power quality and energy data needed to maintain the best performance and reliability. These tools make it possible to identify your power quality and energy efficiency issues with easy and effective recording and analysis.

		Single-				Thurs Dhose			
		Phäse				ı nree-rnase			
<b>Basic measurements</b>	Application use	VR1710	1732/34	1736/38	1742	1746	1773	1775	1777
Energy Studies									
Measure V, I, kW, Cos/DPF, kWhr			•	•	•	•	•	•	•
Measure MIN/MAX and AVG values	Get detailed power and energy consumption profiles during energy audits and ninnoint savings onnorthuities		•	•	•	•	•	•	•
Waste energy monetisation	and principles of the second second second								
<b>Basic Harmonics Study</b>									
THD measurement (V & I)	Discover the source of distortion in your	•	•	•	•	•	•	•	•
Harmonics 1 to 25 for V & I	installation, so that you can filter those loads or move them to separate circuits	• (V only)		•		•	•	•	•
Advanced Harmonics Study									
Full harmonic spectrum	If distorting loads are causing problems in			•		•	•	•	•
Power harmonics	your installation, you need comprehensive data to identify the source and create a solution						•	•	•
<b>Basic Industrial PQ Troubleshooting</b>	oting								
Oscilloscope function	When troubleshooting in the field,			•			•	•	•
Voltage dips and swells	graphical data enables you to trace the source of the problem at hand	•		•		•	•	•	•
<b>Advanced Industrial PQ Troubleshooting</b>	eshooting								
Comprehensive logging capability	Complex installations often require a deeper dive into measurement data. Multiple loads			•	•	•	•	•	•
Transient capture	may be interacting randomly to cause a	•		•			•	•	•
Flicker	single problem	•			•	•	•	•	•
Event capture and transients with waveforms	h waveforms							•	•
8kV transients								1 Mhz	20 Mhz
Features									
Inrush				•		•	•	•	•
Flicker					•	•	•	•	•
Transients							•	•	•
Mains signaling						•	•	•	•
Power wave							•	•	•
Event waveform capture				•			•	•	•
Power inverter efficiency							•	•	•

## **Power Quality Tools Selection Guide**

**Power Quality** 

## Fluke 1770 Series Power Quality Analysers



Fluke 1777





## The faster, easier way to perform power quality studies.

Fluke 1770 Series Three-Phase Power Quality Analysers eliminate the complexities of power quality logging, troubleshooting, and analysis. Engineered to be the faster, easier way to perform power quality studies, the 1770 Series offers automatic measurements, a straightforward user interface and setup, best-in-class specifications, and a simplified reporting platform. The instrument can also be powered directly from the measurement circuit, eliminating the need to find a power outlet or use a lengthy extension cord. With the 1770 Series you'll never miss a critical power quality event-from fast transients up to 8 kV, harmonics up to 30 kHz, dips and swells, as well as the voltage, current, and power measurements that enable you to characterise your electrical system.

- **True power quality tool:** Captures all the key measurements you need to determine power quality health automatically without additional setup, including key power quality parameters harmonics, dips, swells, unbalance, inrush etc.
- AC/DC applications: Measure AC up to 6000 A and DC up to 2000 A
- High speed transients: 20 MS/s (1777) & 1 MS/s sampling up to 8 kV to enable capture of high voltage, high speed transients that can cause physical damage to equipment.
- Class A compliant: Perform tests knowing you are fully compliant with stringent international IEC61000=4-30 Class A standards
- **Power quality health summary:** Automatically evaluate power quality inputs against the EN 50160 electrical standard, providing detailed troubleshooting of problem areas
- Real time data: At-a-glance "Advanced Power Quality Health" summary screen with graphical representation, allows you to analyse real time data and zoomed views while all your recording needs are taken care of
- Simple guided setup functionality: Auto-detection of system type (WYE/Delta/Frequency 50–60 Hz/Nominal voltage) and auto-population of non-system-specific parameters
- Ease of operation: High resolution captive touch-screen and button user interface ensures that gloved operation is simple and easy providing clear results in seconds
- Power system connection and instrument setup autocorrection: Automatically detect and correct errors in voltage and current wiring, manual correction also available
- Automatic parasitic power from measurement line: Power internal battery with 120/240 V AC adapter or direct connection to measurement line (up to 600 V AC)
- **Customised views and reporting:** Create custom views to operate more efficiently and simply. Using Energy Analyse Plus software custom reporting templates can be created
- Highest safety rating in the industry: CAT III 1000 V / CAT IV 600 V rated for use at service entrance
- Easy access to data: with 8 GB of internal memory, expandable to 32 GB, continual powering of measurement circuits and advanced communicated options such as WIFI and LTE communication, no event or data will be missed
- Two year warranty

	1773	1775	1777
Applications			
Harmonic surveys	•	•	•
Basic power and power quality studies	•	•	•
Energy surveys and load testing	•	•	•
Nuisance circuit breaker tripping		•	•
Advanced power and power quality studies		•	•
Discovery of equipment failures caused by transients		•	•
Power utility power quality surveys		•	•
Diagnose electronic equipment damage with capture of high speed, high magnitude (8 kV) voltage transients. High speed transient capture with waveshape analysis in FEA+ application software			•
Features			
Event capture with table	•	•	•
Event capture and transient with waveforms		•	•
8kV transients		1 MHz	20 MHz



Captures all the key measurements you need to determine power quality health.



Log up to 10 sessions of 8 weeks with 1-minute intervals and 100 events.



Fluke 1777 Power Quality Analyser kit with included iFlex  $^{\scriptscriptstyle (\!8\!)}$  and Alligator clips.

|--|

	Fluke 1770 Series Power Quality Analysers				
Voltage inputs					
Number of inputs		4 inputs, 3 phases and neutral referenced to PE (5 connectors)			
Measurem	ient category	1000 V CAT III / 600 V CAT IV			
Maximum	input voltage	1000 V rms / 1000 V DC (1700 Vpk)			
Nominal voltage range		Wye and single phase: variable (50 V - 1000 V) Delta: Variable (100 V - 1000 V) IEC 61000-4-30 Class A compliance for the nominal voltages (V <sub>din</sub> ) 100 V - 690 V			
Input imp	edance	10 M $\Omega$ between P-P and P-N, 5 M $\Omega$ between P-PE and N-PE			
Bandwidt	h	DC to 30 kHz for PQ measurements, excluding transients			
Resolution	1	24-bit synchronous sampling			
Sampling	frequency	80 kS/s at 50/60 Hz			
Scaling	. ,	1:1, variable for use of potential transformers			
Voltage ti	ransients				
Measurem	ient range	±8 kV			
Sampling rate		1775: 1 MS/s 1777: 1 MS/s, 20 MS/s			
Bandwidth		DC to 1 MHz			
Trigger		Adjustable trigger level. Triggers on high-frequency components >1.5 kHz			
Resolution		14-bit synchronous sampling			
Current is	nputs				
Number of inputs		4 inputs 3 phases and Neutral, range selected automatically to attached sense			
Range	AC	1 A to 1500 A with i17XX-FLEX1500 12 1 A to 1500 A with i17XX-FLEX1500 24 3 A to 3000 A with i17XX-FLEX3000 24 6 A to 6000 A with i17XX-FLEX3000 36 40 mA to 40 A with clamp i40s-EL 4 A to 400 A with clamp i40s-EL			
	DC	20 A to 2000 A with 80i-2010-EL clamp			
Bandwidt	h	DC to 30 kHz			
Resolution	ı	24-bit synchronous sampling			
Sampling frequency		80 kS/s at 50/60 Hz			
Scaling		1:1, variable			
Input voltage		Clamp: 50 mV / 500 mV rms; CF 2.8 Rogowski Coil: 15 mV / 150 mV rms at 50 Hz, 18 mV / 180 mV rms at 60 Hz CF 4 all at nominal probe range			
Input impedance		11 kΩ			
Aux inpu	ts				
Wired con	nection with 1	7xx-AUX adapter			
Number of	f inputs	2			
Input rang	je	Direct: 0 V DC to ±10 V DC 0 V to 1000 V DC			
Input imp	edance	Direct: 2.92 MΩ			

## Fluke PQ400 Electrical Measurement Window



Fluke PQ400



fluke.co/powerguality

#### **Compliance without compromise. Safety** without sacrifice.

The Fluke PQ400 Electrical Measurement Window enables the connection of three phase measurement equipment to energised panels, without the need to open the panel door, or wear supplemental personal protective equipment (PPE).

- Permanently connected voltage and current sensors located inside the electrical panel allow you to make power quality and energy measurements using the external access points without opening the panel door
- Automatic probe detection for Fluke 1740 and • 1730 series power quality and energy loggers and compatible clamps
- Full 360 degree rotation allows the PQ400 window to • be oriented in any direction
- Simple installation using a step drill bit and electro-• hydraulic hole punch
- IP67 with cover closed, IP50 with cover opened and all connectors attached
- Five vear warrantv

#### **Recommended Accessories**



Q









80I-2010S/3PK 2000 A AC/DC Current Clamp (individual or 3pk) See page 178



Antenna Cable Antenna cable 5 m

i40s-EL/3pk

40 A Clamp-on

See page 177

177X WiFi/BLE Wi-Fi/BLE Module

#### **Included Accessories**

17XX iFlex<sup>®</sup> 1500 A 24 IN, Voltage Test Lead 3-Phase+N, 4x AC285 Black Alligator Clips, 1x AC285 Green Alligator Clip, USB-C Cable, Line Cord, FLK-17XX 0.18 M Test Lead Set, Green Test Lead, Cable Marker Set, WiFi/BLE Module (1775, 1777), Magnet Probe (1775, 1777), Hanger Kit (1775, 1777), Black Soft Case (1775), Hardcase (1777)

PQ400: Enclosure, 4× Male-Male Cable 2 m for iFlex® Current Probes, Cable Marker Set 3P+N+PE, Cable Ties, Instruction Sheet.

#### **Ordering Information**

FLUKE-1773 Three-Phase Power **Quality Analyser** w/ Accessories

LTOVE-	Three-Phase
1773/BASIC	<b>Power Quality</b>
	Analyser Only

- FLUKE-1775 Three-Phase Power **Quality Analyser** w/ Accessories
- FLUKE-Three-Phase 1775/BASIC Power Quality Analyser Only
- FLUKE-1777 Three-Phase Power Quality Analyser w/ Accessories

FLUKE-	Three-Phase
1777/BASIC	Power Quality Analyser Only
FLUKE-	Power Quality
PQ400	Window

Contact your local distributor for price and availability.

fluke.co/wtb

Power Quality

**Power Quality** 

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## Fluke 1732 and 1734 Three-Phase **Electrical Energy Loggers**



Fluke 1734



#### Energy logging is now within your reach — discover where you're wasting energy, optimise your facility's energy use and reduce your bill

The Fluke 1732 and 1734 Three-Phase Electrical Energy Loggers introduce a new simplicity to discovering sources of electrical energy waste. Discover when and where energy in your facility is being consumed; from the service entrance to individual circuits. Access and share data remotely with your team via the Fluke Connect® app so you can maintain safer working distances and make critical decisions in real-time, reducing the need for protective equipment, site visits and check-ins.

Profiling energy usage across your facility helps you identify opportunities for energy savings, and provides you with the data you need to act on them. The new Energy Analyse software package allows you to compare multiple data points over time to build a complete picture of energy usage, which is the first step to reduce the cost of your energy bill.

- Key measurements: Automatically capture and log voltage, current, power, power factor, energy and associated values
- Fluke Connect\* compatible: View data locally on the instrument, via Fluke Connect\* mobile app and desktop software or through your facilities' WiFi infrastructure
- Convenient instrument powering: Power instrument directly from the measured circuit
- Highest safety rating in the industry: 600 V CAT IV/1000 V CAT III rated for use at the service entrance and downstream
- Measure all three phases: With included 3 flexible current probes
- Fully integrated logging: Connect other Fluke Connect® devices to the Fluke 1734 to simultaneously log up to two other measurement parameters, virtually any parameter available on a Fluke Connect® wireless digital multimeter or module
- Energy Analyse Plus application software: Download and analyse every detail of energy consumption with our automated reporting
- One year warranty

#### Specifications

specifications					
Paramet	er	Range	Max resolution	Intrinsic accuracy at reference conditions (% of reading +% of full scale)	
Voltage		1000 V	0.1 V	±(0.2% + 0.01%)	
	i17xx-flex 1500 12"	150 A	0.1 A	±(1% + 0.02%)	
		1500 A	1 A	±(1% + 0.02%)	
	i17xx-flex 3000 24"	300 A	1 A	±(1% + 0.03%)	
Current		3000 A	10 A	±(1% + 0.03%)	
Guilein	i17xx-flex 6000 36"	600 A	1 A	±(1.5% + 0.03%)	
		6000 A	10 A	±(1.5% + 0.03%)	
	i40s–EL clamp	4 A	1 mA	±(0.7% + 0.02%)	
		40 A	10 mĀ	±(0.7% + 0.02%)	
Frequence	су	42.5 Hz to 69 Hz	0.01 Hz	±(0.1%)	
Aux input		±10 V DC	0.1 mV	±(0.2% + 0.02%)	
Voltage min/max		1000 V	0.1 V	±(1% + 0.1%)	
Current min/max		defined by accessory	defined by accessory	±(5% + 0.2%)	
THD on v	voltage	1000%	0.1%	±0.5	
THD on current		1000%	0.1%	±0.5	
Voltage harmonics 2nd 50th		1000 V	0.1 V	≥ 10 V: ±5% of reading < 10 V: ±0.5 V	
Current harmonics 2nd 50th		defined by accessory	defined by accessory	$\geq$ 3% of current range: ±5% of reading < 3% of current range: ±0.15% of range	
Unbalance		100%	0.1%	±0.2	

#### **Recommended Accessories**



(Pu

i17XX-FLEX 1500 1500 A 12 inch iFlex Current Clamps Purchase as individual, 3pk or 4pk) (Pu See page 177





i17XX-FLEX 3000

3000 A 24 inch iFlex

Current Clamps Purchase as individu 3pk or 4pk)

nal



**i17XX-FLEX 6000** 6000 A 36 inch iFlex Current Clamps (Purchase as individual, ase as mu 3pk or 4pk See page 177

**i40s-EL/3pk** 40 A Clamp-on Current Transformer 3 pack (Purchase as individual or 3pk) See page 177



FLUKE-17XX-TL 0.1M Test Lead Set, 1000V CAT III, Non-stackable Test Lead Set, 1000V CAT III, Non-stackable cctors; 0.1 m; Red/Blk Connectors; 1.5 m; Red/Blk See page 177 See page 177 Conn



1730-Hanger Hanging Strap Kit See page 177

MP1-Magnet Probe 1 Magnet Probes for 4mm banana, Set of 4 See page 177





1732/UPGRADE Upgrade Kit fo 1732 to 1734 See page 178

C1740 Soft case See page 177

#### **Included Accessories**

Power Supply, Voltage Test Leads, 4× Alligator Clips, 3× 12 inch 1,500A Flexible Current Probe, Soft Case, Energy Analyse Plus Software, Line Cords, Colour Coding Set and Documentation on USB Flash Drive, Magnetic Hanging Strap (1734) and Magnetic Voltage Probes (1734).

#### **Ordering Information**

Energy Logger, Basic Version (excl. current probes)
Energy Logger, International Version (incl. current probes)
Energy Logger, Basic Version with Fluke Connect <sup>®</sup> (excl. current probes)
Energy Logger, International Version with Fluke Connect <sup>®</sup> (incl. current probes)

Contact your local distributor for price and availability. fluke.co/wtb

## Fluke 1736 and 1738 Three-Phase Power Loggers



Fluke 1736





Fluke 1738

#### More visibility, reduced uncertainty

The Fluke 1736 and 1738 Three-Phase Power Loggers built with Fluke Connect<sup>®</sup> mobile app and desktop software compatibility give you the data you need to make critical power quality and energy decisions in real-time. The ideal test tools for conducting energy studies and basic power quality logging, the 1736 and 1738 automatically capture and log over 500 power quality parameters so you have more visibility into the data you need to optimise system reliability and savings.

- Measure all three phases and neutral with included 4 flexible current probes.
- Comprehensive logging: More than 20 separate logging sessions can be stored on the instruments. In fact, all measured values are automatically logged so you never lose measurement trends.
- **Capture dips, swells, and inrush currents:** Includes event waveform snapshot and high resolution RMS profile, along with date, timestamp and severity to help pinpoint potential root causes of power quality issues
- **Optimised user interface:** Capture the right data every time with quick, guided, graphical setup and reduce uncertainty about your connections with the intelligent verificationfunction.
- Complete "in-the-field" setup through the front panel or Fluke Connect\* App: No need to return to the workshop for download and setup or to take a computer to the electrical panel.
- Energy Analyse Plus application software: Download and analyse every detail of energy consumption and power quality state of health with our automated reporting.
- One year warranty

	Three-Phase Energy Loggers		Three-Phase Energy Loggers	
	1732 Energy Logger	1734 Energy Logger	1736 Power Logger	1738 Advanced Power Logger
Load studies	•	•	•	•
Energy assessments	•	•	•	•
Neutral Current Measurement (four current channels)	-	-	٠	٠
Harmonics measurements	-	-	•	•
Voltage event capture	-	-	•	•
Advanced analysis: Waveform and Inrush event capture PQ Health (EN51060)	-	-	Upgrade package*	٠
Fully integrated logging with Fluke Connect®	Upgrade package*	•	Upgrade package*	•
WiFi	Optional	•	•	•
Wi-Fi / Bluetooth	Optional	•	Optional	•
Magnetic probe set	Optional	•	Optional	•
Magnetic hanger	Optional	•	Optional	•
Connection via WiFi router	Requires FREE software license available upon product registration.		Requires FREE software license available upon product registration.	

\*Upgrade packages are available to upgrade existing 1732 Energy Loggers with the same features of the 1734 Energy logger, and to upgrade existing 1736 Power Loggers with the same features and capabilities of the 1738 Advanced Power Logger. Please note that 1732 and 1734 Energy Loggers cannot be upgraded with the functionality of 1736 and 1738 Power Loggers.



1736/UPGRADE Upgrade Kit for 1736 to 1738 See page 178 C173X Soft Case See page 178

#### **Included Accessories**

Power Supply, Voltage Test Leads, 4× Alligator Clips, 4× 12 inch 1500A Flexible Current Probe, Soft Case, Energy Analyse Plus Software, WiFi Adapter, Line Cords, Colour Coding Set and Documentation on USB Flash Drive, Magnetic Hanging Strap (1738) and 4× Magnetic Voltage Probes (1738).

#### **Ordering Information**

FLUKE 1736/B	Power Logger, Basic Version (excl. current probes)
FLUKE- 1736/INTL	Power Logger, International Version (excl. current probes)
FIUKE 1738/B	Power Logger, Advanced Version (excl. current probes)
FLUKE- 1738/INTL	Power Logger, International Advanced Version (excl. current probes)

Contact your local distributor for price and availability. fluke.co/wtb

# Power Quality

fluke.co/powerquality

## Fluke 1742, 1746 and 1748 Three-Phase Power Quality Loggers



Fluke 1746





#### Troubleshoot, quantify energy usage and perform quality of service surveys easier than ever

The Fluke 1742, 1746 and 1748 Three-Phase Power Quality Loggers give you fast, easy access to the data you need to make critical power quality and energy decisions in real-time, and with the included Energy Analyse Plus software package you can easily create detailed reports.

Fully compliant with international power quality standards such as IEC 61000-4-30 Class A including local compliance to AS/NZ 61000.4.30 Class A and capable of simultaneously logging up to 500 parameters while also capturing events, the Fluke 1740 Series helps uncover intermittent and hard-to-find power quality issues more easily than ever. Energy Analyse Plus software quickly assesses the quality of power at the service entrance, substation, or at the load, according to national and international standards.

- "In-workshop" or "in-the-field" setup and download through PC application software using USB Memory Stick, Wi-Fi download, wired ethernet connection or via USB cable
- One-touch reporting: Create standardised reports or export data in PQDIF or NeQual compatible format for use with third party software
- Capture dips, swells and interruptions
- Measures harmonics and interharmonics for voltage and current, also includes unbalance, flicker and rapid voltage changes
- Two year warranty (battery not included)

Measure all power quality and power paramaters	1742 Power Quality Logger	1746 Power Quality Logger	1748 Power Quality Logger
Functions	Quality 209901	Quality 209901	Quanty 209901
Energy	•	•	•
Basic Power Quality	Optional	•	•
Advanced Power Quality	Optional	Optional	•
Selection Guide	1742 Power Quality Logger	1746 Power Quality Logger	1748 Power Quality Logger
Functions			
Voltage, current, power, power factor, frequency	•	•	•
Energy forward/reverse	•	•	•
Peak Demand	•	•	•
THD	•	•	•
Voltage and current harmonics (to 50th)	-	•	•
Flicker	•	•	•
Unbalance	-	•	•
Rapid voltage change events	-	•	•
Interharmonics (to 50th)	-	•	•
Dips, swells, interruption and transient events tables	-	•	•
Mains signaling	-	•	•
Inrush current	-	•	•
Transients (low frequency)/Waveform deviation events	-	-	•
Recording			
Trend	•	•	•
Waveform snapshots	-	-	•
RMS profile	-	-	•
Communication			
Ethernet	•	•	•
USB (mini B)	•	•	•
WiFi download Instrument to device	•	•	•
Wifi download via WiFi hub (requires registration)	Opt.	Opt.	Opt.

# Recommended Accessories intraction of the second s



IP65 VOLT CONN IP65 Rated Voltage Connector See page 177

Magnet Probe 1 (3× Red, 1× Black) See page 177

MP1-3R/1B

3PHVL-1730-5M Cable Assembly, Voltage Test Lead 3-Phase+N 5 m See page 177

**17XX AUX** Auxiliary Input Adapter See page 178



174X-HANGER 174X Hanger Kit See page 177

**1742-6/8 UPGRADE** Upgrade Kit 1742 to 1746/1748 & 1746 to 1748 See page 178

#### **Included Accessories**

4× Flexible Current Probes, USB Stick, USB Cable, 3PHVL-1730 3-Phase + Neutral Voltage Test Lead, Test Lead Set Red/Black 0.18m, Test Lead Set Red/Black 1.5m, 4× Alligator Clips, 173X/174X Soft Case, Cable Marker Kit, MPI-3R/1B-Magnet Probe 1 Set (3 Red, 1 Black) and Hanger Kit (1748).

#### **Ordering Information**

Three-Phase Power Quality Logger
Three-Phase Power Quality Logger

Contact your local distributor for price and availability. fluke.co/wtb

#### 102 Power Quality

## Fluke Norma 6000 Series **Portable Power Analysers**



Fluke Norma 6003



Fluke Norma 6004



The Fluke Norma 6000 Series Portable Wide-band Precision Power Analysers gives you more freedom than ever before to make high accuracy power measurements wherever you need. Designed for portability the lightweight, battery powered Fluke 6000 Series eliminates the need to carry large analysers into the field, allowing you to make measurements directly at the load in nearly any environment. By measuring directly at the load, you can discover how the equipment operates under real-world conditions, with real-world variables, not just at a test bench or in the lab.

- Measure three phase power and DC output power at the same time (available in 3 or 4 channel), with voltage and current inputs on each channel
- Make mechanical torque and speed measurements • using the included inputs and outputs of the Fluke 6003+ and 6004+
- 0.1% accuracy, 500 kHz bandwidth, 200 ks/s sample rate so you can rely on the power conversion system measurements you take no matter what distortion may be present
- Take precision power measurements almost anywhere - highly portable, battery powered analyser weighing only 3.5 kg and 9.3 cm depth with up to 10 hours of battery life
- View critical data in the field on the main display meter, waveform, harmonics up to the 100th, vector and trend
- Ensure high common-mode rejection and allow flexible configurations according to measurement requirements using the electrically isolated channels
- ٠ User adjustable measurement rate from 100 ms to 1 s with continuous logging via 32GB of onboard storage
- Easy in-field set up using the large 5.7" front LCD ٠ screen or a remote PC connection (USB or RS485),
- Online measuring, data download and analysis with included PC software (Fluke NormaView Software")
- Three year warranty

	Norma 6003	Norma 6003+	Norma 6004	Normal 6004+
Number of channels for voltage / current	3/3	3/3	4/4	4/4
Motor speed / torque measurement	-	Yes	-	Yes
Basic accuracy		0.	1%	
Channel-to-channel isolation	Yes			
Main Function	Meter, Scope, Harmonic, Phasor, Trend			
Measuring Parameters *Available in N6003+ and N6004+ only	RMS, DC Component, AC Component, Rectified Mean, Peak Value, Peak-Peak, Crest Factor, Form Factor, Fundamental Component, Fundamental Content, Harmonic Distortion, Harmonic Content, Harmonic Factor for voltages and currents, Active Power, Reactive Power, Apparent Power, Power Factor, Phase Shift, Efficiency, Impedance, Electric Energy, Charge/Discharge capacity (Ah), Frequency, Motor Speed*, Torque*, Mechanical Power*, Mechanical Energy*			
IP and CAT rating	IP50, CAT III 1000 V, CAT IV 600 V			
Colour screen	5.7", backlight, 4:3			
Lithium battery	10.8 V/5000 mAh, 54 Wh			
Communication Interface	USB/RS485			
PC Software	Fluke NormaView Software"			
Storage Capacity	32GB			





BP291 Additional Battery

See page 177

Power Quality

#### **Included Accessories**

Battery BP291, Power Supply Adapter (18V DC, CAT IV 600V Adapter), Power Line Cord, Soft Case, Mains Adapter Set, Test Lead Set, USB (mini B) Cable, RS-485/Synchrony Adapter (3.81 mm, black, 3 pin), Speed / Torque Adapter (3.81 mm, black, 6 pin), USB Flash Drive for PC SW and User Manual.

3-Channel Models: Test Leads, 1.5 m, 3× Red, 3× Black, 6× Blue, Alligator Clips, 3× Red, 3× Black, 6× Blue

4-Channel Models: Test Leads, 1.5 m, 4× Red, 4× Black, 8× Blue, Alligator Clips, 4× Red, 4× Black, 8× Blue

#### **Ordering Information**

-	
NORMA 6003	3 Channel Portable Power Analyser
NORMA 6003+	3 Channel Portable Power Analyser with Speed/Torque Inputs
NORMA 6004	4 Channel Portable Power Analyser
NORMA 6004+	4 Channel Portable Power Analyser with Speed/Torque Inputs

Contact your local distributor for price and availability. fluke.co/wtb

## Fluke VR1710 Single Phase Voltage Quality Recorder

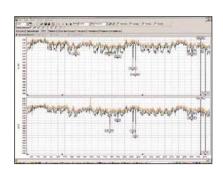


Fluke VR1710

## Easy-to-use solution for detecting and recording voltage quality problems

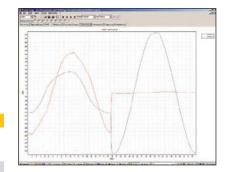
The Fluke VR1710 is a single-phase, plug-in voltage quality recorder that provides fast and easy recording of voltage trends, dropouts, harmonics and general power quality including dips and surges to help maintenance and facilities management personnel easily pinpoint the root cause of voltage problems. Voltage quality parameters including RMS average, transients, flicker, and harmonics up to the 32nd are recorded using a userselected average period from 1 second to 20 minutes.

- Fast and easy recording of voltage trends, dropouts and power quality: Easily pinpoint the root cause of single phase voltage problems
- Extremely easy to use: Plugs directly into the mains power socket and capture data
- Quickly see what happened and when: Min, Max, average RMS values (1/4 cycle) with time stamp and transient display (>100 µs) with time stamp
- Easily identify problems: Power quality or equipment related Flicker recording to EN 61000-4-15, individual harmonic and THD values with trends
- Includes PowerLog software: For quick download, analysis and automatic reporting
- Save time: Generate power quality reports automatically with pre-set templates
- One year warranty



**PowerLog Setup** – Simple set up of internal clock, logging periods, and intervals with default values for quick results.

**PowerLog View** – Data presentation showing RMS voltage and harmonic trends, actual transients, summary information and statistics in accordance with EN50160.



Actual transient display (> 100 µs) with time stamp – Quickly identify issues with included graphical software.



Includes PowerLog software

# Applications Voltage recording Monitors and records supply voltage; measures RMS average, minimum and maximum values, and checks whether the socket outlet is providing voltage within tolerance. Distortion measurement Measure frequency and harmonics; check whether the distorting loads (UPS systems, drives, etc.) are affecting your other equipment. Flicker measurement Quantify the affects of switching loads on lighting systems. Voltage transients Capture those intermittent, momentary events that may be affecting your equipment; the full waveform is captured with date, timestamp, and duration.

#### Specifications

Operating voltage	70 V to 300 V
Min/Max/Avg RMS value	Resolution 0.125 V
Number of events	175,000
Dips/Interruptions	Yes
Time resolution	5 ms
Voltage resolution)	0.125 V
Over-voltages	Yes
Frequency	Yes
Harmonics measurement	EN 61000-4-7 (up to 32nd)
Flicker measurement	EN 61000-4-15
Number of recording channels	1 Phase to Neutral, 2 Phase/Neutral to Ground
Recording time	1 day to 339 days depending on average time from 1 second to 20 minutes
Transients	Yes
Frequency range	50 Hz $\pm$ 1 Hz and 60 Hz $\pm$ 1 Hz
Safety category rating	CAT II 300 V

**Included Accessories** 

USB Cable, PowerLog Software CD, Power Cord Adapter.

Ordering Information FLK-VR1710 Voltage Quality Recorder

Contact your local distributor for price and availability. fluke.co/wtb

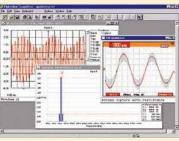


## **Portable Oscilloscope Selection Guide**

		120B Series	S		MDA Series III						
Models	123B	124B	125B	190-062	190-102	190-104	190-202	190-204	190-502	190-504	<b>MDA-550</b>
Bandwidth	20 MHz	40 MHz	40 MHz	60 MHz	100 MHz	100 MHz	200 MHz	200 MHz	500 MHz	500 MHz	500 MHz
Input Channels											
2 scope/DMM Channels	•	•	•								
2 scope Channels + 1 DMM				•	•		•		•		
4 Channels						•		•		•	•
Isolated Inputs				•	•	•	•	•	•	•	•
Triggering											
Connect-and-View™	•	•	•	•	•	•	•	•	•	•	•
IntellaSet™ Technology	•	•	•								
Advanced Triggering				•	•	•	•	•	•	•	•
Advanced Measurement	Function	·		·				·			
Cursors		•	•	•	•	•	•	•	•	•	•
TrendPlot™	•	•	•	•	•	•	•	•	•	•	•
ScopeRecord™	•	•	•	•	•	•	•	•	•	•	•
100 screen Replay				•	•	•	•	•	•	•	•
Industrial Bus Health			•								
Harmonics			•								•
FFT				•	•	•	•	•	•	•	•
Power Measurements			•	•	•	•	•	•	•	•	•
Waveform Mathematics			٠	•	٠	•	•	•	٠	•	•
Guided Motor-Drive Anal	lysis										
Motor Drive Input (V, I, Unbalance)											•
Motor Drive Input Harmonics (2-150)											•
Motor Drive DC Bus											•
Motor Drive Output PWM (V, I, dV/dt, overshoot)											•
Motor Drive Input PWM (V, I, dV/dt, overshoot)											•
Motor Shaft Voltage Discharges											•
EN61010-1 Safety CAT III 1000 V				•	•	•	•	•	•	•	•
CAT IV 600 V	•	•	•	•	•	•	•	•	•	•	•
Power		l		I				I			 
Li-ion	•	•	•	•	•	•	•	•	•	•	•
Battery (hours)	7	7	7	3.5 (opt 8)	3.5 (opt 8)	7	3.5 (opt 8)	7	7	7	7
General Specifications	-	<sup>*</sup>	-	5.0 (Spr 0)	5.0 (Spr 0)	-	5.0 (Spr 0)	<sup>1</sup>	-	-	
Size (H × W × D)	250 mm	1 × 132 mm ×	55 mm			270 mm ~	190 mm × 7	0 mm (10.5 in	x 75 in x 2	8 inl	
Weight		1.4 kg (3.2 lb)				210 mm ×		kg (4.8 lb)	1.5 III ^ Z	.0 111	
Fluke Connect*		1. T NY (J.Z IV)		I			2.2	""A 1±.0 ml			
Fluke Connect® App	•	•	•	•	•	•	•	•	•	•	•

#### FlukeView® ScopeMeter® Software for Documenting, Archiving and Analysis of Waveforms

Get more out of your ScopeMeter with FlukeView® ScopeMeter® SW90W software for Windows®



- Copy screen images into your reports and documentation
- Store instrument's screen copies on the PC, in colour
  - $\bullet\,$  Capture and store waveform data from your ScopeMeter on your PC
  - Online recording of your current waveform
- Create and archive waveform references for easy comparison
- Copy waveform data into your spreadsheet for detailed analysis
- Export data to another analysis program
- Use cursors for parameter measurement
- Add user text to instrument setups and send them to the instrument for operator reference and instructions

ScopeMeter<sup>®</sup> Portable Oscilloscopes

# Fluke MDA-550 Series III **Motor Drive Analyser**



Fluke MDA-550-III



**Key Features** Motor Drive Input

Phase - Phase Phase - Ground

Voltage Unbalance

Current Unbalance

Motor Drive DC Bus

**Motor Drive Output** Voltage and Current

Voltage Unbalance

**Current Unbalance** 

Voltage Modulation

Voltage and Current

Voltage Unbalance

Current Unbalance

Voltage Modulation

Motor Drive Input

Output and Motor

DC

Ripple

(filtered)

Motor Input

(filtered)

Motor Shaft

Input

# Simplify complex motor-drive troubleshooting

The Fluke MDA-550 Motor Drive Analyser simplifies the troubleshooting process for variable frequency drives. On screen step-by-step guided measurements to show you where to make voltage and current connections, while preset measurement profiles ensure you will capture all the data you need for each critical motor-drive section, from the input to the output, the DC bus and the motor itself.

- · Measure key motor-drive parameters including voltage, current, DC Bus voltage level and AC ripple, voltage and current unbalance and harmonics, voltage modulation, and motor shaft voltage discharges
- Perform extended harmonics measurements to identify the effects of low and high order harmonics on your electrical power system
- · Conduct guided measurements for motor-drive input, DC bus, drive output, motor input and shaft measurements with graphical step-by-step voltage and current connection diagrams
- Preset measurement profiles collect data based on the chosen test procedure and reduce the need for complex configuration
- Capture additional parameters with full 500 MHz oscilloscope, meter and recording capability
- USB & WIFI connectivity for quick and easy data transfer
- Three year warranty

V AC+DC unbalance, V pk-to-pk

A AC+DC unbalance, A pk-to-pk

V DC, V pk-to-pk, V pk max

V pwm unbalance, V pk-to-pk

V pwm unbalance, V pk-to-pk

A AC+DC unbalance, A pk-to-pk

Voltage and Current Harmonics:

Phase-phase, Phase-ground:

Shaft voltage events:

A AC+DC unbalance, A pk-to-pk

Phase-phase, Phase-ground, Phase-DC+, Phase-DC- :

V-A-Hz, V pwm, V pk, A ac+dc, A pk, V/Hz, Crest factor

V pk-to-pk, Delta V, Rise/fall time, Delta V/s, Events/s

V and A fundamental, Hz fundamental, %THD, %THD/TDD

V pwm, V pk-to-pk, Hz, V/Hz, Delta V, Delta V/s, Risetime peak,

V pwm, V pk-to-pk, Hz, V/Hz, Delta V, Delta V/s, Risetime peak,

V AC, V pk-to-pk, Hz

V-A-Hz, V pwm, V/Hz

Overshoot

Overshoot

V pk, Vmax, Vmin, V pk-to-pk, Crest factor

**Test Points** V-A-Hz





BP291 4500 mAh capacity Li-ion Battery See page 177





### **Included Accessories**

BP291 Li-Ion Battery Pack, BC190 Charger/Power Adapter, 3x VPS421 100:1 High Voltage Probes with Alligator Clips, VPS410-II-R 10:1 500 MHz Voltage Probe, 3x i400s AC Current Clamp, 1x SVS-500 Shaft Voltage Set (3x brush, Probe Holder, Two-Piece Extension Rod and Magnetic Base), Large Size, Protective Carrying Case with Rollers (C437-II), FlukeView-2 PC Software (Full Version) and WiFi Dongle.

# **Ordering Information**

FLUKE-Motor Drive Analyser 4CH CLR PRO MDA-550-III

Contact your local distributor for price and availability. fluke.co/wtb





# fluke.co/scopemeters

# Fluke ScopeMeter<sup>®</sup> 190 Series III Portable Oscilloscopes



Fluke 190-504 Series III

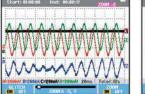


Fluke 190-204 Series III

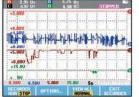


Fluke 190 Series III ScopeMeter Portable Oscilloscopes are high-performance scopes built for harsh industrial environments. These high-performance portable oscilloscopes come with 2 or 4 independently insulated input channels, an IP51 dust and drip proof rating and a CAT III 1000 V/CAT IV 600 V safety rating. Choose from 500 MHz, 200 MHz, 100 MHz or 60 MHz bandwidth models. Now plant maintenance engineers can take a 2 or 4 channel scope into the harsh world of industrial electronics.

- Up to four independent floating isolated inputs, up to 1000V
- Up to 5 GS/s real time sampling (depending on model and channels used)
- Deep memory: 10,000 points per trace waveform capture
- CAT III 1000 V/CAT IV 600 V safety rated instrument for industrial environments
- Up to seven hours of battery operation using BP291
- Security slot: lock down oscilloscope with Kensington<sup>®</sup> lock while unattended
- IP51 rating, dust and drip-proof
- Connect-and-View<sup>™</sup> triggering for intelligent, automatic triggering on fast, slow and even complex signals
- Automatic capture and REPLAY of 100 screens
- ScopeRecord™ Roll mode gives 30,000 points per input channel for low frequency signal analysis
- USB & WIFI connectivity for quick & easy data transfer
- Three year warranty



Use the 27,000 points memory of ScopeRecord and zoom in for maximum detail.



Cursors and zoom features of the Fluke 190 Series III help you to analyse the captured TrendPlot.

Specifications	190-062	190-102	190-202	190-502	190-104	190-204	190-504
Bandwidth (MHz)	60	100	200	500	100	200	500
Scope Inputs	2	2	2	2	4	4	4
Dedicated DMM	1	1	1	1	-	-	-
Dual Input Trendplot™	•	•	•	•	-	-	-
Four Input Trendplot™	-	-	-	-	٠	٠	•
ScopeRecord Mode	•	•	٠	•	•	٠	•
Automatic Capture & Replay Mode	•	•	•	•	•	•	•
Cursors	•	•	٠	•	٠	٠	•
Zoom	•	•	•	•	٠	٠	•
Bus Health Test Mode	-	-	-	-	-	-	-
Advanced Power Measurements	•	•	•	•	٠	•	•
EN61010-1 CAT III Safety Rating	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V
EN61010-1 CAT IV Safety Rating	600 V	600 V	600 V	600 V	600 V	600 V	600 V
Battery	4 hr Li–ion (8 hr Opt)	4 hr Li–ion (8 hr Opt)	7 hr Li-ion				
Optical RS-232	-	-	-	-	-	-	-
Isolated USB	•	•	•	•	•	٠	•
Isolated USB Memory	•	•	٠	•	٠	٠	•

### **Recommended Accessories**

Accessories for the Fluke 190–III Portable Oscilloscopes are available in the Accessories Section on Pages 174 – 175.

### **Included Accessories**

Fluke 190 4-Channel Models: VPS410-X (1 red, 1 grey, 1 blue, 1 green), Double Capacity BP291 Li-ion Battery, BC190 Battery Charger, Hanging Strap, Adjustable Hand Strap, User Manual on CD-ROM, FlukeView® Demo Package and USB Interface Cable for PC connectivity.

# Fluke 190 2-Channel Models:

VPS410-X (1 red, 1 blue), Single Capacity BP290 Li-ion Battery, TL175 Test Leads.

Fluke /S (SCC-290 Kit) Models: FlukeView® ScopeMeter® Software and C290 Hard Carrying Case.

### **Ordering Information**

FLU

06

FLU

06

FL 10

FLU 102

FLU 104 FLU

10

FLU 202 FLU 202

FLU 204 FLU 204

FLI 50 FLI 50

FLI 50 FLI 50

UKE-190- 2/AU	Colour ScopeMeter 60MHz, 2 Channel
UKE-190- 2/AU/S	Colour ScopeMeter 60MHz, 2 Channel with SCC-290 Kit
UKE-190- 2/AU	Colour ScopeMeter 100MHz, 2 Channel
UKE-190- 2/AU/S	Colour ScopeMeter 100MHz, 2 Channel with SCC-290 Kit
UKE-190- 4/AU	Colour ScopeMeter 100MHz, 4 Channel
UKE-190- 4/AU/S	Colour ScopeMeter 100MHz, 4 Channel with SCC-290 Kit
UKE-190- 2/AU	Colour ScopeMeter 200MHz, 2 Channel
UKE-190- 2/AU/S	Colour ScopeMeter 200MHz, 2 Channel with SCC-290 Kit
UKE-190- 4/AU	Colour ScopeMeter 200MHz, 4 Channel
UKE-190- 4/AU/S	Colour ScopeMeter 200MHz, 4 Channel with SCC-290 Kit
UKE-190- 2/AU	Colour ScopeMeter 500MHz, 2 Channel
UKE-190- 2/AU/S	Colour ScopeMeter 500MHz, 2 Channel with SCC-290 Kit
UKE-190- 4/AU	Colour ScopeMeter 500MHz, 4 Channel
UKE-190- 4/AU/S	Colour ScopeMeter 500MHz, 4 Channel with SCC-290 Kit

Contact your local distributor for price and availability. fluke.co/wtb

# FLUKE ®

ScopeMeter<sup>®</sup> Portable Oscilloscopes

# Fluke ScopeMeter<sup>®</sup> 120B Series Industrial Hand-Held Oscilloscopes



Fluke 125B



# Simplified testing, more insight and faster electro-mechanical troubleshooting

The compact ScopeMeter<sup>®</sup> 120B Series, is the rugged oscilloscope solution for industrial electrical and electromechanical equipment troubleshooting and maintenance applications. It's a truly integrated test tool, with oscilloscope, multimeter and high-speed recorder in one easy-to-use instrument. The ScopeMeter 120B Series also integrates with Fluke Connect<sup>®</sup> mobile app and FlukeView<sup>®</sup> for ScopeMeter software to enable further collaboration, data analysis and archiving of critical test information.

The 120B Series Industrial ScopeMeter Test Tools include innovative functions designed to help technicians troubleshoot faster and get the answers they need to keep their systems up and running. Colour Display Waveforms with Connect-and-View<sup>™</sup> trigger and setup technology and automatically view related numerical measurements using Fluke IntellaSet<sup>™</sup> technology, all without making manual measurement adjustments.

- Dual-input digital oscilloscope and multimeter
- 40 MHz or 20 MHz oscilloscope bandwidth
- Two 5,000-count true-RMS digital multimeters
- Connect-and-View<sup>™</sup> trigger simplicity for hands-off operation
- IntellaSet™ technology automatically and intelligently adjusts numerical readout based on the measured signal
- Dual-input waveform and meter reading recorder for trending data over extended periods
- With Recorder Event Detect capabilities and expandable micro SD memory, recording sessions can be done for up to 14 days
- The ScopeMeter 125B Bus Health Test analyses the electrical signals on the Industrial Network Bus and gives a clear "Good", "Weak" or "Bad" indication mark for each of the relevant parameters used in CAN-bus, Profi-bus, Foundation Field, RS2-232 and more
- Three year warranty

Specifications	123B	124B	125B
Full Function Dual Input Scope and Meter	•	•	•
Oscilloscope Bandwidth MHz	20	40	40
Meter and Scope Recorder	•	•	•
Scope Cursor Measurements	-	•	•
Power and Harmonics Measurements	-	-	•
Bus Health	-	-	•
10:1 Voltage Probe	-	•	•
i400S AC Current Clamp	-	-	•



### **Included Accessories**

Fluke 120B: Li-Ion Battery Pack, Charger/Power Adapter, 10:1 Voltage Probe (124B, 125B), i400s AC Currently Clamp (125B), 2 Shielded Test Leads with Ground Leads, Black Test Lead, Red and Blue Hook Clips, Banana to BNC Adapter, USB Angled Adapter and WiFi USB Adapter.

Fluke 120B/S: Also include Soft Carry Case, FlukeView<sup>®</sup> for Windows<sup>®</sup> Software, Magnetic Hanger and Screen Protector.

### Ordering Information

Ordering II	liormation
FLUKE-	Industrial 20MHz
123B/AU	ScopeMeter Kit
FLUKE-	Industrial 20MHz
123B/AU/S	ScopeMeter Kit
FLUKE-	Industrial 40MHz
124B/AU	ScopeMeter Kit
FLUKE-	Industrial 40MHz
124B/AU/S	ScopeMeter Kit
FLUKE-	Industrial 40MHz
125B/AU	ScopeMeter Kit
FLUKE-	Industrial 40MHz
125B/AU/S	ScopeMeter Kit

Contact your local distributor for price and availability. fluke.co/wtb



fluke.co/scopemeters

# Process Calibration Tools

Fluke offer the most complete line of bench and field calibration equipment for the process industries. The products include accurate and dependable bench instruments as well as handheld, rugged tools designed to carry into the field.

100.000 ps Setport: 100.000 Setp Size: 50.000

PRES

VEN

00

20.010 mA

Whether for bench or field-use, these instruments and tools are multi-functional and easy to use, as well as being rugged, reliable, accurate and dependable.



Working in a process environment such as pharmaceutical, refining or other industrial area can be challenging. Whether you're working at a bench, out in the plant, or in the field, you need accurate tools that you can count on.

Finding the right tools for the specific challenges you face every day is important, so we've provided an 'at-a-glance' guide to the wide range of multifunction, mA loop, pressure and temperature calibrators that we carry.

For complete information to all your calibration needs visit fluke.co/calibration or one of the product pages within this catalogue.



# **mA Loop Calibration**

Loop calibrators are essential tools for working with 4-20mA current loops. Fluke Loop Calibrators provides mA sourcing, simulation and measurement, readouts in both mA and% of span, 24 V loop supply, simple operation and accuracy you can count on.

Fluke offers the widest variety of mA calibration and test tools in the industry to address virtually all types of mA loop testing.

See pages 115 to 118



# **Electrical and Multifunction Calibration**

Fluke Multifunction Calibration Tools are designed to calibrate almost anything. These calibration tools source and measure almost all process parameters, and documenting versions even document the results.

Fluke offers a broad range of field and bench calibrators to source, simulate and measure pressure, temperature and electrical signals to help you verify and adjust your test equipment of almost any process instrument.

See pages 119 to 121



# **Temperature Calibration**

Fluke Temperature Calibrators simulate process sensors for testing temperature instrumentation. Specifically designed for the field, these lightweight compact tools are EMI tolerant, dust and splash resistant and offer an easy to use single push button interface. When paired with a temperature sensor they can take high accuracy temperature measurements to verify process temperatures and ensure the highest product quality and safety.

Fluke offer a variety of different bench and field temperature calibrators designed for your unique calibration and testing requirements.

See pages 122 to 127

# **Pressure Calibration**

Instrumentation is found in virtually every process plant. Periodic calibration of these instruments is required to keep plants operating efficiently and safely. Fluke offers a wide range of pressure calibration tools with precision pressure measurment from 15psi/1 bar to 10,000 psi/690 bar boasting 0.025% full-scale accuracy to help you quickly and reliably calibrate your pressure instruments.

Everything from simple test gauges to calibrators with built in electric test pumps. Easy to use, rugged and reliable construction and an industry best 3-year warranty.

See pages 128 to 141

# **Maintenance Manager**

Focus: Maintaining plant uptime and maintenance efficiency

# What issues do you face?

- Ensuring continuous uptime
- Maintaining good ROI for equipment
- Compliance
- Process improvement
- Increase efficiency

# **Fluke solutions:**

- Temperature
- Pressure
- 🚸 Standards
- A Process tools

# **Field Calibration Technician**

Focus: Calibrating and verifying measurement devices

# What issues do you face?

- Making accurate measurements
- Documenting procedures
- Increasing throughput

# Fluke solutions:

- Temperature
- Pressure
- 💸 Standards
- A Process tools
- Software
- Field Metrology Wells

# **Quality Manager**

Focus: Maintaining and documenting product quality

# What issues do you face?

- Complying with quality regulations
- Maintaining documentation of processes

# **Fluke solutions:**

- Temperature
- Pressure
- 🔅 Standards
- A Process tools
- Software

# **Instrumentation Technician**

Focus: Maintaining and verifying instrumentation throughout the plant

# What issues do you face?

- Monitor and maintain sensors and transmissions
- Accurate measurements

# **Fluke solutions:**

- Temperature
- Pressure
- 💠 Standards
- A Process tools
- Software
- Field Metrology Wells



# Process Calibration Solutions

Get more information on Fluke Process Calibration solutions at fluke.co/calibration Based on you. Built by Fluke.

\* Diagram is not intended to be an exact representation. Diagram components are not to scale and are for illustration purposes only.



	Documenting Process Calibators	Multifunction Process Calibrators	ction ss tors	Ten Cal	Temperature Calibrators				Pressure	Pressure Calibrators	10		Automa Ca	Automatic Pressure Calibrator			Loop C	Loop Calibrators	20		Process- Meters <sup>m</sup>
	754 / 753	725	726	724	714B	712B	718 / 718Ex	717	730G	219	<b>719Pro</b>	721	729	729 Pro	715	705	707	H60Z / 60Z	122	772 / 773	789 <sup>5</sup> / 787B
Voltage DC	300 V	30 V	30V	30 V	75 mV	-			30 V		30 V	30 V	30 V	30 V	10 V	28 V	28 V	30 V		- / 30 V	1000 V
Voltage AC (True RMS)	300 V																				1 000 V
Resistance	10 kΩ	3200 Ω 4	4000 Ω 3	3200 Ω	4	4000 Ω															40 MΩ
Current DC	110 mA	24 mA 2	24 mA 2	24 mA 2	24 mA 2	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	100 mA	100 mA	30 mA, 1 A
Current AC																					•
Frequency	50 kHz	10 kHz 1	15 kHz																		20 kHz
Pressure	-						-0.85 bar to 20 bar (4 ranges) / up to 700 bar <sup>2</sup>	-0.85 bar to 700 bar (10 ranges)	-20m bar to 690 bar (31 ranges)	-0.85 bar to 7 bar (2 ranges) / up to 700 bar <sup>2</sup>	-0.8 to 20 bar (3 ranges)/ up to 700 bar <sup>2</sup>	input 1: -0.97 bar to 2,48 bar input 2: -0.83 bar to 345 bar <sup>8</sup>	-0.83 bar to 20.69 bar (3 ranges)	-0.95 bar to 70 bar (2 models, up to 6 pressure modules)							
Temperature						1					-50 to 150°C4	-50 to 150°C4	-50 to 150°C4	-50 to 150°C4							
Temperature: RTD types	80	Τ	00	Ζ		13															
TC types	13	12	12	12	17																
Source/Simulate															-						
Voltage DC	15 V	10 V	20 V	10 V	75 mV								30 V	30 N	10 V					-/10V	
Resistance	10 kΩ	3200 Ω 4	4000 Ω 3	3200 Ω	4	4000 Ω															
mA DC/% scale	22 mA	24 mA 2	24 mA		_								24 mA	24 mA	24 mA	24 mA	24 mA			24 mA	24 mA
mA source; auto step, auto ramp	•	•	•										•	•	•	•	•	•		•	•
Frequency	50 kHz	10 kHz 1	15 kHz																		
Temperature: RTD types	00	7	00	7		13															
Temperature: TC types	13	10	10	10	17																
Record																					
Min/Max	•		$\vdash$			$\vdash$	•	•		•	•	•	•								
Hold							•	•		•									•	•	•
As Found/ As Left results	•												•	•							
Log data	•								•				•	•				•/-			
Upload data to PC	•												•	•				•/-			•
Remote operation		-/•	•										•	•							
Features																		-	-		
Loop supply	26 V	24 V/12 V	24 V	24 V			24 V/-	24 V	24 V	24 V	24 V	24 V	24 V	24 V	24 V	24 V	24 V	24 V		24 V	24 V/-
HART* communication	-/•								•				•	•				•/-			
Integrated hand pressure pump							•														
Electric Pump										•	•	•	•	•							
Intrinsically safe (ATEX)							718 Ex														
NIST traceable certification	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
Warranty in years	ę	m	m	e	e	e	с	e	ę	e	ę	с	e	ę	ო	т	m	e	e	с	ę
<sup>1</sup> Fluke 750 Pressure Modules Required	ired																				

# **Process Calibration Tools Selection Guide**

nues 1.01 resume mouves neverations Flanges depending an version By using optional 7.20 RTD Puble acressory i Fluke 87.86 & 7.87B are Fluke Connect® compatible with Fluke it 3000 FC Connector (sold seperately)

# Fluke 787B and 789 ProcessMeter™



Fluke 787B



# Double the troubleshooting power so you can do more, while carrying a lot less

The Fluke 787B and 789 ProcessMeter<sup>™</sup> double troubleshooting capabilities by combining the power of a safety rated digital multimeter and mA loop calibrator into a single, compact test tool. Whether you only need to source and simulate mA, or need a 24 V loop power supply, Fluke has a ProcessMeter<sup>™</sup> test tool designed specifically to meet your needs.

### Fluke 787B and 789 key features

- 20 mA DC current source/measure/simulate
- Simultaneous mA and% of scale readout
- DMM designed to meet 1000 volt IEC 61010 CAT III and 600 V CAT IV standards
- Fluke Connect® compatibility for wireless data logging (with IR3000FC module)
- Precision 1000 V, 440 mA true-RMS digital multimeter
- Frequency measurement to 20 kHz
- Min/Max/Average/Hold/Relative modes
- · Diode test and continuity beeper
- Manual step (100%, 25%, Coarse, Fine) plus Auto Step and Auto Ramp
- · Externally accessible battery for easy battery changes
- Three year warranty

### Fluke 789 additional features

- 24 V loop power supply
- · HART mode setting with loop power (adds 250 ohm resistor)

Measurement Function	Range and Resolution	Best Accuracy (% of reading + LSD)
V DC	400.0 mV, 4.000 V, 40.00 V, 400.0 V, 1000 V	0.1% + 1
V AC (True-RMS)	400.0 mV, 4.000 V, 40.00 V, 400.0 V, 1000 V	0.7% + 2
mA DC	30.000 mA	.05% + 2
A DC	1.000 A (0.440 A continuous)	0.2% + 2
A AC	1.000 A (0.440 A continuous)	1% + 2
Resistance	400.0 0, 4.000 k0, 40.00 k0, 400.0 k0, 4.0 M0, 40 M0	0.2% + 1
Frequency (0.5 Hz to 20 kHz)	199.99 Hz, 1999.9 Hz, 19.999 kHz	.005% + 1
Diode Rest	2.000 V (shows diode voltage drop)	2% + 1
Continuity	Beeps for resistance < approx. 100 ohms	

Output Function	Range and Resolution	Drive Capability	Accuracy
DC Current Output (Internal Battery Operation)	0.000 to 20.000 mÅ or 4.000 to 20.000 mÅ, (selectable at power-up) Over-range to 24.000 mÅ	24 V compliance or, 1,200 ohms, @ 20 mA	.05%
DC Current Simulate (Ext. 15 V to 48 V loop supply)	0.000 to 20.000 mÅ or 4.000 to 20.000 mÅ, (selectable at power-up) Over-range to 24.000 mÅ	1000 ohms, @ 20 mA	.05%
24 V Loop Supply*	Minimum 24 V	250 ohms @ 20 mA	> 24 V
Current Adjustment Modes	Manual: Coarse, Fine, 25% and 100% step Automatic: Slow Ramp, Fast Ramp, 25% step		

\*24 V Loop Supply available on 789 ProcessMeter<sup>™</sup> only.



апа Quick Re	erence Guide.
<b>Ordering In</b>	formation
FLUKE-787B	ProcessMeter™
FLUKE-789	ProcessMeter <sup>™</sup>
FLUKE-789/ T3000FC	Fluke Connect 789 ProcessMeter <sup>™</sup> & Temperature Kit
FLUKE- IR3000 FC	Fluke Connect® Infrared Connector
FVF-SC2	FlukeView® Forms Software (incl. Interface Cable)

Contact your local distributor for price and availability. fluke.co/wtb

fluke.co/calibration

# Fluke 771, 772 and 773 mA Process Clamp Meters



Fluke 771

Don't break the loop on 4-20 mA signal measurements and save time with the Fluke 771, 772 and 773 Milliamp Process Clamp Meters. Three year warranty, (one year provided on mA clamp assembly and cable).

# Use the Fluke 772 and 773 to:

- Source 4-20 mA signals for testing control system I/O or I/Ps  $\,$
- Simulate 4–20 mA signals for testing control system I/O
- Measure 4-20 mA signals with in-circuit measurement
- Power a transmitter with the 24 V loop power supply
- Automatically ramp and step change the 4-20 mA output for remote testing

# Use the Fluke 773 to:

- Measure DC voltage to verify 24 V power supplies or voltage I/O signals
- Source DC voltage to test voltage input devices
- Scaled mA output signal enables a logging DMM (289) to record 4-20 mA signal without breaking the loop
- mA in/out: simultaneously source a mA signal while measuring a mA signal with the clamp

	mA measure w/jaw	mA measure In circuit	mA source	mA sim	Loop power 24 V	DCV source 0-10 V	DCV measure 0-30 V	Scaled mA output to mA input	mA in/ out
771	•	-	-	-	-	-	-	-	-
772	•	•	•	•	•	-	-	-	-
773	•	•	•	٠	•	•	•	٠	•

Specifications	Function	Resolution and range	Accuracy	Notes
771, 772, 773	mā measurement	0 to 20.99 mA	0.2% + 5 counts	Measured by clamp
		21.0 mA to 100.0 mA	1% + 5 counts	-
772 and 773	mA measurement	0 to 24.00 mA	0.2% + 2 counts	Measured in series with test jacks
772 and 773	mA source	0 to 24.00 mA	0.2% + 2 counts	Maximum mA drive: 24 mA into 1,000 Ω
772 and 773	mA simulate	0 to 24.00 mA	0.2% + 2 counts	Maximum voltage 50 V DC
773	Voltage source	0 to 10.00 V DC	0.2% + 2 counts	2 mA maximum drive current
773	Voltage measure	0 to 30.00 V DC	0.2% + 2 counts	-

	771	772 773
Battery	Two 1.5 V, Alkaline, IEC LR6	Four 1.5 V, Alkaline, IEC LR6
Working hours	40 hours typical	12 hours @ 12 mA source into 500 ohms
Size (H×W×L)	59 mm × 38 mm × 212 mm	43.7 mm × 70 mm × 246.2 mm
Weight	260 g	410 g
Operating temperature		-10°C to 50°C
IP rating		IP 40

# **Recommended Accessories**



# Fluke 771, 772 and 773 mA Process Clamp Meters pay for themselves

- The more you use them the more money you save
- Measuring 4-20 mA signals (five) times without operator intervention can pay for the 771
- Saving a trip back to shop to get a loop calibrator can pay for the price difference of the 772
- Saving a trip back to the shop for a voltage test source can pay for the price difference of the 773



# **Included Accessories**

Fluke 771: Soft Carrying Case, User Manual.

Fluke 772/773: Four AA Alkaline Batteries (installed), Soft Carrying Case, TL75 Test Leads, AC 72 Detachable Clip, TL940 Mini-hook Test Leads, Instruction Sheet, Hanging Tool with Hook and Loop Strap.

### **Ordering Information**

FLUKE-771	Milliamp Process Clamp Meter
FLUKE-772	Milliamp Process Clamp Meter
FLUKE-773	Milliamp Process Clamp Meter

Contact your local distributor for price and availability. fluke.co/wtb



# Fluke 709, 709H and 710 **Precision Loop Calibrators**



Fluke 710





HART is a registered trade mark of the HART Communications Foundation

The Fluke 709 and 709H mA Loop Calibrators and 710 Valve Tester are designed to save time and produce high-quality results. These calibrators are built around a user friendly interface with a Quick-Set rotary encoder knob. This tool reduces the time it takes to measure, or source, current and power up a loop. The protective holster easily fits into a technician's hand and the large backlit display is easy to read, even in dark, cramped worked areas.

- · Best-in-class accuracy at 0.01% reading
- HART® Communication (709H, 710) communicate with and test HART smart instruments
- Compact rugged design
- Intuitive user interface with quick-set knob for fast setup, easy to use
- 24 V DC loop power with mA measure mode
- Resolution of 1 µA on mA ranges
- Built in selectable 250  $\Omega$  resistor for HART communications
- · Simple two wire connection for all measurements
- Valve test (source and simulate defined mA values with % kevs)
- Upload logged mA measurements and HART device data using the 709H with optional 709H/TRACK software
- Three year warranty

# HART<sup>®</sup> Communication

The Fluke 709H offers a built-in HART modem for communication capability to perform the following commands:

- · Read message, tag, descriptor and calibration date
- · Read sensor PV information and PV output information
- · Read long tag
- Write PV ranges (upper and lower)
- · Enter/exit fixed current mode and set zero offset
- Trim DAC zero (mA output 4 mA) and trim DAC gain (mA output 20 mA)

The Fluke 710 has key valve-testing functions include preconfigured valve signature test, speed test, step test, manual test and bump/partial stroke test. The instrument comes with ValveTrack<sup>™</sup> desktop software where you can upload valve test results, logged measurements and HART device configurations captured in the field.

Key Features	709	709H	710
mA measure (range and accuracy)	0-24 mA @ 0.01%	0-24 mA @ 0.01%	0-24 mA @ 0.01%
mA source/simulate	0-24 mA @ 0.01%	0-24 mA @ 0.01%	0-24 mA @ 0.01%
DCV measure	0-30 V @ .01%	0-30 V @ .01%	0-30 V @ .01%
DCV source			
24 V loop power	•	•	•
Auto step/ramp	•	•	•
Documenting and log data		Option	•
HART communication		•	•
Intrinsically safe			
Valve testing	Analog	Analog	Analog/HART
Non-contact clamp			

**Recommended Accessories** 



**709H TRACK** Software/Cable HART® Communication See page 182



C195

Case See page 170

TP220 strial Test Probes See page 158







See page 161

See page 161

# TL220 SureGrip™ Industrial Test Lead Set

Process Calibration Tools – Loop Calibration

# **Included Accessories**

709: AC175 Alligator Clip Set, TL75 Test Leads, Soft Case, Six AAA Batteries (installed), Product Manual (CD), Quick Reference Guide, Safety Information. 709H: 754-8016 Alligator Clip Set, 75X-8014 Stackable Lead Set, TP220-4201 Test Probes, AC280-5001 SureGrip Hook Clips, Soft Case, Six AAA

Batteries (installed), Product Manual (CD), Quick Reference Guide, Safety Information.

710: Stackable Test Lead Set, **Extended Tooth Alligator Clip** Set, TP220 Test Probes, AC280 SureGrip<sup>™</sup> Hook Clips, Lemo to USB Cable ValveTrack™ Software (free download). Softcase, Six AAA batteries (installed).

### **Ordering Information**

FLUKE-709	Precision Loop Calibrator
FLUKE- 709H	Precision Loop Calibrator with HART®
FLUKE- 709H/ TRACK	HART® Data-Logging Communications Software
ELUVE 710	Value Tester

FLUKE-710 Valve Tester

Contact your local distributor for price and availability. fluke.co/wtb

fluke.co/calibration

# Fluke 715, 707, and 705 Loop Calibrators

**Complete family of Volt/mA calibrators** 



Fluke 705



Fluke 707

# Fluke 715 Volt/mA Calibrator

- · Source voltage to 200 mV or 20 V
- Measure loop current (0 to 20 mA, 4-20 mA) signals • with 0.01% accuracy and 1  $\mu A$  resolution
- Measure voltage output process signals from PLCs, transmitters
- Source or simulate 4-20 mA loop current
- 24 V loop supply with simultaneous current measurement
- Ramp and Step Ramp output functions
- Three year warranty

# Fluke 707 and 705

- · Innovative output adjustment dial on 707 provides 1  $\mu\text{A}$  and 100  $\mu\text{A}$  resolution and one-hand operation
- Large display and simple interface for ease of use
- · Simultaneous mA and% readout for quick, easy interpretation of readings
- mA accuracy of 0.015% on the • Fluke 707 and 0.02% on the 705
- HART mode on 707 connects 250 ohm resistor in series with 24 V loop for compatibility with HART® communicators
- Push button 25% steps for fast, easy linearity checks
- "Span Check" for fast confirmation of zero and span
- · Selectable slow and fast linear step ramp provide ramping outputs for valve slewing, remote testing and loop functional tests
- 24 V internal loop supply, so you can power and read a transmitter at the same time without carrying a DMM

715

- 0 to 20 mA or 4-20 mA default start up modes
- Three year warranty

705/707 Voltage measurement 0 V to 28 V 0 mV to 200 mV / 0 V to 25 V Range Resolution 1 mV 10 µV / 1 mV 705: 0.025% Rdg + 1 LSD 0.01% Rdg + 2 LSD Accuracy 707: 0.015% Rdg + 2 LSD **Current measurement** 0 mA to 24 mA 0 mA to 24 mA Range Resolution 0.001 mA 0.001 mA 705: 0.02% Rdg + 2 LSD 0.01% + 2 LSD Accuracy 707: 0.015% Rdg + 2 LSD **Current sourcing** Range 0 mA to 20 mA or 4 mA to 20 mA 0 mA to 20 mA or 4 mA to 20 mA 705: 0.025% Rdg + 2 LSD 707: 0.015% Rdg + 2 LSD 0.01% Rdg + 2 LSD Accuracy 705: 1000 Ω @ 24 mA Drive capability 1000 Ω @ 24 mA 707: 1200 Ω @ 24 mA Loop power while 24 V measuring mA Voltage sourcing 0 mV to 200 mV or 0 V to 20 V Display current and% of mA or% Yes span Auto step, auto ramp Yes Span Check Yes Battery life 18 hours typical, at 12 mA





# **Included Accessories**

Fluke 705/707: Test Leads, AC175 Alligator Clips, Single 9V Alkaline Battery, Instruction Sheet. Fluke 715: Yellow Holster (H80M excl. TPAK), Test Leads and AC175 Alligator Clips, Single 9V Alkaline Battery, Instruction Sheet.

# **Ordering Information**

FLUKE-705	Loop Calibrator
FLUKE-707	Loop Calibrator
FLUKE-715	Volt/mA Calibrator

Contact your local distributor for price and availability. fluke.co/wtb

### **Loop Calibration**

# **Recommended Accessories**



# 

Process Calibration Tools

**Electrical and Multifunction Calibration** 

# Fluke 725 and 726 Multifunction **Process Calibrators**



# **More calibration power!**

- Two separate channels; measure, source and view process signals simultaneously
- Measure volts, mA, RTDs, thermocouples, frequency, and resistance to test sensors and transmitters
- Source/simulate volts. mA. thermocouples. RTDs. frequency, and pressure to calibrate transmitters
- Measure or source pressure using any of 50 Fluke 750Pxx Pressure Modules
- Source mA with simultaneous pressure measurement to conduct valve and I/P tests
- Perform fast linearity tests with auto step and auto ramp
- Power transmitters during test using 24 V loop supply and simultaneous mA measurement
- Store frequently-used test setups for later use
- Three year warranty

# 726 additional features:

- More precise measurement and calibration source
- performance, accuracies of 0.01%
- Transmitter error% calculation
- · Memory storage for up to 8 calibration results
- Frequency totaliser and frequency pulse train source mode
- HART mode inserts 250 ohm resistor in mA measure and source for compatibility with HART instrumentation
- · Integrated pressure switch test
- · Custom RTD curves, add calibration constants for certified RTD probes for enhanced temperature measurement

<b>Function or Source</b>	Range or Type	Resolution	Accu	racy	No	tes
Voltage	0 to 100 mV 725: 0 to 10V (source) <b>0 to 20V (source)</b> 725/726: 0 to 30V (measure)	0.01 mV 0.001 V 0.001 V 0.001 V		<b>.01%</b> .02% Rdg + LSD		x load, 1 mA
mĂ	0 to 24	0.001 mA		01%; 0.02% g +2 LSD		x load, 5/726: 1000Ω
mV (TC terminals)	-10.00 mV to +75.00 mV	0.01 mV	0.01 0.025 range			
Ohms	15Ω to 3200Ω 5Ω to 4000Ω	0.01Ω to 0.1Ω	0.100	Ω to 1.0Ω 5%		
Hz - CPM	2.0 to 1000 CPM 1 to 1000 Hz 1.0 to 10.0 kHz <b>10.0 to 15.0 kHz</b>	0.1 CPM 1 Hz 0.1 kHz <b>0.1 kHz</b>	±0.0 ±0.0 ±0.2 ±0.2	5% 5%	5V 1V squ	irce; p-p <b>- 20 V p-p</b> arewave, 1 V offset
Loop Supply	725/726: 24 V DC	N/A	10%			
T/C	J, K, T, E, L, N, U, XK	0.1°C	to 0.7			
T/C	B, R, S, BP	1°C	to 1.7 to 1.2			
RTDs	<b>Cu (10)</b> , Ni 120 (672) Pt 100, 200, 500, 1000 (385) Pt 100 (3916),	0.01°C	to 0.			
<b>AT</b>	Pt 100 (3926)	0.1℃	to 0.2	Channel	-	Channel B
Simultaneous func	tion capability			M	A	M or S
24.000 mA DC 24.000 mA DC with 24 V loop supply		M		101 IVI		
100.00 mV DC		111		M or S		
30.000 V DC measure M -			_			
	re; 10.000 V DC source; <b>20.00</b>	0 V DC source		-		M or S

15 to 3200 Ohms (725); 5 to 4000 Ω (726) M or S \_ Thermocouple J, K, T, E, R, S, B, M, L, U, N, XK, BP M or S RTD Cu 10, Ni120; Pt100 (392); Pt100 (JIS); Pt100, 200, 500, 1000 M or S (385), XK and BP Pressure (requires Fluke 750PXX Modules) М M used as S Frequency; 10 kHz; (15 kHz) M or S M = Measure, S = Source/Simulate

Unique 726 features are in bold

### fluke.co/calibration

# **Recommended Accessories**



**TL220** SureGrip™ Industrial Test Lead Set See page 161 Soft Case See page 170

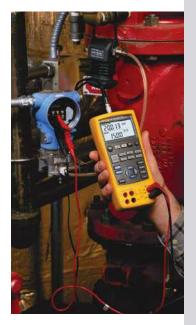


700PRV Pressure Relief Valve Kit See page 180





**750PXX** Pressure Module See page 131



# **Included Accessories**

TL75 Test Lead Set (TL75), AC70A Test Clip Set (725), AC72 Test Clip Set (726), Stackable Test Lead Set, Four AA Batteries, Replacement Fuse (725), User Manual on CD, NIST Traceable Calibration Certificate.

# **Ordering Information**

FLUKE-725 Multifunction Process Calibrator

FLUKE-726 Precision **Multifunction** Process Calibrator

Contact your local distributor for price and availability. fluke.co/wtb

# Fluke 750 Series Documenting **Process Calibrators**



Fluke 754



HART is a registered trade mark of the HART Communications Foundation

- Whether you're calibrating instruments, troubleshooting a problem or running routine maintenance, Fluke's 753 and 754 Series Process Calibrators can help you get the job done faster. They do so many different tasks, so quickly and so well and they are the only process calibrators you need to carry.
- Measure volts, mA, RTDs, thermocouples, frequency, and ohms to test sensors, transmitters etc
- · Source/simulate volts, mA, thermocouples, RTDs, frequency, ohms, and pressure to calibrate transmitters
- Power transmitters during test using loop supply with simultaneous mA measurement
- Measure/source pressure using any of Fluke's 50 Pressure Modules
- · Measure and source simultaneously with one compact, rugged, reliable tool
- Create and run automated as-found/as-left procedures to satisfy quality programs or regulations and record and document results.
- Advanced features like autostep, custom units, user entered values during test, one-point and two-point switch testing, square root DP flow testing, programmable measurement delay and more
- Control the temperature of selected HART<sup>®</sup> Scientific Dry Blocks
- Handle fast pulsed RTD transmitters and PLCs in RTD source mode with 1 ms response time
- Three year warranty

# Fluke 753: A complete Documenting Calibrator

The Fluke 753 is a complete multifunction documenting calibrator and includes a PC interface that lets you load procedures, lists and instructions created with softwareor unload data for printing, archiving, and analysis. The 753 can hold a full week of calibrations and procedures.

# Fluke 754: Get HART-ability™

The Fluke 754 offers all of the capabilities of the 753, plus the ability to calibrate, maintain and troubleshoot HART instrumentation. Integrated HART communication functions permit you to monitor, control and calibrate HART instrumentation. It handles fast pulsed instruments such as RTD transmitters and PLCs responding to pulses within 1 ms.

# **Instrumentation Management Software**

The Fluke 753 and 754 are compatible with Fluke 750SW DPC/TRACK2 software and with software from Cornerstone, Emerson, Honeywell, On Time Support, Prime Technologies, Yokogowa, Intools, Meridium and Beamex.

For more information, visit www.fluke.com.au

Functions	Measure	Sourcing
DC voltage	0.020% reading + 0.005% full scale	0.01% output + 0.005% full scale
DC current	0.01% reading + 5 μA	0.01% output + 0.003 mA
Resistance	0.05% reading + 50 mΩ	0.01% output + 240 mΩ
Frequency	0 to 50 kHz, ±0.5 Hz to 1100 Hz	0 to 50 kHz, ±0.1 Hz to 1099.9 Hz
Thermocouples	0.3°C	0.2°C
RTDs	0.3°C	0.1°C
Pressure	To 0.025% of full scale, per pressure mod	lule specifications

General Specifications	
Battery life	Typically over eight hours
Internal battery pack	Li ion 4400 mAh
Battery replacement	Via twist lock fastener without opening calibrator; no tools required
Weight	1.2 kg
Size (HxWxD)	245 mm × 136 mm × 63 mm
RTDs	0.3°C
Pressure	To 0.025% of full scale, per pressure module specifications

### **Recommended Accessories**

**750PXX** Pres sure Modules See page 131

and a



750SW

DPC/TRACK2 Software

700PTP-1 Pneumatic Test Pu See page 180 ump







700HTP-2 Hydraulic Test Pump See page 180

**754HCC** Smart Instrument Communication Cable

### **Bundle Package**



### Fluke 754/750SW 754DPC and **750SW DPCTRACK2 Bundle** Package

Purchase the Fluke 754 with the Fluke DPC/TRACK2<sup>™</sup> software at a special bundle package price.

For more information, go to

fluke.com/au/754

### **Included Accessories**

Stackable Test Leads (3 sets), TP220 Test Probes (3 sets) with extended Tooth Alligator Clips (3 sets), AC280 Hook Clips (2 sets), BP7240 Li-ion Battery Pack, BC7240 Battery Charger, C799 Field Soft Case, USB Communication Cable, Getting Started Guide, Instruction Manual on CDROM, NIST Traceable Certificate of Calibration, DPCTrack<sup>™</sup> 2 Sample Software that enables upload and printing of calibration records, 754 HHC HART<sup>®</sup> Communication Cable (754 only).

### **Ordering Information**

FLUKE-753	Documenting Process Calibrator
FLUKE-754	Documenting Process Calibrator HART®
FLUKE-754/ 750SW	754DPC and 750SW DPCTRACK2 Bundle Package
FLUKE-750SW	DPC/TRACK2 Software

# Fluke 154 HART<sup>®</sup> Calibration Assistant





Fluke 154



# HART<sup>®</sup> Calibration assistance at your fingertips. Combine with a Fluke Calibrator for a total HART Calibration Solution.

The 154 puts HART device configuration at your fingertips. An Android<sup>™</sup> based tablet user interface makes HART configuration easy. The external wireless modem allows you to connect the modem to the transmitter being tested so you can communicate to the device remotely. HART transmitters can often be found in confined spaces that are difficult to access, or are out of reach. The Fluke 154 helps reduce the need to stand right next to the device being tested or configured so you can work from a safer, more convenient location.

When you combine the Fluke 154 Communicator with a Fluke 750 Series Documenting Process Calibrator, or a Fluke 720 Series Multifunction Process Calibrator you have a complete HART calibration and configuration solution.

- Full HART Device Description (DD) support of all HART devices
- Configure HART devices
- Perform HART trim on HART devices when used with a Fluke 750 or 720 Series Calibrator
- Monitor device PV, SV, TV, QV and other measured HART variables
- Quarterly HART DD updates for free
- Convenient wireless connectivity to HART modem
- Easy to use, fast connect and view HART data
- Store HART device configurations
- Long range wireless communication up to 76.2 metres
- Three year warranty

Tablet	
Operating System	Android 5.0 or newer
Processor	ARM or Atom
Memory RAM	1 GB
Memory ROM	2 GB
Screen	960 × 540 qHD
Communication Port	Bluetooth
HART <sup>®</sup> Modem	
Enclosure	
Dimensions (LxWxH)	10.16 cm × 2.5 cm × 6.9 cm
Total Unit Weight	0.16 kg
HART Cable Length	1.2 m
HART Cable Connectors	Mini-Grabber
HART <sup>*</sup> Interface	
HART* Interface Interface	Capacitive coupling
	Capacitive coupling 600 mVpp
Interface	
Interface Output	600 mVpp
Interface Output Leakage	600 mVpp < 10 uA
Interface Output Leakage Connections	600 mVpp < 10 uA Across loop resistor or HART field device
Interface Output Leakage Connections Specifications	600 mVpp < 10 uA Across loop resistor or HART field device HART 4, HART 5, HART 6, HART 7
Interface Output Leakage Connections Specifications HART Physical Layer Spec	600 mVpp < 10 uA Across loop resistor or HART field device HART 4, HART 5, HART 6, HART 7 HCF_SPEC-54
Interface Output Leakage Connections Specifications HART Physical Layer Spec Specification	600 mVpp < 10 uA Across loop resistor or HART field device HART 4, HART 5, HART 6, HART 7 HCF_SPEC-54 Bluetooth v2.0
Interface Output Leakage Connections Specifications HART Physical Layer Spec Specification Frequency	600 mVpp < 10 uA Across loop resistor or HART field device HART 4, HART 5, HART 6, HART 7 HCF_SPEC-54 Bluetooth v2.0 2.4 GHz
Interface Output Leakage Connections Specifications HART Physical Layer Spec Specification Frequency Class 1 Master Distance	600 mVpp < 10 uA Across loop resistor or HART field device HART 4, HART 5, HART 6, HART 7 HCF_SPEC-54 Bluetooth v2.0 2.4 GHz 275 ft (83.8 m)



**Included Accessories** 

Tablet Charger and USB, Micro-cable, Fluke HART\* App (installed), HART Modem, USB Mini-Cable, Hook Test Clips, Alligator Clips, Magnetic Hanging Strap, Case, Manual installed on Tablet.

### **Ordering Information**

Fluke 154 HART Calibration Assistant

Contact your local distributor for price and availability. fluke.co/wtb

# Fluke 712B, 714B and 724 **Temperature Calibrators**



# **Accuracy and simplicity**

The Fluke 712B and 714B are designed for both simplicity, ease of use and high accuracy. They are a powerful combination of temperature and loop calibration.

### Fluke 714B Thermocouple Calibrator

- Measure and simulate 17 different thermocouple types and millivolts
- Measure 4-20 mA signals while simultaneously sourcing a temperature signal
- · Hanging tool designed in and included with every unit
- Configurable 0% and 100% source settings for quick 25% linearity checks
- Linear ramp and 25% step auto ramp based on 0% and 100% settings
- · Dual inputs and backlit display for easy interpretation of measurements
- Power down settings remembered at power up for easy restart of tests
- · 1 and 2 year specifications and traceable certificate of calibration
- Three year warranty

## Fluke 712B RTD Calibrator

- · Measure and simulate 13 different RTD types and resistance
- Measure 4-20 mA signals while simultaneously sourcing a temperature signal
- Configurable 0% and 100% source settings for quick 25%linearity checks
- Linear ramp and 25% step auto ramp based on 0% and 100% settings
- · Dual inputs and backlit display for easy interpretation of measurements
- · 1-year and 2-year specifications and traceable certificate of calibration
- Three year warranty

General Specifications	712B	714B		
Operating Temperature	-10°C to 50°C			
Operating Altitude	2,000 metres			
Relative Humidity (% RH operating without condensation)	Non condensing 90% (10°C to 30°C), 75% (30°C to 40°C), 45% (40°C to 50°C) (Without condensation)			
Vibration Requirements	MIL-T-28800E, Class 2			
Drop Text Requirements	1 metre			
IP Rating	IEC 60529: IP52			
Safety	IEC 61010-1, Max 30 V to earth, Pollut	ion Degree 2		
Power Supply	4 AA NEDA 15A IEC LR6 batte	ries		
DC mA Measurement				
Resolution	0-24 mA			
Range	0.001 mA			
Accuracy (% of reading + counts)	0.010% + 2 μA	0.010% + 2 µÅ		
Ohms Measurement				
Ohms range	0.00 Ω to 400.00 Ω, 400.0 Ω to 4000.0 Ω			
Accuracy (% of reading +counts)	0.015% + 0.05 Ω, 0.015% + 0.5 Ω			
Ohms Source				
Ohms Range	1.0 Ω to 400.0 Ω, 1.00 Ω to 400.00 Ω, 400.0 Ω to 1500.0 Ω, 1500.0 Ω to 4000.0 Ω			
Accuracy (% of reading + counts)	0.015% + 0.1 Ω, 0.015% + 0.05 Ω, 0.015% + 0.5 Ω, 0.015% + 0.5 Ω			
Resolution				
0.00 Ω to 400.00 Ω	0.01 Ω			
400.0 Ω to 4000.0 Ω Millivolt Measurement & Source	0.1 Ω			
Resolution		-10 mV to 75 mV		
Range		0.01 mV		
Accuracy (% of reading +counts)		0.015% + 10 mA		

**Specialty Model** 

 Easy to read dual display allows for

input and output

Fluke 724 Temperature Calibrator



- simultaneous view Source/measure TCs, RTDs, volts and ohms
- Measure mA while supplying loop power
- 25% and 100% stepping, auto-step and auto ramp

### **Recommended Accessories**







### Fluke 712/724





TL175 TwistGuard™ Test Leads See page 158





80PK-3A



Surface Probe See page 163



Meter Hard Case See page 170



### **Included Accessories**

Fluke 714B/712B: Magnetic Hanging Tool, Batteries, Manual, Traceable Calibration Certificate and Test Leads. Fluke 724: TL75 Test Leads, AC175 Test Clips, Stackable Test Leads (1 pair), Spare Fuse and User Manual.

# **Ordering Information**

FLUKE-714B	Thermocouple Temperature Calibrator
FLUKE-712B	RTD Calibrator
FLUKE-724	Temperature Calibrator

300.0 °C 20.002 -------

Fluke 712B

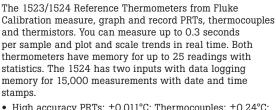
# **Temperature Calibration**



# Fluke Calibration 1523 and 1524 Reference Thermometers



Fluke 1523



- High accuracy PRTs: ±0.011°C; Thermocouples: ±0.24°C; Thermistors: ±0.002°C
- A simple user interface to see trends quickly
- Smart connectors to load probe information automatically
  Use a PC and optional LogWare II software to monitor and log more data over time
- One year warranty

Models	Included accessories
	Fluke 1523 Bundled with:
1523-P2	5628 PRT (–200°C to 660°C, 25 ohm (1/4 $\times$ 12 inch)), Universal TC INFO-CON Connector, TPAK and Case
1523-P3	5627A PRT (-200°C to 420°C, 100 ohm (1/4 $\times$ 12 inch)), Universal TC INFO-CON Connector, TPAK and Case
1523-P4	5615 PRT (–200°C to 420°C, 100 ohm (1/4 $\times$ 12 inch)), Universal TC INFO-CON Connector, TPAK and Case
	Fluke 1524 Bundled with:
1524-P2	5628 PRT, Universal TC INFO-CON Connector, TPAK and Case
1524-P3	5627A PRT, Universal TC INFO-CON Connector, TPAK and Case
1524-P4	5615 PRT, Universal TC INFO-CON Connector, TPAK and Case

# Fluke Calibration 1551AEx and 1552AEx Stik Thermometer Readouts



# Best substitute for precision mercury-filled glass thermometers

The Fluke 1551A and 1552A Stik Thermometers are an accurate and repeatable substitute to mercury-in-glass thermometers. Whether working outdoors in environments where potentially explosive gases may be present or on the floor of a processing plant, these intrinsically-safe, battery operated, portable reference thermometers are designed to go where you work.

- User-configurable temperature Trend/Stability indicator
- Optional data logging to internal memory
- 300-hour battery life
- NVLAP-accredited, NIST-traceable calibration included
- Accuracy of ±0.05°C (±0.09°F) over full range
- $\bullet\,$  Intrinsically safe (ATEX and IECEx compliant) Ex ib IIB T4  $\,$  Gb  $\,$
- Two models to choose from (-50°C to 160°C or -80°C to 300°C)
- One year warranty

### Models

1551A-9*	1551A Ex Thermometer, Fixed RTD, -50°C to 160°C, 4.8 mm $\times$ 229 mm
1551A-12*	1551A Ex Thermometer, Fixed RTD, -50°C to 160°C, 6.35 mm × 305 mm
1551A-20*	1551A Ex Thermometer, Fixed RTD, -50°C to 160°C, 6.35 mm × 508 mm
1552A-12*	Thermometer, Fixed PRT, -80°C to 300°C, 6.35 mm × 305 mm

\*Datalogging option models also available as -DL



Process Calibration Tools — Temperature Calibration

thermocouple readouts, pressure gauges, temperature transmitters, digital process simulators, data loggers, multimeters and more.

- Sources and measures DC voltage, current, resistance, RTDs and thermocouples
- Precision pressure measurement using Fluke 750P Series Pressure Modules
- Measures 4-20 mA loop current
- Includes certificate of calibration traceable to national standards
- Thermocouple output/input: -10 mV to 75 mV ±(30 ppm of reading +2 μV)
- Transmitter output: 0 mA to 24 mA (input with loop power) ±(100 ppm +1 μA)
- Resistance output: 5  $\Omega$  to 400  $\Omega$  ±0.015  $\Omega$

Contact your local distributor for price and availability. au.flukecal.com/where-to-buy

# Fluke Calibration 9100S and 9102S Handheld Dry-Well Temperature Calibrators



Fluke 9102S



Fluke 9100S

The Fluke Calibration 9100S and 9102S are the world's smallest, lightest and most portable dry-wells. With an easy-to-use interface and temperature range to  $375^{\circ}$ C the 9100S is ideal for checking RTDs, thermocouple, and small bimetal thermometers in the field. For work in the temperature range of  $-10^{\circ}$ C to 122°C the 9102S is ideal for dial gauges, digital thermometers, bulb switches, and other sensors that need calibration below ambient.

# 9102S Handheld Dry-Well

- Smallest dry-wells in the world
- Interchangeable and customisable inserts available
- Ranges from -10°C to 122°C
- Accuracy to ±0.25°C
- Stability of ±0.05°C at 0°C
- One year warranty

# 9100S Handheld Dry-Well

- High performance, convenience and easy-to-use
- Ranges from 35°C to 375°C
- Accuracy: ±0.25°C at 50°C; ±0.25°C at 100°C; ±0.5°C at 375°C
- NIST traceable calibration
- One year warranty

# Fluke Calibration 1586A Data Acquisition Systems



Fluke 1586A

# 1586A Super DAQ Precision Temperature Scanner

The 1586A Super DAQ automates calibration when connected to a Fluke Calibration temperature source. It is a powerful thermometer readout and the most accurate and flexible temperature data acquisition system on the market.

- Measure thermocouples, PRTs, thermistors, DC voltage, DC current, and resistance
- Best-in-class temperature measurement accuracy
- Fluke DAQ 6.0 software incl. to visualise & handle data
- PRTs: ±0.005°C
- Thermocouples: ±0.3°C (Type K,T,J w/ internal CJC)
- Thermistors: ±0.002°C
- One year warranty

Optional: ISO I7025 Accredited Calibration available for 1586A models (add "/C" to the below model number).

Recommended Accessories



9300 Rugged Carrying Case (9100S)

1586-CASE Carrying Case (1586A Super DAQ)



# **Ordering Information**

9100S-A- 256	HDRC Handheld Dry- Well, Block A, Hight- Temp
9100S-В- 256	HDRC Handheld Dry- Well, Block B, High-Temp
9100S-C- 256	HDRC Handheld Dry- Well, Block C, High-Temp
9100S-D- 256	HDRC Handheld Dry- Well, Block D, High-Temp
9102S-256	HDRC Handheld Dry- Well, Low-Temp
1586A	Super-DAQ Precision Temperature Scanner
1586A/1DS	Super-DAQ Precision Temperature Scanner, 1 DAQ-STAQ Multiplexer
1586A/2DS	Super-DAQ Precision Temperature Scanner, 2 DAQ-STAQ Multiplexers
1586A/DS -HC	Super-DAQ Precision Temperature Scanner, 1 High-Capacity Module, 1 DAQ-STAQ Multiplexer
1586A/1HC	Super–DAQ Precision Temperature Scanner, 1 High–Capacity Module
1586A/2HC	Super-DAQ Precision Temperature Scanner, 2 High-Capacity Modules

Contact your local distributor for price and availability. au.flukecal.com/where-to-buy



**Recommended Accessories** 

9142-CASE

Carrying Case (914X)

9316

Rugged Carrying Case

HART DRYWELL

CABLE 754/Dry-Well/ Microbath Interface

Cable Fluke 9308/9316

9308

Carrying Case

the entire loop.

**Complete Solution** 

Field Metrology Well

By combining the automating

and documenting capabilities of the Fluke 754 Documenting Process Calibrator (see page 108) with Fluke Calibration's intelligent and stable family of field drywells and micro-baths, you have the capability to test

This combination of equipment allows you to easily verify the characteristics of the temperature sensor and measurement electronics. Using this information, the entire loop can be adjusted to optimise system

Fluke 754 with 914X Series

# Fluke Calibration 9142, 9143 and 9144 **Field Metrology Wells**



Fluke 9144

# Field temperature calibration with precision and speed

Whether you need to calibrate 4-20 mA transmitters or a simple thermostatic switch, a Fluke Calibration Field Metrology Well is the right tool for the job. With three models covering the range of -25°C to 660°C, this family of Metrology Wells calibrates a wide range of sensor types. The optional process version (models 914X-X-P) provides a built-in two-channel thermometer readout that measures PRTs, RTDs, thermocouples, and 4-20 mA transmitters which includes the 24 V loop supply to power the transmitter.

- Lightweight, portable, and fast
- 9142 -25°C to 150°C ±0.2°C
- 9143 33°C to 350°C ±0.2°C
- 9144 50°C to 660°C ±0.35°C to 420°C ±0.5°C at 660°C
- Cool to -25°C in 15 minutes and heat to 660°C in 15 minutes
- · Built-in two-channel readout for PRT, RTD, thermocouple, 4-20 mA current
- True reference thermometry with accuracy to ±0.01°C
- Automate calibration with the Fluke 754 or Fluke 1586A or use on-board automation with process version
- One year warranty

Models			l number to be replaced with A, B, C, opropriate for the desired insert.
9142-X	Field Metrology Well, -25°C to 150°C	9142-INSA	Insert A, 9142, misc holes
9142-X-P	Field Metrology Well, -25°C to 150°C,	9142-INSB	Insert B, 9142, comp holes
9142-A-P proce	process version	9142-INSC	Insert C, 9142, 6 × 0.25 in holes
9143-X	Field Metrology Well, 33°C to 350°C	9143-INSA	Insert A, 9143, misc holes
9143-X-P	Field Metrology Well, 33°C to 350°C,	9143-INSB	Insert B, 9143, comp holes
9143-A-F	process version	9143-INSC	Insert C, 9143, 6 × 0.25 in holes
9144-X	Field Metrology Well, 50°C to 660°C	9144-INSA	Insert A, 9144, misc holes
9144-X-P	Field Metrology Well, 50°C to 660°C,	9144-INSB	Insert B, 9144, comp holes
	process version	9144-INSC	Insert C, 9144, 6 × 0.25 in holes

# Fluke Calibration 9103 and 9140 **Field Dry-Well Calibrators**



Fluke Calibration's 9103 and 9140 Field Dry-Well Calibrators beat every other comparable dry-well in the industry in performance, size, weight, convenience, ease of calibration, software, and price. In addition, the heating and cooling rate of each of these dry-wells is adjustable from the front panel, thermal switches can be checked for actuation testing, and multiple-hole inserts are available for a variety of probe sizes.

- · Lightweight and very portable
- Two models ranging from -25°C to 350°C
- Accuracy to ±0.25°C
- RS-232 and Interface-it software included

Fluke 9140

Models

Stability to ±0.02°C

- · Easy to recalibrate
- One year warranty

# Specify X, X = A, B, C, or D included insert

9103-X Field Dry-Well Calibrator, -25°C to 140°C	Insert A:	1/16" (1.6 mm), 1/8" (3.2 mm),
9140-X Field Dry-Well Calibrator, 35°C to 350°C		3/16" (4.8 mm), 1/4" (6.35 mm),
		3/8" (9.5 mm) & 1/2" (12.7 mm)
	Insert B:	2 at 3/16" (4.8 mm), 2 at 1/4" (6.35 mm) & 2 at 3/8" (9.5 mm)
	Insert C:	6 at 1/4" (6.35 mm)
	Insert D:	2 at 3 mm, 2 at 4 mm & 2 at 6 mm



Process Calibration Tools — **Temperature Calibration** 



# Fluke Calibration 6109A/7109A **Portable Calibration Baths**



Fluke 6109A

# Four times more calibration throughput with twice the accuracy of Micro-Baths and dryblock calibrators

The Fluke Calibration 6109A and 7109A Portable Calibration Baths let process industry professionals calibrate four times more sanitary sensors per batch in less time and with twice the accuracy of other baths in this class. Up to four tri-clamp sanitary sensors fit easily into these baths for calibration at ±0.1°C temperature display accuracy. Throughput is even higher for sanitary RTDs with small or no flanges.

- Calibrate up to four tri-clamp sanitary sensors at the same time
- Wide temperature ranges cover most process applications - 6109A: 35°C to 250°C
  - 7109A: -25°C to 140°C
- Excellent display accuracy of  $\pm 0.1^{\circ}$ C provides 4:1 test uncertainty ratio (TUR) for critical applications
- One year warranty

	6109A	7109A
Range (at 25°C ambient tempurature)	35°C to 250°C	-25°C to 140°C (-15°C cover off)
Accuracy (MAX possible error)	0.1°C	0.1°C
Display resolution	0.01, 0.001	.0.1 , 0.001°C
Stability	0.015°C	0.01°C
Typical uniformity	0.03°C up to 200°C 0.04°C above 200°C	0.02°C

# Fluke Calibration 1502A/1504 **Tweener Thermometer Readouts**



Fluke 1502A

# Best performance thermometers in their price range

The 1502A and 1504 Tweener Thermometer Readouts are low-cost high-accuracy digital thermometers featuring accuracy of up to ±0.006°C (Fluke 1502A) and up to ±0.002°C (Fluke 1504).

The 1502A is designed to be used with 25  $\Omega$  and 100  $\Omega$ RTDs and SPRTs.

The 1504 Thermometer Readout is designed to be used with thermistors or RTDs with a nominal resistance of 1,000  $\Omega$  or greater.

One year warranty.

# Fluke Calibration 1620A **Precision Thermo-Hygrometer**



Fluke 1620A



# The most accurate temperature and humidity graphical data loggers on the market

Now you can easily monitor and record conditions throughout your entire facility with the DewK's new Ethernet and wireless capabilities, and set your upgraded LogWare III software to notify you immediately of changing conditions.

The 1620A accepts inputs from up to two sensors, which may be mounted directly on the unit or remotely. Each sensor comes with a NVLAP-accredited calibration for temperature and relative humidity from Fluke Calibration, containing its own NIST-traceable calibration data. The 1620A-S reads temperature to ±0.25°C over its calibrated range of 15°C to 35°C. Relative humidity readings are to ±2% RH from 20% RH to 70% RH.

One year warranty.



# **Ordering Information**

6109A	Portable Calibration Bath, 35°C to 250°C
6109A-P	Portable Calibration Bath with Process Electronics, 35°C to 250°C
7109A	Portable Calibration Bath, -25°C to 140°C
7109A-P	Portable Calibration Bath with Process Electronics, -25°C to 140°C
1502A	Tweener PRT Readout
1502A- 2506	Tweener PRT Readout, with IEEE-488
1504	Tweener Thermistor Readout
1504-2506	Tweener Thermistor Readout, with IEEE-488
1620А-Н	The "DewK" Thermo-Hygrometer, High-Accuracy Value Kit
1621А-Н	The "DewK" Thermo-Hygrometer, High-Accuracy Value Kit
1620A-S	The "DewK" Thermo-Hygrometer, Standard-Accuracy Value Kit
1621A-S	The "DewK" Thermo-Hygrometer, Standard-Accuracy Value Kit
9936A	LogWare III Software

Contact your local distributor for price and availability. au.flukecal.com/where-to-buy

# Fluke Calibration 9132/9133 Portable Infrared Calibrator

# Precision when you need it for infrared temperature calibration

Whether you're using in-line or handheld infrared pyrometers, you need good calibration standards to verify their accuracy. Our portable IR calibrators provide stable blackbody targets for calibrating non-contact IR thermometers from -30°C to 500°C.

These units feature a temperature controlled measurement surface with a diameter of 57 mm. The target temperature can be controlled in set-point increments of 0.1° from -30°C to 500°C and a well is located directly behind the blackbody surface for contact calibration.

- Certify IR pyrometers from -30°C to 500°C
- Large 57 mm blackbody target
- RTD reference well for contact temperature measurement
- Small, compact design
- One year warranty



Fluke 9132

Fluke 9133

General Specifications	9132	9133
Temperature Range	50°C to 500°C	–30°C to 150°C at 23°C ambient
Accuracy	±0.5°C at 100°C ±0.8°C at 500°C	±0.4°C
Target Size	57 mm	57 mm
Target Emissivity	0.95 (±0.02 from 8 to 14 mm)	0.95 (±0.02 from 8 to 14 mm)
Heating Time	30 minutes (50°C to 500°C)	15 minutes (25°C to 150°C)
Cooling Time	30 minutes (500°C to 100°C)	15 minutes (25°C to –20°C)

# Fluke Calibration 4180/4181 Precision Infrared Calibrators



Fluke 4180

# Accredited performance for point and shoot calibrations

Now it's easy to increase your IR temperature measurement accuracy with the 4180 and 4181 Precision Infrared Calibrators. These infrared temperature calibrators give more consistent, accurate and reliable calibrations because emissivity is radiometrically calibrated, and the target size minimises size of source effect errors. In addition, these infrared calibrators simplify calibration because they uniquely compensate for errors caused by thermometer emissivity settings.

- · Calibrated radiometrically for meaningful, consistent results
- Accurate, reliable performance from -15°C to 500°C
- · Large target size of 152 mm is required for calibrating most thermometers
- · Accredited radiometric calibration report
- One year warranty

# **Ordering Information**

9312-250	50°C to 500°C
9133-256	Portable IR Calibrator -30°C to 150°C
4180	Precision Infrared Calibrator, –15°C to 120°C
4181	Precision Infrared Calibrator, 35°C to

Contact your local distributor for price and availability. au.flukecal.com/where-to-buy

**Recommended Accessories** 



9308 Carrying Case 9302 Carrying Case



4180-CASE

Carrying Case (4180 or 4181)











# Fluke 750P and 750PEx Series **Pressure Modules**



# **Precision pressure measurement for Fluke 750 and 720 Series Calibrators**

The Fluke 750P Series Pressure Modules are the ideal pressure modules to enable gage, differential and absolute pressure measurement with Fluke 750 and 740 Series DPCs and 725, 726 MPCs to measure pressure. Covers pressure calibrations from 0 to 1 in H20 to 10000 psi (2.5 mBar to 690 bar).

- 0.025% reference uncertainty
- 6-month and 1-year specifications
- Intrinsically safe models are Class I Div 1 Groups A-D T4, Ta =  $-10^{\circ}$ C to  $+50^{\circ}$ C, ATEX II 1G Ex ia IIC T4 compliant
- Three year warranty

Model	Parameter/Range	Burst Rating <sup>6</sup>	Hi Side Media <sup>2</sup>	Lo Side Media <sup>2</sup>	Reference Uncertainty <sup>4</sup>
Differential		nating	meula	meula	oncertainty
750P00	0 to 1 in H <sub>2</sub> 0 (0 to 2.5 mBar)	30X	Dry Air	Dry Air	±0.15%
750P01 <sup>4</sup>	0 to 10 in H <sub>2</sub> 0 (0 to 25 mBar)	3X	Dry Air	Dry Air	±0.1%
750P02	O to 1 psi (O to 70 mBar)	3X	Dry Air	Dry Air	±0.050%
750P22	0 to 1 psi (0 to 70 mBar)	ЗX	316 SS	Dry Air	±0.050%
750P03	0 to 5 psi (0 to 350 mBar)	3X	Dry Air	Dry Air	±0.02%
750P23	0 to 5 psi (0 to 350 mBar)	4X	316 SS	Dry Air	±0.02%
750P04	0 to 15 psi (0 to 1 bar)	3X	Dry Air	Dry Air	±0.0175%
750P24 <sup>4</sup>	0 to 15 psi (0 to 1 bar)	4X	316 SS	Dry Air	±0.0175%
Gage					
750P05 <sup>4</sup>	0 to 30 psi (0 to 2 bar)	4X	316 SS	N/A	±0.0175%
750P06 <sup>4</sup>	0 to 100 psi (0 to 7 bar)	4X	316 SS	N/A	±0.0175%
750P27 <sup>4</sup>	0 to 300 psi (0 to 20 bar)	4X	316 SS	N/A	±0.0175%
750P07	0 to 500 psi (0 to 35 bar)	4X	316 SS	N/A	±0.0175%
750P08	0 to 1000 psi (0 to 70 bar)	ЗX	316 SS	N/A	±0.0175%
750P09 <sup>4</sup>	0 to 1500 psi (0 to 100 bar)	ЗX	316 SS	N/A	±0.0175%
750P2000	0 to 2000 psi (0 to 140 bar)	3X	316 SS	N/A	±0.0175%
High					1
750P294	0 to 3000 psi (0 to 200 bar)	ЗX	316 SS	N/A	±0.0175%
750P30	0 to 5000 psi (0 to 340 bar)	3X	316 SS	N/A	±0.0175%
750P31	0 to 10000 psi (0 to 700 bar)	2X	316 SS	N/A	±0.0175%
Absolute					
750PA3	0 to 5 psia (0 to 350 mBar)	4X	316 SS	N/A	±0.03%
750PA4 <sup>4</sup>	O to 15 psia (O to 1 bar)	4X	316 SS	N/A	±0.03%
750PA5	0 to 30 psia (0 to 2 bar)	4X	316 SS	N/A	±0.03%
750PA6	0 to 100 psia (0 to 7 bar)	4X	316 SS	N/A	±0.03%
750PA27	0 to 300 psia (0 to 20 bar)	4X	316 SS	N/A	±0.03%
750PA7	0 to 500 psia (0 to 35 bar)	4X	316 SS	N/A	±0.03%
750PA8	0 to 1000 psia (0 to 70 bar)	ЗX	316 SS	N/A	±0.03%
750PA9	0 to 1500 psia (0 to 100 bar)	3X	316 SS	N/A	±0.03%
Vacuum					lesses and
750PV3	-5 psi (-350 mBar)	4X	316 SS	Dry Air	±0.03%
750PV4	-15 psi (-1 bar)	4X	316 SS	Dry Air	±0.03%
Dual 750PD2	1 to 1 mai ( 70 to 70 mBan)	4X	316 SS	Dura & in	±0.05%
750PD2 750PD3	-1 to 1 psi (-70 to 70 mBar) -5 to 5 psi (-350 to 350 mBar)	4X	316 SS	Dry Air Dry Air	±0.03%
750PD3 750PD10	-10 to 10 psi (-700 to 700 mBar)	4A 4X	316 SS	Dry Air	±0.025%
750PD10 750PD4	-15 to 15 psi (-1 to 1 bar)	4X	316 SS	Dry Air	±0.025%
750PD4	-15 to 30 psi (-1 to 2 bar)	4X	316 SS	N/A	±0.0175%
750PD50	-15 to 50 psi (-1 to 3.5 bar)	4X	316 SS	N/A	±0.0175%
750PD6	-15 to 100 psi (-1 to 7 bar)	4X	316 SS	N/A	±0.0175%
750PD7	-15 to 200 psi (-1 to 14 bar)	4X	316 SS	N/A	±0.0175%
750PD27	-15 to 300 psi (-1 to 20 bar)	4X	316 SS	N/A	±0.0175%

For a complete list of Fluke Pressure Modules, go to fluke.co/calibration

1. Total uncertainty,% of full span for temperature range 0°C to +50°C, one year interval. Total uncertainty, 1.0% of full span for temperature range -10°C to 0°C, one year interval. No 6 month specification available for range -10°C to 0°

2. "NONCORROSIVE GASES" indicates dry air or non-corrosive gas as compatible media. "Stainless Steel 316-SS"

indicates media compatible with Type 316 Stainless Steel.

3. Specifications% of Full Span unless otherwise noted. 4. Intrinsically Safe pressure module available in this pressure range





**Specialty Model** 

See page 180



Hose Kit See page 180



Contact your local distributor for price and availability. fluke.co/wtb

### 128 **Process Calibration Tools**

# Fluke 717, 718 and 719 Pressure Calibrators

Accurate and rugged, temperature calibration tools



Fluke 719



# **Fluke 717 Pressure Calibrators**

- Measure up to 10,000 psi/690 bar sensor (10,000G model)
- Compatible with non-corrosive gases and liquids

# Fluke 718 Pressure Calibrators

- 1, 30, 100 and 300 psi ranges available
- Pump to 300 psi, 20 bar with internal pump (718-300G)
- 718-1G includes special low volume pump and high measurement resolution for low pressure calibration

# **Fluke 719 Electric Pressure** Calibrators

- Electric pump enables one-handed pressure pumping and makes pressure calibration quicker and easier
- Best in class 0.025% pressure measurement accuracy
- Programmable pump limit settings can eliminate over-pressurisation-set 'pump to' pressure values
- Two ranges, 30 psi and 100 psi

# Fluke 717, 718 and 719 common features

- Pressure switch test makes a difficult task easy, captures set, reset and deadband values of a pressure switch
- 717 and 718 measure pressure to 0.025% of full scale with internal sensor
- Measure mA with 0.015% accuracy and 0.001 mA resolution, while sourcing 24 V loop power
- Three year warranty

Models	Range	Resolution	Comment	
717-1G 718-1G	+/- 1 psi, 27.5 in H <sub>2</sub> O, (-7 - +7 kPa)	+0.0001 psi, 0.0001 kPa, 0.0001 in H <sub>2</sub> 0	Fluke 718 dry air only and includes on board pump	
717-15G	-12 to 15 psi, -83 to 103 kPa	0.001 ps1, 0.01 kPa, 0.01 in H <sub>2</sub> 0	-	
717-30G 718-30G* and 719-30G	-12 to + 30 psi, (-83 to 207 kPa)	0.001 psi, 0.001 kPa, 0.001 in H <sub>2</sub> 0	Fluke 718 and Fluke 719 dry air only and includes on board pump	
717-100G 718-100G*	-12 to + 100 psi, (-83 to 690 kPa)	0.01 psi, 0.01 kPa, 0.01 in H <sub>2</sub> 0	Fluke 718 and Fluke 719 dry air only and includes on board pump	
717-300G 718-300G* and 719-100G	-12 to +300 psi, (-83 to +2070 kPa)	0.01 psi, 0.01 kPa, 0.01 in H <sub>2</sub> 0	Fluke 718 dry air only and includes on board pump	
717-500G	0-500 psi, 0-3450 kPa	0.01 psi, 0.1 kPa	Compatible with non-corrosive gases and fluids	
717-1000G	0–1000 psi, 0–6900 kPa	0.01 psi, 0.1 kPa	Compatible with non-corrosive gases and fluids	
717-1500G	0-1500 psi, 0-10342 kPa	0.1 psi, 1 kPa	Compatible with non-corrosive gases and fluids	
717-3000G	0-3000 psi, 0-20700 kPa	0.1 psi, 1 kPa	Compatible with non-corrosive gases and fluids	
717-5000G	0-5000 psi, 0-34500 kPa	0.1 psi, 1 kPa	Compatible with non-corrosive gases and fluids	
717-10000G	0–10000 psi, 0–69000 kPa	1 psi, 1 kPa	Compatible with non-corrosive gases and fluids	
Pressure accuracy	ccuracy 0.035% of range, 1 year. 0.025% for 6 months, 717 and 718-16: 0.05% 6 months, 1 year, 718 and 717-300G 0.035% 6 months, 0.05% 1 year			
mA measurement	0-24 mĀ range	0.001 mA resolution	Accuracy: ±0.015% + 1 count	
Loop power	24 V DC		Accuracy: ±10%	

\*Intrinsically safe models available, see page 138.







Fluke 717

# **Specialty Model** Fluke 718Ex **Intrinsically Safe**

**Pressure Calibrator** The Fluke 718Ex offers a convenient, self contained solution for pressure measurements and calibration.



- ATEX II 🔂 1 G Ex ia IIC T4
- 30, 100, and 300 psi ranges (2, 7, and 20 bar)
- Pressure measurement to 0.05% of full span, using an internal pressure sensor.
- Pressure measurement to 200 bar using any of eight intrinsically safe Fluke 750PEx Pressure Modules

For more information, see page 138

# **Recommended Accessories**





In-Line Filter See page 180

Low Pressure Test Pump See page 180



Hvdraulic Test Pump See page 180

C116

Large Soft Case See page 169

# **Included Accessories**

Fluke 717/718/719: Protective Yellow Holster with Test Lead Storage, Instruction Sheet, 9 V Alkaline Battery (1x 717, 2x 718 & 719), Test Leads and Alligator Clips, Hose Kit (719), NIST-Traceable Calibration Report & Data.

Fluke 718Ex: Protective Red Holster, TL75 Test Leads, AC72 Test Clips, User Manual (CD), Fluke 718Ex CCD, NIST-Traceable Calibration Report & Data.

# **Ordering Information**

oruering	mormation
FLUKE-717 10,000G - 1G	Pressure Calibrator, 10,000 PSI - 1 PSI (10 models)
FLUKE-718 300G, 1000 30G	Pressure Calibrator ,
	<b>Ex</b> Intrinsically Safe <b>G</b> , Pressure Calibrator
FLUKE-719 100G, 30G	Electric Pressure Calibrator 100PSI, 30 PSI

Process Calibration Tools Pressure Calibration

# Fluke 721 and 721Ex Precision Pressure Calibrators



# Pressure calibration and temperature measurement for custody transfer applications

The Fluke 721 and 721Ex Precision Pressure Calibrators with dual isolated pressure sensors are the ideal tool for gas custody transfer applications allowing you to take simultaneous static and differential pressure measurements with a single tool.

The 721 and 721Ex can be configured by selecting either a 16 PSI (1.1 bar) or 36 psi (2.48 bar) low pressure sensor then add any of 7 high pressure ranges including 100, 300, 500, 1000, 1500, 3000 or 5000 psi (6.9, 20, 24.5, 69, 103.4, 200, 345 bar).

- Intrinsically Safe (721Ex version only) IECEx and Atex Ex ia IIB T3 Gb (Zone 1)
- Ideal for gas flow calibration (custody transfer) applications
- Two isolated, stainless steel, pressure sensors with 0.025% accuracy
- Switch test on both pressure inputs
- Pt100 RTD input for temperature measurement, (probe optional)
- Measures 4-20 mA signals
- Internal 24 V loop power supply can power a transmitter under test (721 models only)
- Three year warranty

	Low Pressure Sensor		High Pressure Sensor			
Model	Range 1	Resolution	Accuracy	Range 2	Resolution	Accuracy
Fluke-721-1601 Fluke-721Ex-1601 16PSIG, 100PSIG				-12 to +100 psi -0.83 to 6.9 bar	0.01 psi 0.0001 bar	0.025% of full scale
Fluke-721-1603 Fluke-721Ex-1603 16PSIG, 300PSIG				-12 to +300 psi -0.83 to 20 bar	0.01 psi 0.001 bar	
Fluke-721-1605 16PSIG, 500PSIG	-14 to			-12 to +500 psi -0.83 to 34.5 bar	0.01 psi 0.001 bar	
Fluke-721-1610 16PSIG, 1000PSIG	+16 psi -0.97 to			0 psi to +1000 psi 0.00 to 69 bar	0.1 psi 0.001 bar	
Fluke-721-1615 Fluke-721Ex-1615 16PSIG, 1500PSIG	1.1 bar			0 to +1500 psi 0.00 to 103.4 bar	0.1 psi 0.001 bar	
Fluke-721-1630 Fluke-721Ex-1630 16PSIG, 3000PSIG		0.001 psi,	0.001 psi, 0.025% 0.0001 bar of full scale	0 to +3000 psi 0.00 to 200 bar	0.1 psi 0.01 bar	
Fluke-721-1650 16PSIG, 5000PSIG				0 to +5000 psi 0.00 to 345 bar	0.1 psi 0.01 bar	0.035% of full scale
Fluke-721-3601 36PSIG, 100PSIG		0.0001 bar		-12 to +100 psi -0.83 to 6.9 bar	0.01 psi 0.0001 bar	0.025% of full scale
Fluke-721-3603 36PSIG, 300PSIG				-12 to +300 psi -0.83 to 20 bar	0.01 psi 0.001 bar	
Fluke-721-3605 36PSIG, 500PSIG				-12 to +500 psi -0.83 to 34.5 bar	0.01 psi 0.001 bar	
Fluke-721-3610 36PSIG, 1000PSIG	-14 to +36 psi			0 to +1000 psi 0.00 to 69 bar	0.1 psi 0.001 bar	
Fluke-721-3615 Fluke-721Ex-3615 36PSIG, 1500PSIG	-0.97 to 2.48 bar		0 to +1500 psi 0.00 to 103.4 bar	0.1 psi 0.01 bar		
Fluke-721-3630 Fluke-721Ex-3630 36PSIG, 3000PSIG			0 to +3000 psi 0.00 to 200 bar	0.1 psi 0.01 bar		
Fluke-721-3650 Fluke-721Ex-3650 36PSIG, 5000PSIG				0 to +5000 psi 0.00 to 345 bar	0.1 psi 0.01 bar	0.035% of full scale

# Speciality Model Fluke 721Ex Precision Pressure Calibrator

The ideal tool for gas custody transfer applications in potentially explosive atmospheres.



For more information, see page 138

# **Recommended Accessories**



RTD Probe for U 721 & 719Pro See page 180

**720URTDA** Universal RTD Adapter for 721 and 719Pro See page 180

# **Included Accessories**

Fluke 721/Ex: Soft Case, Four AA Batteries, Manual, Traceable Calibration Certificate, Test Leads.

### **Ordering Information**

FLUKE-721-3650	Dual Sensor Pressure Calibrator
FLUKE-721-3630	Dual Sensor Pressure Calibrator
FLUKE-721-3615	Dual Sensor Pressure Calibrator
FLUKE-721-3610	Dual Sensor Pressure Calibrator
FLUKE-721-3605	Dual Sensor Pressure Calibrator
FLUKE-721-3603	Dual Sensor Pressure Calibrator
FLUKE-721-3601	Dual Sensor Pressure Calibrator
FLUKE-721-1650	Dual Sensor Pressure Calibrator
FLUKE-721-1630	Dual Sensor Pressure Calibrator
FLUKE-721-1615	Dual Sensor Pressure Calibrator
FLUKE-721-1610	Dual Sensor Pressure Calibrator
FLUKE-721-1605	Dual Sensor Pressure Calibrator
FLUKE-721-1603	Dual Sensor Pressure Calibrator
FLUKE-721-1601	Dual Sensor Pressure Calibrator
Intrinsically Safe 1 Ex to the above m	nodels available (add odel numbers).
FLUKE-720RTD	RTD Probe for Fluke 721 and 719Pro
FLUKE- 720RTDUA	Universal RTD Adapter for Fluke 721 and 719Pro

### **Pressure Calibration**

# Fluke 719Pro Pressure Calibrators



Fluke 719Pro

# Intergrated electric pump - now to 300 PSI/20 bar

The Fluke 719Pro is an exciting enhancement of the popular original 719 pressure calibrators. Notable improvements include expanding the pressure measurement range of the 100 PSI model up to 150 PSI and the addition of a 300 PSI range. The 719Pro adds a backlit display and precision temperature measurement with the addition of an accessory RTD probe available as a new accessory.

- Electric pump for one handed pressure calibration
- Best in class pressure measurement uncertainty of 0.025%
- · Variable release rate bleed valve for easy pressure adjustment
- 30 PSI, 150 PSI and the long requested 300 PSI (2,10 and 20 bar) pressure ranges
- Programmable pressure calibrator pump limit eliminates over-pressurisation and allows the user to program target pressures for pumping
- Extended pressure measurement range with any of 50 750PXX Pressure Modules
- Source mA with simultaneous pressure measurement to test valves and I/Ps
- Simulate mA signals to troubleshoot 4–20 mA loops
- Test pressure switches with built in switch test function
- Power transmitters during test using 24 V loop supply with simultaneous mA measurement
- Three year warranty

Pressure measurement Rang		nge I		R	esolution	Accuracy
Fluke-719Pro-30G -12		2 to 30 PSI /-0.8 to 2 bar		0.	001 PSI, 0.0001 bar	±0.025% of
Fluke-719Pro-150G	-12	2 to 150 PSI /-C	0.8 to 10 bar		01 PSI, 0.001 bar	full scale, 6 months
Fluke-719Pro-300G	-12	-12 to 300 PSI / -0.8 to 20 bar		0.	01 PSI, 0.001 bar	
Function	-	Range	Resolution		Accuracy (1 year)	-
mA DC (simulation & measurement)		0-24 mA DC	0.001 mA		$\pm$ (0 .015% of reading + 2 counts	
Volts DC (measurement only)		30 V DC	0.001 V	±0.015% of reading		±2 counts
Temperature (measurement only, Pt100 RTD)		-50 to 150°C	0.01°C		Temperature ±0.1°C	
Loop power supply		24 V DC	N/A		24 mA at 24 V	
Temperature effect (all functions)					Add ±0.002% F.S./° outside of 15°C to 35	

Anvir Onmentar	
Operating temperature	-10°C to +50°C
Storage temperature (without batteries)	-20°C to +60°C

Power requirements	
Battery	8 standard alkaline AA batteries
	300 pump cycles to 150 PSI minimum; 1000 pump cycles to 30 PSI; 100 pump cycles to 300 PSI minimum

Physical	
Size (HxWxD)	24.13 cm × 11.18 cm × 7 cm
Weight	With holster 1.2 kg
Connections	
Pressure	1/8 inch female NPT
Electrical	Standard banana jacks
RTD	4 pin miniature circular

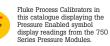
6 pin miniature circular

# **Pressure Modules** Fluke 750 Series Pressure Modules



- · Ranges from 1.000 in H20 (0.2491 kPa) to 10,000 psi (68.948 MPa)
- Gage, differential, dual range, absolute and vacuum measurement models
- Rugged cases protect the modules from harsh environments
- Temperature compensated 0°C to 50°C

For more information see page 131



### **Recommended Accessories**





Universal RTD adapter for 721 and 719PRO See page 180

29



See page 180

Liquid and Dirt Trap or 718, 719 & 719PRO See page 180

# **Included Accessories**

Test Leads with Alligator Clips, Printed User Manual/CD-ROM, Fluid Trap, Carrying Case, 1/4 inch NPT to 1/4 inch ISO Adapter, Accessory Hose Kit with (2) 1/8 inch Quick Fit Adapters and 1 metre of hose, Traceable Certificate of Calibration.

# **Ordering Information**

FL 71 15

FLUKE-	Electric Pressure
719PRO-30G	Calibrator, 30PSIG

UKE-	Electric Pressure
9PRO-	Calibrator,
OG	150PSIG

Premium Hose Kit, Fluke-**700TTH5K** 5,000 psi

FLUKE-Premium Hose Kit 700TTH10K 10,000psi



External module



Process Calibration Tools – Pressure Calibration

# Fluke 729 Automatic Pressure Calibrator



Fluke 729





# Portable automatic pressure calibrator simplifies pressure calibration

The Fluke 729 Automatic Pressure Calibrator has been designed specifically with process technicians in mind to simplify the pressure calibration process and provide faster, more accurate test results. Technicians know that calibrating pressure can be a time consuming task, but the 729 makes it easier than ever with an internal electric pump that provides automatic pressure generation and regulation in an easy-to-use, rugged, portable package.

The Fluke 729 can also automatically test multiple pressure test points and automatically document the results. Calibration is as easy as typing in the starting and ending pressure and the number of test points and tolerance level; the 729 does the rest.

With three ranges to choose from 30 psi (2 bar, 200 kPa), 150 psi (10 bar, 1 MPa) and 300 psi (20 bar, 2 MPa), the Fluke 729 Automatic Pressure Calibrator is designed to perform when and where you need.

- Automatic pressure generation and regulation to 300 psi
- Easily document the process using on-board test templates
- Automatic internal fine-pressure adjustment
- Measure, source and simulate 4 to 20 mA signals
- 24 V loop power for powering transmitters for tests
- $\bullet$  HART  $^{\scriptscriptstyle (\!\!\!\!\!)}$  communication for testing HART smart transmitters
- Built-in leak testing for verifying test setups for leakage
- Fluke Connect® App compatibility
- Measure temperature with optional 720RTD probe
- Measure VDC for testing 1 V DC to 5 V DC output transmitters
- Compatible with Fluke 700G Series and 750 Series Pressure Modules
- Upload documented test results to DPCTrack2™
- Calibration Management Software to manage your instrumentation, create scheduled tests and reports and manage calibration data
- Three year warranty

Pressure specification*	
One-year specification	0.02% of full scale
Control specification	0.005% full scale minimum
*See manual for detailed specifications	

Model	Psi range, resolution	Bar range, resolution	kPa range, resolution	Comment
729 30G	-12.0000 to 30.0000 psi	-0.82737 to 2.06842 bar	-82.737 to 206.843 kPa	No wireless communication
729 150G	-12.000 to 150.000 psi	-0.8273 to 10.3421 bar	-82.73 to 1034.21 kPa	No wireless communication
729 300G	-12.000 to 300.000 psi	-0.8273 to 20.6843 bar	-82.73 to 2068.43 kPa	No wireless communication
729 30G FC	-12.0000 to 30.0000 psi	-0.82737 to 2.06842 bar	-82.737 to 206.843 kPa	Wireless communication for Fluke Connect®
729 150G FC	-12.000 to 150.000 psi	-0.8273 to 10.3421 bar	-82.73 to 1034.21 kPa	Wireless communication for Fluke Connect®
729 300G FC	-12.000 to 300.000 psi	-0.8273 to 20.6843 bar	-82.73 to 2068.43 kPa	Wireless communication for Fluke Connect®

### **Recommended Accessories**



### **Included Accessories**

Soft Case, Stackable Test Leads, AC280 Hook Clips, Alligator Clips, Test Probes, Magnetic Hanger Kit, Carrying Strap, Power Supply, Rechargeable Battery (installed), Hose Kit with Push Fit Adapters, Hanging Clip, USB Cable, 1/8 in FNPT to 1/4 in FNPT Adapter, 1/8 in FNPT to F-M20 Adapter, 1/8 in FNPT to 1/4 in FBSP Adapter, PTFE Tape, [2] Sintered Filters, Liquid Dirt Trap, Water Trap Drain and Valve Tuning Hoses, Wireless Adapter (FC Models only), Quick Start Guide, Safety Sheet.

### **Ordering Information**

FLK-729 30G	30 psi, 2 Bar Automatic Pressure Calibrator
TLK-729 150G	150 psi, 10 Bar Automatic Pressure Calibrator
7 <b>LK-729</b> 300G	300 psi, 20 Bar Automatic Pressure Calibrator
FLK-729 30G FC	30 psi, 2 Bar Automatic Pressure Calibrator with Fluke Connect®
FLK-729 150G FC	150 psi, 10 Bar Automatic Pressure Calibrator with Fluke Connect®
FLK-729 300G FC	300 psi, 20 Bar Automatic Pressure Calibrator with Fluke Connect <sup>®</sup>
TLUKE-729/ 750SW BU	300 psi, 20 Bar Automatic Pressure Calibrator and DPCTRACK2 Software Bundle

Contact your local distributor for price and availability. fluke.co/wtb



# 

# Fluke 729 Pro Automatic Pressure Calibrator



Fluke 729 Pro



Fluke Pressure Meaurement Modules



# Portable pressure calibrator with swappable pressure modules

The Fluke 729 Pro Automatic Pressure Calibrators are portable field pressure calibration tools for lab or field use. They cover a broad pressure range of up to 7 MPa, ensuring optimum effectiveness, and high accuracy which promises dependable calibration results. Fluke 729 Pro's built-in HART® communication capabilities enable HART transmitter mA adjustments, light HART configuration and the ability to adjust to applied 0%and 100% pressure values. Automatic calibration and documenting functions can be performed by either the Calibrator's internal procedures or from calibration-management software (CMS) like the Fluke DPCTrack2™.

- Automatic pressure generation, control and precision adjustment up to 7 MPa (1,000 psi)
- Automatic calibrator of pressure transmitters, switches and gauges
- Devices can be tested automatically thanks to advanced features including auto step and auto ramp
- Plug-in replaceable pressure control modules
- . Source and simulate mA signals while measuring pressure for testing current to pressure (I/P) converters
- Provides loop power and simultaneously measures mA output from a connected device
- · Portable, weighs less than 5 kg
- Built-in HART communication
- · Easy calibration documentation using well-defined templates for transmitters and switches
- Compatible with DPCTrack2<sup>™</sup> software
- Three year warranty

# **Automatic Pressure Calibrator**

Model	Psi range	Bar range	kPa range
729 Pro 7M	-13 to 1000 psi	-0.90 to 70 bar	-90 to 7000 kPA
729 Pro 4M	-13 to 600 psi	-0.90 to 40 bar	-90 to 4000 kPA
1			

1-year specifications: 0.02% of Full scale Control specifications: 0.005% of Full scale, minimum

# Pressure Modules

Pressure module	Pressure type	Range	<b>Resolution</b> <sup>3</sup>	Overall uncertainty	729 PRO 4M	729 PRO 7M
FLK-PMM- 200K <sup>1</sup>	Gauge	(-15 to 30) psi (-100 to 200) kPa (-1 to 2) bar	0.0001 psi 0.001 kPa 0.00001 bar	0.02% FS / year, maximum	•	•
FLK-PMM- 200KA <sup>2</sup>	Absolute	(0 to 30) psi (0 to 200) kPa (0 to 2) bar	0.0001 psi 0.001 kPa 0.00001 bar	0.05% FS / year, maximum	•	•
FLK-PMM- 2000K <sup>1</sup>	Gauge	(-13 to 300) psi (-90 to 2000) kPa (-0.90 to 20) bar	0.001 psi 0.01 kPa 0.0001 bar	0.02% FS / year, maximum	•	•
FLK-PMM- 4000K <sup>1</sup>	Gauge	(-13 to 600) psi (-90 to 4000) kPa (-0.90 to 40) bar	0.01 psi 0.01 kPa 0.0001 bar	0.02% FS / year, maximum	•	•
FLK-PMM- 7000K <sup>1</sup>	Gauge	(-13 to 1000) psi (-90 to 7000) kPa (-0.90 to 70) bar	0.01 psi 0.01 kPa 0.0001 bar	0.02% FS / year, maximum	-	•
FLK-PMM- 7000KA <sup>2</sup>	Absolute	(0 to 1000) psi (0 to 7000) kPa (0 to 70) bar	0.01 psi 0.01 kPa 0.0001 bar	0.02% FS / year, maximum	-	•

**Recommended Accessories** 

750 SW DPC/TRACK2 Software See page 182





BP729 argeable Li-ion battery

# **TP220** Test Probes See page 158

FLUKE 750P

Series Pressure

Modules

Process Calibration Tools – Pressure Calibration

# **Included Accessories**

AC/DC Converter, Power Cord, Rechargeable Li-ion Battery, Stackable Test Lead Set, AC280 SureGrip<sup>™</sup> Hook Set, Alligator Clips, TP220 Test Probes, USB Communication Cable, Flexible Hose, 1/8 in FNPT to 1/4 in FNPT, 1/8 in MNPT to 1/4 in MNPT, 1/8 in F-NPT to F-M20, 1/4 in FBSP to 1/8 in FNPT, Pressure Measurement Module, PTFE Tape, Water Drain, Adjustable Quick-release Hanging Strap, Safety Information and Traceable Calibration Report with Data..

# **Ordering Information**

FLK-Fluke 729 Pro Automatic 729PRO Pressure Calibrator, 4M 4 MPa/600 psi

FI.K-Fluke 729 Pro Automatic 729PRO Pressure Calibrator, 7M 7 MPa/1000 psi

K-	Replaceable pressure
/IM-	module/-15 to 30 psi/
OK	-100 to 200 kPa/
	-1 to 2 bar

FL. PN 20

FLK-Replaceable pressure PMMmodule, absolute/ 0 to 30 psi/0 to 200KA 200 kPa/0 to 2 bar

FLK-Replaceable pressure module/-13 to 300 psi/ PMM-2000K -90 to 2000 kPa/ -0.90 to 20 bar

FLK-Replaceable pressure PMMmodule/-13 to 600 psi/ -90 to 4000 kPa/ 4000K -0.90 to 40 bar

FLK-Replaceable pressure PMMmodule/-13 to 1000 psi/ 7000K -90 to 7000 kPa/ -0.90 to 70 bar

FLK-Replaceable pressure PMMmodule, absolute/0 7000KA to 1000 psi/0 to 7000 kPa/0 to 70 bar



# Fluke 700G Precision Pressure **Test Gauges**





Fluke 700G with 700PTP-1

# Pressure Gauges designed to handle all your **Pressure Calibration needs**

With best-in-class accuracy and measurements, the Fluke 700G Series Precision Pressure Test Gauges were designed to handle all of your pressure calibration needs. The 700G Series Gauges are rugged and easy to use, with twenty three models ranging from  $\pm 10$  inH2O/20 mbar to 10,000 psi/690 bar including absolute pressure ranges.

When combined with the Fluke 700PTPK or 700HTPK you've got a complete pressure testing solution for up to 600 psi (40 bar) with the PTP-1 pneumatic pump and up to 10,000 psi (690 bar) with the HTP-2 hydraulic pump.

- Precision pressure measurement from ±10 inH20/20 mbar to 10,000 psi/690 bar
- Absolute pressure measurement ranges 15, 30, 100, 300 psi
- Accuracy to 0.05% of full scale
- Reference class gauge accuracies to 0.04% of reading
- Easy to use, rugged construction for reliable performance
- CSA; Class 1, Div 2, Groups A-D rating
- ATEX rating: II 3 G Ex nA IIB T6
- Combine the Pneumatic Test Pump Kits and Hydraulic Test Pump Kits with any Fluke-700G Series Gauge, 1,000 psi (69 bar) or less, to make a complete pressure testing
- · Log up to 8,493 pressure measurements to memory (requires 700G/TRACK software)
- Three year warranty

Specifications	
Size (HxWxD)	12.7 cm × 11.4 cm × 3.7 cm
Pressure connection	1/4 in NPT Male
Housing/Weight	Cast ZNAL 0.56 kg with holster
Display	5.5 digits, 16.53 mm high 20-segment bar graph, 0 to 100%
Power	Three AA alkaline batteries
Battery life	1,500 hours without backlight (continuous on), 2,000 hours at slow sample rate

# **700G/TRACK Logging Software**

The Fluke 700G/Track Data Logging Software (700G only) makes managing your instruments and calibration data easy to do. With the Fluke 700G-Track Software, you can gauge and record (log) multiple data sets, each of which is identified by a sequential run number.

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Data Loggro ixternat Log Type Log Temperature	Enabled Doen	ent <u>e</u> Ar E Sar E S	ples / flue:	(100 Average		n.m. +]

- Use with Fluke 700G Series Gauges to perform real time data logging to a PC
- Download logging configurations to the 700G Series Gauges for a remote logging event
- · Configure logging event reading rate, duration and measurement units
- · Upload measurements logged remotely and display or export measurements
- Includes communication cable for connection to a PC

# **Recommended Kits**



# **Fluke-700PTPK Pneumatic Test Kit**

- Combine with any Fluke-700G Series Gauge, 1,000 psi (69 bar) or less, to make a complete pressure testing kit
- Connect the 700G Series gauge directly to the included PTP-1 hand pump



### Fluke 700HTPK Hydraulic **Test Kit**

- Combine with any Fluke-700G Series Gauge, 1,000 psi (69 bar) range or greater, to make a complete pressure testing kit
- Generate pressure up to 10,000 psi, 690 bar with the included 700HTP-2 test pump
- Hard case protects pump and gauge and allows gauge to remain connected to the pump



# **Fluke-700PTPK2** Premium **Pneumatic Test Pump Kit**

- Pneumatic Hand Pump
- Premium, no tools required gauge connector
- One premium transmitter test hose kit and adapters



# Fluke-700HTPK2 Premium **Hydraulic Test Pump Kit**

- Hydraulic Hand Pump
- Premium, no tools required gauge connector
- One premium transmitter test hose kit and adapters

For more details see page 189

	Fluke 7	OOG Precision P	ressure Test Gauges	
Model	Range	Resolution	Accuracy	Burst Pressure
Fluke-700G01	-10 to +10 inH20 -20 mbar to 20 mbar	0.001 inH20 0.001 mbar	Positive Pressure ±0.1% of range,	3 psi 210 mbar
Fluke-700G02	-1 to +1 psi -70 mbar to 70 mbar	0.0001 psi 0.001 mbar	Vacuum ±0.1% of range	5 psi 350 mbar
Fluke-700G04	-14 psi to 15 psi 97 bar to 1 bar	0.001 psi 0.0001 bar		60 psi 4 bar
Fluke-700G05	-14 psi to 30 psi 97 bar to 2 bar	0.001 psi 0.0001 bar		120 psi 8 bar
Fluke-700G06	-12 psi to 100 psi 83 bar to 6.9 bar	0.01 psi 0.0001 bar		400 psi 26 bar
Fluke-700G27	-12 psi to 300 psi 83 bar to 20 bar	0.01 psi 0.001 bar		1200 psi 80 bar
Fluke-700G07	-12 psi to 500 psi 83 bar to 34 bar	0.01 psi 0.001 bar	Positive Pressure ±0.05% of range,	2000 psi 138 bar
Fluke-700G08	-14 psi to 1000 psi 97 bar to 69 bar	0.1 psi 0.001 bar	Vacuum ±0.1% of range	4000 psi 266 bar
Fluke-700G10	-14 to 2000 psi 97 bar to 140 bar	0.1 psi 0.01 bar		8000 psi 550 bar
Fluke-700G29	-14 psi to 3000 psi 97 bar to 200 bar	0.1 psi 0.01 bar		10000 psi 690 bar
Fluke-700G30	-14 psi to 5000 psi 97 bar to 340 bar	0.1 psi 0.01 bar		10000 psi 690 bar
Fluke-700G31	-14 psi to 10000 psi 97 bar to 690 bar	1 psi 0.01 bar		20000 psi 1035 bar
Fluke-700GA4	0 to 15 psia 0 to 1 bar absolute	0.001 psi 0.0001 bar		60 psi 4 bar
Fluke-700GA5	0 to 30 psia 0 to 2 bar absolute	0.001 psi 0.0001 bar	0.05% of range	120 psi 8 bar
Fluke-700GA6	0 to 100 psia 0 to 6.9 bar absolute	0.01 psi 0.0001 bar	0.03% of failge	400 psi 27 bar
Fluke-700GA27	0 to 300 psia 0 to 20 bar absolute	0.01 psi 0.001 bar		1200 psi 80 bar
Fluke-700RG05	-14 to +30 psi -0.97 to +2 bar	0.001 psi 0.0001 bar	Positive Pressure $\pm 0.04\%$ of reading $\pm 0.01\%$ of range, Vacuum $\pm 0.1\%$ of range	90 psi 6 bar
Fluke-700RG06	-12 to 100 psi -0.83 to 6.9 bar	0.01 psi 0.0001 bar		400 psi 27 bar
Fluke-700RG07	-12 to 500 psi -0.83 to 34	0.01 psi 0.001 bar		2000 psi 138 bar
Fluke-700RG08	-14 to 1000 psi -0.97 to 69 bar	0.1 psi 0.001 bar	Positive Pressure ±0.04% of	4000 psi 275 bar
Fluke-700RG29	-14 to 3000 psi -0.97 to 200 bar	0.1 psi 0.01 bar	reading ±0.01% of range, Vacuum ±0.1% of range	10000 psi 690 bar
Fluke-700RG30	-14 to 5000 psi -0.97 to 340 bar	0.1 psi 0.01 bar		15000 psi 1035 bar
Fluke-700RG31	-14 to 10000 psi -0.97 to 690 bar	1 psi 0.01 bar		20000 psi 1380 bar

**700R Ranges:** Temperature Compensation 0°C to 50°C to rated accuracy For temperatures from  $-10^\circ$ C to 0°C and 50°C to 55°C, add .005% FS/°C

Media compatibility:

• 10 inH20, 1, 15, 30 psi: any clean dry non-corrosive gas

٠ 100, 300, 500, 1000 psi: any liquids or gases compatible with 316 stainless steel

٠ Above 1000 psi: any non-flammable, non-toxic, non-explosive, non-oxidising liquid or gas compatible with 316 stainless steel

### **Recommended Kits** Bundle & Save



### **Fluke 700MTH Premium Transmitter Test Hose Kit**

- · Easy to use premium pressure transmitter test hose kit for connection to 1/4" female metric/BSP
- 5,000 psi rating
- Includes 1/8" NPT connection for permanent mount to a calibrator or test pump



### Fluke 700M20TH Premium **Transmitter Test Hose Kit**

- · Easy to use premium pressure transmitter test hose kit for use with female M20 connections
- 5,000 psi rating
- Includes 1/8" NPT connection for permanent mount to a calibrator or test pump

For more details see page 180

# **Included Accessories**

700G: Manual on CD-ROM, Traceable Certificate of Calibration, 1/4" NPT to 1/4" ISO Adapter.

### **Ordering Information**

Please refer to the table on the left for Fluke 700G Models

700G- TRACK	Datalogging Software and Cable for 700G
FLUKE- 700HTPK	Hydraulic Test Pump Kit, 0 to 10000 psi/690 bar
FLUKE- 700PTPK	Pneumatic Test Pump Kit, O to 600 psi/40 bar
FLUKE- 700HTPK2	Premium Hydraulic Test Pump Kit
FLUKE- 700PTPK2	Premium Pneumatic Test Pump Kit
FLUKE 700M20TH	Premium Transmitter Test Hose Kit
FLUKE 700MTH	Premium Transmitter Test Hose Kit

Contact your local distributor for price and availability. fluke.co/wtb

fluke.co/calibration

# Fluke 730G Smart Digital Pressure Calibrator



Fluke 730G



Fluke 730G with 700PTP-1

# Specifications

The Fluke 730G Smart Digital Pressure Calibrator with internal HART<sup>®</sup> communication is designed in a pressure gauge form. In conjunction with a pressure test pump, the 730G enables high-efficiency and high-accuracy measurement and calibration of pressure gauges, pressure switches, pressure transmitters, which makes it ideal for mobile metrology labs, metrology institutes and enterprises to establish pressure laboratories.

- Pressure measurement from ±10 in H2O/2.5 kPa to 10000 psi/69 MPa
- Four absolute pressure measurement range: 15 PSIA (103 kPa), 30 PSIA (207 kPa), 100 PSIA (690 kPa), 300 PSIA (2 MPa)
- Pressure measurement accuracy 0.05% of full scale, 0.02% optional and 0.01% current and voltage accuracy
- Current measurement range: 0-24 mA; voltage measurement range: 0-30 VDC
- Powerful HART communication, supports HART 7
- 24 V loop powered, no external power supply needed
- Storage up to 128 sets of calibration data
- Ingress protection: IP54
- 1-metre drop test
- Three Year Warranty

Specifications	
Current	0 to 24 mA
Voltage	0 to 30 V DC
Current range	1 μΑ
Voltage range	1 mV
Accuracy	0.01% ±2 LSD all ranges @ 23°C ±5°C
Temperature compensation	From 20% FS/°C @ -10°C to +18°C and 28°C to 50°C
Loop Compliance Voltage	24 V DC @ 20 mA
Temperature measurement accuracy inside the product	±0.5°C
Drive Capability	1200 $\Omega$ (without HART resistor), 950 $\Omega$ (with internal HART resistor)
Size (HxWxD)	155 mm × 130 mm × 44 mm
Weight	850 g

# Fluke 730G/PCSW Software

The Fluke 730G/PCSW verification management software completes the calibration workflow by allowing for paperless management of pressure calibrations. Record calibration data, automate calibration tests and generate calibration reports with ease.



- Paperless testing and reporting: Enable paperless testing giving you the ability to automatically generate test reports and document results.
- Manage tested equipment and pressure standards with ease.
- Supported pressure devices: analog pressure gauges, digital pressure gauges, pressure transmitters, pressure sensors and pressure switches.

### **Recommended Test Pumps**



# Fluke 730LTP/40K

- Pressure range -40 kPa to 40 kPa
- Ultra-precision fine adjustment. The minimum controllable adjustment granularity is high
- Special insulation which minimises the influence of external temperature



# Fluke 730LTP/600K

- Pressure range -95 kPa to 600 kPa
- Pressure is generated by the combination of the pressure rod and screw for faster and smoother pressure increase and decrease
- Safely switch between pressure and vacuum



# Fluke 730PTP/10M

- Pressure range -0.095 MPa to 10 MPa
- Multi-stage boosting is used, which is 5 times the conventional efficiency
- Safety lock ensures safe switching between positive and negative pressure



# Fluke 730HTP/70M

- Pressure range 0 MPa to 70 MPa
- The pressure generation by the pressure rod can calibrate pressure meters with a large cavity
- Fine adjustment via the screw has a high minimum controllable adjustment granularity

# FLUKE ®

**Recommended Kits** 

Bundle & Save

Fluke-700PTPK **Pneumatic Test Kit** 

Test Kit

USB Cable.

COP.

Fluke-700HTPK Hydraulic

For more details see page 180

**Included Accessories** 730G: Rechargeable Li-ion

Battery Pack, AC Power Battery Charger, ¼" FNPT to ¼" MBSP Fitting, ¼" FNPT to M20 Male Fitting, Test Lead Set, Alligator

Clips (black and red), 1 metre

**Ordering Information** 

FFE

		ke 730G Precision Pr		
Model	Range	Resolution	Accuracy <sup>1</sup>	Pressure
730G01	-10 to +10 inH20 -20 to 20 mbar -2.49 to 2.49 kPa	0.001 inH20 0.001 mbar 0.0001 kPa	Positive pressure, ±0.2% of range <sup>2</sup>	3 psi, 210 mbar 20.6 kPa
730G02	-1 to +1 psi -70 to 70 mbar -6.89 to 6.89 kPa	0.0001 psi 0.001 mbar 0.0001 kPa	Vacuum, $\pm 0.2\%$ of range <sup>2</sup>	5 psi 350 mbar 34.4 kPa
730G04	-14 to 15 psi -0.97 to 1 bar -97 to 103 kPa	0.001 psi 0.0001 bar 0.01 kPa		60 psi 4 bar 413.6 kPa
730G05	-14 to 30 psi -0.97 to 2 bar -97 to 206 kPa	0.001 psi 0.0001 bar 0.01 kPa		120 psi 8 bar 827.3 kPa
730G06	-12 to 100 psi -0.83 to 6.9 bar -83 to 690 kPa	0.01 psi 0.0001 bar 0.01 kPa		400 psi 26 bar 2.757 MPa
730G27	-12 to 300 psi -0.83 to 20 bar -83 to 2 MPa	0.01 psi 0.001 bar 0.1 kPa		1200 psi 80 bar 8.273 MPa
730G07	-12 to 500 psi -0.83 to 34 bar -83 to 3.4 MPa	0.01 psi 0.001 bar 0.1 kPa	Positive pressure, ±0.05% of range	2000 psi 138 bar 13.789 MPa
730G08	-14 to 1000 psi -0.97 to 69 bar -97 to 6.9 MPa	0.1 psi 0.001 bar 0.1 kPa	Vacuum, $\pm 0.1\%$ of range	4000 psi 266 bar 27.579 MPa
730G10	-14 to 2000 psi -0.97 to 140 bar -97 to 14 MPa	0.1 psi 0.01 bar 1 kPa		8000 psi 550 bar 55.158 MPa
730G29	-14 to 3000 psi -0.97 to 200 bar -97 to 20 MPa	0.1 psi 0.01 bar 1 kPa		10000 psi 690 bar 68.947 MPa
730G30	-14 to 5000 psi -0.97 to 340 bar -97 to 34 MPa	0.1 psi 0.01 bar 1 kPa		10000 psi 690 bar 68.947 MPa
730G31	-14 to 10000 psi -0.97 to 690 bar -97 to 69 MPa	1 psi 0.01 bar 1 kPa		15000 psi 1035 bar 103.421 MPa
730GA4	0 to 15 psia 0 to 1 bar 0 to 100 kPa absolute	0.001 psi 0.0001 bar 0.01 kPa		60 psi 4 bar 413.6 kPa
730GA5	0 to 30 psia 0 to 2 bar 0 to 200 kPa absolute	0.001 psi 0.0001 bar 0.01 kPa	±0.05% of range <sup>4</sup>	120 psi 8 bar 827.3 kPa
730GA6	0 to 100 psia 0 to 6.9 bar 0 to 690 kPa absolute	0.01 psi 0.0001 bar 0.01 kPa	±0.03% of failge	400 psi 27 bar 2.757 MPa
730GA27	0 to 300 psia 0 to 20 bar 0 to 2 MPa absolute	0.01 psi 0.001 bar 0.01 kPa		1200 psi 80 bar 8.273 MPa
730RG04	-14 to 15 psi -0.97 to 1 bar -97 to 100 kPa	0.001 psi 0.0001 bar 0.0001 kPa		45 psi 3 bar 310.2 kPa
730RG05	-14 to 30 psi -0.97 to 2 bar -97 to 200 kPa	0.001 psi 0.0001 bar 0.01 kPa		90 psi 6 bar 620.5 kPa
730RG06	-12 to 100 psi -0.83 to 6.9 bar -83 to 690 kPa	0.01 psi 0.0001 bar 0.01 kPa		1000 psi 69 bar 6.894 MPa
730RG27	-12 psi to 300 psi -0.83 to 20 bar -80 kPa to 2 MPa	0.01 psi 0.001 bar 0.1 kPa	D. Mar	2000 psi 138 bar 14 MPa
730RG07	-12 psi to 500 psi -0.83 to 34 bar -80 kPa to 3.5 MPa	0.01 psi 0.001 bar 0.1 kPa	Positive pressure, $\pm 0.02\%$ of range <sup>3</sup> Vacuum, $\pm 0.05\%$ of range <sup>3</sup>	2000 psi 138 bar 13.789 MPa
730RG08	-14 to 1000 psi -0.97 to 69 bar -97 to 6.9 MPa	0.1 psi 0.001 bar 0.1 kPa	- mgo	10000 psi 690 bar 68.947 MPa
730RG29	-14 to 3000 psi -0.97 to 200 bar -97 to 20 MPa	0.1 psi 0.01 bar 1 kPa		10000 psi 690 bar 68.947 MPa
730RG30	-14 to 5000 psi -0.97 to 340 bar -97 to 34 MPa	0.1 psi 0.01 bar 1 kPa		10000 psi 690 bar 68.947 MPa
730RG31	-14 to 10000 psi -0.97 to 690 bar -97 to 69 MPa	0.1 psi 0.01 bar 1 kPa		15000 psi 1035 bar 103.421 MPa

Pressure Specifications: 0.02% of full scale (730RG), 0.05% of full scale (730G)

Current Specifications: 0.01% of reading

<sup>1</sup> Accuracy specifications above have considered the effects of linearity, repeatability, resolution, reference accuracy, 1-year stability, and temperature effect.

<sup>2</sup> For 730G01/730G02, accuracy is ±0.3% of full scale @ 0°C to 15°C and 35°C to 50°C.

<sup>3</sup> For all 730RG model, add 0.003% FS/°C @ 0°C to 18°C and 28°C to 50°C.

 $^4$  For 730GA4, add 0.006% FS/°C @ –10°C to 15°C and 35°C to 55°C; for all other 730GA model, add 0.003% FS/°C @ -10°C to 15°C and 35°C to 55°C.

### Media compatibility:

• 10 inH<sup>2</sup>0, 1, 15, 30 psi: any clean dry non-corrosive gas

- 100, 300, 500, 1000 psi: any liquids or gases compatible with 316 stainless steel and above 1000 psi: any non-
- flammable, non-toxic, non-explosive, non-oxidising liquid or gas compatible with 316 stainless steel
- 730G01, 730G02, 730G04, 730G05, 730RG04, 730RG05: any clean dry non-corrosive gas

• Above 100 psi: any liquids or gases compatible with 316 stainless steel

Please refer to t left for Fluke 73		
FLUKE- 730PCSWCN	Pressure Calibration Software	
FLUKE- 700HTPK	Hydraulic Test Pump Kit, O to 10000 psi/ 690 bar	
FLUKE- 700PTPK	Pneumatic Test Pump Kit, 0 to 600 psi/40 bar	
FLK- 730LTP/40K	Low Pressure Test Pump, -40 to 40 kPa	
FLK- 730LTP/600K	Low Pressure Test Pump, -95 to 600 kPa	
FLK- 730PTP/10M	Pneumatic Test Pump, -0.095 to 10 MPa	
FLK- 730HTP/70M	Hydraulic Test Pump, O to 70 MPa	
FLK-730PFK	Pressure Fitting Kit	
FLK-730GLSF	Gas and Liquid Separation Filter	
FLK-730ILF	In-line Liquid Filter	
Contact your local distributor for price and availability. fluke.co/wtb		
_		

# Fluke Calibration 2700G Series Reference Pressure Gauges



The Fluke Calibration 2700G Reference Pressure Gauges provide best-in-class measurement performance in a rugged, easy-to-use, economical package. Improved measurement accuracy allows it to be used for a wide variety of applications. It is ideal for calibrating pressure measurement devices such as pressure gauges, transmitters, transducers, and switches. In addition, it can be used as a check standard or to provide process measurements with data logging.

- Precision pressure measurement from 100 kPa (15 psi) to 70 MPa (10,000 psi)
- Accuracy to 0.02% of full scale
- Easy-to-use, rugged construction for reliable performance
- Combine with a Fluke PTP or HTP pump kit or P551X comparison test pump for a complete pressure testing solution
- One year warranty

# Fluke Calibration P5510 Pneumatic Comparison Test Pump



The P5510 Pneumatic Comparison Test Pump is designed for testing pressure measuring instruments against master test instruments. This cost effective instrument provides precise control for important calibration requirements and include many features found in our line of pneumatic deadweight testers.

One year warranty.

Fluke P5510

 $\oslash$ 

Higher pressure ranges available: **Fluke P5513 Gas Comparison Test Pump** Pressure range 0 to 20 MPa (3k psi); Vacuum -80 kPa (-12 psi)

### Fluke P5514B Gas Comparison Test Pump Pressure range 0 to 70 MPa (10k psi)

Fluke P5515 Gas Comparison Test Pump Pressure range 0 to 140 MPa (20k psi)

### P5531 Dirt/Moisture Trap

Designed to mount directly on the deadweight tester and featuring an acrylic chamber for visibility of contaminates this unit utilises the standard test port adapters for easy instrument connections.

# P5532 Dirt/Moisture Trap

This high pressure version is provided with an aluminium central chamber for safety and utlises the standard test port adapters.

# **Complete Bench Top Pressure Calibration Solution**



Fluke 5514B

# Combine P5500 Comparison Test Pumps with one or more 2700G Reference Pressure Gauges for a complete 0.02% accuracy calibration system

The 2700G has an easy-to-use interface that allows you to configure the sampling rate, tare value, damping and auto off time interval as well as reset the min/max pressure.

The unique test port design of the P5500 Series allows for hand tight connection of the 2700G without the use of PTFE tape.

- **P5510:** integrated pneumatic hand pump with pressure generation to 300 psi (2 MPa), vacuum to -12 psi (-80 kPa)
- P5513: pneumatic pressure adjustment to 3,000 psi (21 MPa) with fine adjust inlet and outlet valves and precise screw press
- **P5514B:** hydraulic pressure generation and adjustment to 10k psi (70 MPa) with fine screw press and reservoir
- **P5515:** integrated hydraulic pressure generation and adjustment to 20k psi (140 MPa) with high volume priming pump and fine screw press

# **Included Accessories**

Fluke 2700G Gauges: 1/4 NPT Female to 1/4 BSP Male Adapter, 1/4 NPT Female to M20X1.5 Adapter, Universal AC Power Supply, USB Communication Cable, Manual on CD, Calibration Certificate showing traceability.

Optional: ISO 17025 Accredited Calibration available for 2700G and P551X/2700G models (add "/C" to the below model number).

### **Ordering Information**

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BG

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BC

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27 BG

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BC

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BG

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G2

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G7

P5

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**P**5

dering	Information
00G-	Reference Pressure Gauge,
100K	-15 to 15 PSI
00G-	Reference Pressure Gauge,
200K	-15 to 30 PSI
00G-	Reference Pressure Gauge,
700K	-12 to 100 PSI
00G-	Reference Pressure Gauge,
2M	-12 to 300 PSI
00G-	Reference Pressure Gauge,
3.5M	-12 to 500 PSI
00G-	Reference Pressure Gauge,
7M	-12 to 1000 PSI
00G-	Reference Pressure Gauge,
0M	O to 3,000 PSI
00G-	Reference Pressure Gauge,
5M	O to 5,000 PSI
00G-	Reference Pressure Gauge,
0M	O to 10,000 PSI
510-	Pneumatic Comparison
I	Test Pump
513-	Pneumatic Comparison
M	Test Pump
514B- M*	Hydraulic Comparison Test Pump, Viton Seals O to 10 000 PSI (70 MPa)
515- OM*	Hydraulic Comparison Test Pump, Viton Seals O to 20 000 PSI (140 MPa)
	ropylene Seals option also add –EP to the above model
510- 00G-1	P5510 Pneumatic Calibrator, 2 MPA (300 PSI), 1 Gauge
513- 00G-1	P5513 Pneumatic Calibrator, 20 MPA (3000 PSI), 1 Gauge
514B- 00G-1	P5514B Pneumatic Calibrator, 70 MPA (10,000 PSI), 1 Gauge
515- 00G-1	P5515 Pneumatic Calibrator, 70 MPA (10,000 PSI), 1 Gauge
uge opti	OG Kits available with 3 on, replace -1 with -3 to model numbers.
531	Dirt/Moisture Trap 0 to 500 PSI (35 bar)

P5532 Dirt/Moisture Trap 0 to 3.000 PSI (210 bar)

# Fluke Calibration 700HPPK **Pneumatic Test Pump Kit**

Fluke 700HPPK

# Generated 21 MPa (3000 psi) easily in the field, without liquid contamination or the hazard of a pressurised gas cylinder.

The Fluke Calibration 700HPPK Pneumatic Test Pump Kit generates and adjusts pneumatic pressures up to 21 MPa (3000 psi), without requiring a nitrogen bottle or other external pressure supply. It supplies pressure to devices under test (DUTs) that include transmitters, controllers, pilots, digital and analog gauges, and more. It's the perfect solution for generating high pressure in the field, where conditions and operating surfaces can vary.

The 700HPPK is the ideal choice for calibration technicians, test engineers, and instrument technicians working in industries like natural gas transmission and distribution, process, aerospace and defense, who need a simple-to-use, safe and portable pressure source that they can depend on in a wide variety of conditions.

The 700HPPK contains both a calibration manifold and high pressure pump to generate and finely adjust pressures. A second model, the 700HPP, is available for people who only prefer a high pressure source.

Use the 700HPPK Test Pump Kits with 2700G Reference Pressure Gauges or 700G Precision Pressure Gauges for a complete pressure calibration solution.

- · Generate and adjust pneumatic pressures up to 21 MPa (3000 psi)
- Rugged, portable and stable enough to go anywhere on any surface
- · Reaches pressure in 20 seconds to full scale into a 30 cm<sup>3</sup> volume
- · Detachable pressure adjustment system for adjusting pressure, connecting reference and test devices on bench and in the field, and isolating and venting pressure
- · Easily switch out reference gauges without requiring PTFE tape or tools
- 2 metre pressure line and assorted pressure fittings enable a wide variety of possible connections
- In-line filter and desiccant systems protect device from contamination from the DUT
- One year warranty

General specifications	ZOOHPP	700НРРК	
Maximum working pressure	21 MPa, 3000 psi		
Time to generate full scale pressure with 10 cc volume (g)	2	0	
Weight	5.5 kg	7.2 kg	
Dimensions	66 cm × 25 cm × 13 cm	66 cm × 30.5 cm × 13 cm	
Reference gauge connection	1/4 NPT, qu	iick connect	
Inlet supply contaminations protection filter	Desicca	ant filter	
DUT contamination protection filter	-	100 micron	
Fine adjustment resolution	-	0.05% reading	
Maximum leak rate	-	0.01% reading	



**Recommended Accessories** 



Q-3 9 700HPF-MET





730G Smart Digital Pressure Calibrator See page 136

2700G Reference Pressure Gauges

# See page 138

# **Included Accessories**

Fluke Calibration 700HPPK: Canvas Carrying Bag, High **Pressure Pneumatic Quick** Service Kit (seals for pump), Dry Pac Refill, Silicone Grease, High Pressure Hose, Test Port Adapters

# **Ordering Information**

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700HPPK-NPT	High Pressure Pneumatic Pump/ Comparator, 21 MPA (3000 psi), NPT
700HPP-NPT	High Pressure Pneumatic Test Pump, 21 MPA (3000 psi), NPT
700HPPK-BSP	High Pressure Pneumatic Test Pump/ Comparator, 21 MPA (3000 psi), BCP
700HPP-BSP	High Pressure Pneumatic Test Pump, 21 MPA (3000 psi), BSP
700HPPK-MET	High Pressure Pneumatic Pump/ Comparator, 21MPA (3000 psi), Metric
700HPP-MET	High Pressure Pneumatic Test Pump, 21MPA (300 psi), Metric

Contact your local distributor for price and availability. au.flukecal.com/where-to-buy

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# Process Calibration Tools – Pressure Calibration



# Fluke Calibration P3000 Deadweight Testers



Fluke P3000

The P3000 Series is the culmination of over 50 years of experience in the production and design of high performance pressure standards.

With features designed to improve accuracy and performance, increase reliability and simplify operation these deadweight testers can be used to calibrate virtually any pressure sensing device, including transducers, transmitters, gauges or pressure switches. All units provided with accredited calibration.

# **P3000 Pneumatic Deadweight Tester**

High performance gas deadweight testers with unique suspended piston design for vacuum calibration.

- 0.015% of reading accuracy standard (0.008% optional)
- 3 to 500 psi (0.2 to 35 bar) pressure
- Optional low range 0.03 to 1 bar vacuum (1 to 30 inHg)
- Integrated vacuum and pressure pump available to 2 MPa (300 psi)

# **P3100 Hydraulic Deadweight Tester**

Highly accurate oil deadweight tester with quick and easy-to use single and dual piston deadweight models

- Pressure ranges to 140MPa (20 k psi, 1400 bar)
- 0.015% of reading accuracy standard (0.008% optional)
- · Built in pressure generation and adjustment
- Single or dual piston formats

# **P3200 Hydraulic Deadweight Tester**

Hydraulic deadweight tester specially designed to use water as a test medium.

- Pressure ranges to 70MPa (10 k psi, 700 bar)
- 0.015% of reading accuracy standard (0.008% optional)
- Built in pressure generation and adjustment is standard
- Single or dual piston formats
- Water media

### Accuracy\*

±0.015% of reading (±0.008% optional)

\*Accuracy based on% of reading from 10% to 100% of the piston range when used in accordance with the corrections found on the calibration certificate. Below  $10\% \pm (accuracy class) \times 10\%$  of the piston range.

### **Mass and PCU Materials of Construction**

mass and FOO materials of construction			
Standard weight material	Series 3 non-magnetic austenitic stainless steel		
Weight density	7.8 g/cm <sup>3</sup>		
Optional fractional weights	Solution heat treated aluminum		
Weight density	2.7 g/cm <sup>3</sup>		
Models P3011, P3012, P3013, P3022, P3023, P3025 (V)	Piston Material: Cylinder Material: Coefficient of Expansion:	Ceramic Martensitic steel 11 ppm/°C	
Models P3014, P3015, P3025 (P) P3031, P3032 (P & V)	Piston Material: Cylinder Material: Coefficient of Expansion:	Tungsten carbide Martensitic steel 16.5 ppm/°C	

### **PressCal Software**

PressCal software provides a quick and effective solution to enhance the pressure measurement uncertainty of Deadweight Testers.

PressCal features an easy-to-use user Interface that allows you to enter all the necessary corrections and parameters to accurately determine the pressure generated by the DWT.

PressCal also provides:

- Automatic certificate generation
- Customer details management
- Real-time auditing
  - Choice of 12 pressure units



5540 Metric & 5541 BSP Adapter Sets

**P5543** Angle Adapter

### **Included Accessories**

ISO 17025 Accredited Calibration Certificate, Operating Fluid (where applicable), Spare Seals, Adaptors for 1/8,  $\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$  NPT and BSP, and Metric Adaptors (M20 and M14).

### **Ordering Information**

\* -P indicates built-in pump optional.

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P3011-	Vacuum Deadweight
KPA-P*	Tester (-100 KPA)
P3011-	Vacuum Deadweight
INHG-P*	Tester (-30 INHG)
P3011-	Vacuum Deadweight
MBAR-P*	Tester (-1000 MBAR)
P3011-	Vacuum Deadweight
MMHG-P*	Tester (-760 MMHG)
P3012-	Gas Deadweight Tester,
KPA-P	100 KPA, with Pump
P3012-	Gas Deadweight Tester,
MBAR-P	1000 MBAR, with Pump
P3012-	Gas Deadweight Tester,
INH20-P	400 INH20, with Pump
РЗО13-	Gas Deadweight Tester,
КРА-Р	200 KPA, with Pump
P3013-	Gas Deadweight Tester,
MBAR-P	2000 MBAR, with Pump
P3013-	Gas Deadweight Tester,
INH20-P	800 INH20, with Pump
P3014-	Gas Deadweight Tester,
KGCM2-P	10 KGF/CM2, with Pump
P3014-	Gas Deadweight Tester,
PSI-P	150 PSI, with Pump
P3014-	Gas Deadweight Tester,
KPA-P	1000 KPA, with Pump
P3014-	Gas Deadweight Tester,
MPA-P	MPA, with Pump
P3015-	Gas Deadweight Tester,
BAR-P*	35 BAR
P3015-	Gas Deadweight Tester,
KGCM2-P*	35 KGF/CM2
P3015-	Gas Deadweight Tester,
PSI-P*	500 PSI
P3015-	Gas Deadweight Tester,
KPA-P*	3500 KPA
P3015-	Gas Deadweight Tester,
MPA-P	3.5 MPA

Contact your local distributor for price and availability. au.flukecal.com/where-to-buy



FLUKE

# Fluke Calibration 3130 Portable Pressure Calibrator





The Fluke 3130 Portable Pneumatic Pressure Calibrator is ideal for calibrating pressure transmitters, transducers, gauges and similar devices. The Fluke 3130 contains everything you need to generate, control and measure pressure, as well as read the output of the device under test.

- Measure and generate pressures from vacuum to 2 MPa (300 psi, 20 bar)
- Internal pump can generate vacuum to -80 kPa (-12 psi, -0.8 bar) or pressure to 2 MPa (300 psi, 20 bar)
- Supply pressure connection allowing the use of external gas supply up to 2 MPa (300 psi, 20 bar)
- Measure or generate 4-20 mA
- Measure 0 to 30 V DC
- Compatible with Fluke 750P Pressure Modules
- Variable volume for fine adjustment of pressures
- Pressure measurement accuracy of ±(0.025% reading + 0.01% FS)
- Electrical measurement and 24 volt supply for close looped calibrations
- One year warranty

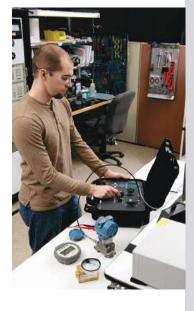
Environmental	
Temperature	Operating: -10°C to +50°C; Storage: -20°C to +60°C
Physical	
Size in cm (LxWxD) and Weight	38.7 × 30.5 × 17.8, 7.7 kg
EMI/RFI Conformance	EN61326:2006 Annex A
Connectors/Ports	1/8 in NPT (External supply port and test port)
Ranges	
Pressure (internal pump)	-80 kPa to 2 MPa (-12 to 300 psi, -0.8 to 20 bar)
Pressure (external air)	0 to 2 MPa (0 to 300 psi, 0 to 20 bar)
mA	0 to 24.000 mA
Volts	0 to 30.000 V DC
Instrumental Measurement Uncertainty	
Pressure	±(0.025% of reading + 0.01% FS)
mA	±(0.015% of reading + 0.02% mA)
Volts	±(0.015% of reading + 0.02% V)

### Recommended Accessories Fluke 3130



**750PXX** Pressure Module See page 131





# **Included Accessories**

Fluke Calibration 3130: Ruggedised Case, Rechargeable, NiMH Battery, Test Leads, Operating Manual.

**Ordering Information** 

3130-G2M Portable Gas Pressure Calibrator

3130-G2M/C Portable Gas Pressure Calibrator with Accredited Calibration

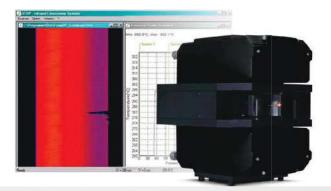
Contact your local distributor for price and availability. au.flukecal.com/where-to-buy



The ability to quickly and accurately measure and verify temperatures throughout the manufacturing process has enabled innovators and producers to bring their projects to life, successfully deliver scalable results and overall help the world function better.

Thermal profiling and non-contact monitoring solutions optimise the production process for just about any every sector – from the manufacturing of consumer goods to large scale construction initiatives and mining, our tools help to ensure precision, safety and consistency.

For more information, visit fluke.co/fpi



# Edge-to-edge Thermal Imaging to see it all.

Designed for the harshest environments, the MP Linescanner Series provides accurate, edge-to-edge and real-time thermal imaging and temperature measurements for continuous processes. See it all with up to 300Hz scan speed and 1024 data points per scan, allowing you to find faulty temperatures, such as hot spots, before an error occurs.



Visualize the unheard and unseen with the power of acoustic imaging. The SV600 Fixed Acoustic Imager enables users to continuously detect, locate and visualise air and gas leaks or changes in sound signatures before they become costly problems. As a fixed, automated solution, the SV600 integrates with your process and eliminates the need for lengthy fault-finding processes such as soapy water tests, when used as part of your product leak testing process.



# Expand your view, expand your understanding

The ThermoView TV40 is a high-performance industrial fixed thermal imaging system that allows you to expand your understanding by providing continuous infrared and visual feeds to visualise temperature data. The TV40 offers a fully integrated temperature control, monitoring, and data archiving solution.

# Mechanical Maintenance

Innance

Fluke Mechanical Maintenance Testers are designed specifically for maintenance professionals who need to quickly and easily perform precision shaft alignments on most rotating machines in the plant and perform vibration analysis and evaluate alignment to understand the root cause of equipment condition.

## NEW Fluke 802EN Vibration Meter



Fluke 802EN

# One-button vibration assessment in six seconds

The Fluke 802EN Vibration Tester delivers high test repeatability and accuracy, making it a reliable tool for frontline fault finding and troubleshooting. The Fluke 802EN Vibration Tester can be used to quickly check the overall vibration, velocity and acceleration of most mechanical assets commonly found in factories. It is easy to use, fast, and efficient, making it the perfect tool for maintenance personnel working in power plants and industries like metallurgy, petrochemical processing, food and beverage manufacturing, and more.

The Fluke 802EN has four test modes designed to meet customer requirements in various difficult-to-measure environments, such as an audio output for headphones which is useful for detecting abnormal machine sounds (headphones not includes).

- Four measurement modes designed for the complex test environments found in industrial sites. Modes include Basic Mode, External Sensor Mode, External Rod Mode, and Audio Mode
- High test repeatability ensures consistent measurement accuracy
- Simple one-button measurement to get assessment value immediately
- One-metre drop tested, rugged and durable
- Data capacity of 99 sets, replaying in real-time
- Built-in flashlight for taking measurements at night or in low-light spaces
- One year warranty

Specifcations		802EN		
Battery Type	2 AAA, IEC LR O3 3 V DC			
Battery Life	Continuous m	neasurement for 25 hours		
Size (L x W x H)	24.1 cm	n x 7.1 cm x 5.8 cm		
Weight		220 g		
Headphone Jack	Stereo audio out	put jack (3.5 mm audio plug)		
External Sensor Jack	M	112 connector		
Specifications				
Accessories	Range	0.1 m/s2 to 199.9 m/s2 Peak (r.m.s. *√2)		
	Resolution	0.1 m/s2		
	Accuracy	±(5 % + 2 digits) (LO: 10 Hz to 1 kHz)		
		±(10 % + 5 digits) (HI: 1 kHz to 10 kHz)		
Velocity	Range	0.1 mm/s to 199.9 mm/s r.m.s.		
	Resolution	0.1 mm/s		
	Accuracy	±(5 % + 2 digits) (10 Hz to 1 kHz)		
Displacement	Range	0.001 mm to 1.999 mm Peak-Peak (r.m.s. *2√2)		
	Resolution	0.001 mm		
	Accuracy	±(5 % + 2 digits) (10 Hz to 1 kHz)		
Piezoelectric sensor parameters	Frequency Response	10 Hz to 15 kHz		
Amplitude units	Acceleration	g, m/s2		
	Velocity	mm/s		
	Displacement	mm		
Environmental	Operating Temperature	-10 °C to 50 °C		
	Storage Temperature	-30 °C to 60 °C		
	Operating Humidity	30 % to 90 % (non-condensing)		
	Operating Altitude	2,000 m		
	Storage Altitude	12,000 m		
	Ingress Protection Rating	IP 40		
	Vibration Limit	500.0 m/s2 peak		
	Drop Test	1 m		
	EMC	IEC 61326-1: Portable Electromagnetic		
	CISPR 11	Group 1, Class A		

#### **Recommended Accessories**





#### **Included Accessories**

**802EN Vibration Meter:** Soft Case, Quick Reference Guide, Safety Information, two (2) AAA Batteries. Note: headphones are not included for audio mode.

802 External Sensor Optional Accessories: External Sensor, Extender, Magnet Base, M12 Rf Connector Spring Cable Assembly. FLUKE-802/ES: External Sensor

#### **Ordering Information**

FLUKE-802EN Vibration Meter

Contact your local distributor for price and availability. fluke.co/wtb

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## 

# Fluke 805 FC Vibration Meter

## Forget the pens, think meter



The Fluke 805 FC is not a vibration pen; it's a meter. A Fluke meter that eliminates the confusion of vibration screening and provides reliable measurements you can trust to make critical go or no-go maintenance decisions. With the Fluke 805 FC, you can identify the strength and severity of vibration and easily track the data over time to monitor an asset's condition.

- Innovative sensor design minimises measurement variations caused by device angle or contact pressure
- Consistent data quality at both low and high frequency ranges
- Four-level severity scale assesses urgency of problems for overall vibration and bearing condition
- Exportable data via USB
- Trending in Microsoft<sup>®</sup> Excel using pre-built templates
- Overall vibration measurement (10 Hz to 1,000 Hz) for acceleration, velocity and displacement units of measurement for a wide variety of machines
- Crest Factor+ technology provides reliable bearing assessment using direct sensor tip measurements between 4,000 Hz and 20,000 Hz
- Compare vibration levels with ISO-10816 severity scales and store results to the Fluke Connect<sup>®</sup> Cloud
- Fluke Connect<sup>®</sup> Share-Live<sup>™</sup> video call
- Coloured lighting system (green, red) and on-screen comments indicate how much pressure needs to be applied to take measurements
- Temperature measurement with Spot Infrared Sensor increases diagnostic capabilities
- On-board memory holds and saves up to 3,500 measurements
- One year warranty

Specifications			
Vibration meter	Low frequency range (overall measurement)	10 Hz to 1,000 Hz	
	High frequency range	4,000 Hz to 20,000 Hz	
	(CF+ measurement)		
	Severity levels	Good, Satisfactory, Unsatisfactory, Unacceptable	
	Vibration limit	50 g peak (100 g peak-peak)	
	A/D converter	16-bit	
	Signal to noise ratio	80 dB	
	Sampling rate	Low frequency: 20,000 Hz;	
		High frequency: 80,000 Hz	
	Real time clock backup	Coin battery	
Sensor	Sensitivity	100 mV/g ±10%	
	Measurement range	0.01 g to 50 g	
	Low frequency range	10 Hz to 1,000 Hz	
	(overall measurement) High frequency range	4.000 Hz to 20.000 Hz	
	(CF+ measurement)	4,000 112 10 20,000 112	
	Resolution	0.01 g	
	Accuracy	At 100 Hz ±5% of measured value	
Infrared	Range	-20°C to 200°C	
thermometer	Accuracy	±2°C	
(temperature measurement)	Focal length	Fixed, at ~3.8 cm	
External sensor	Frequency range	10 Hz to 1,000 Hz	
(Supported, but not	Bias voltage (to supply power)	20 V DC to 22 V DC	
provided)	Bias Current (to supply power)	Maximum 5 mA	
Firmware	External interfaces	USB 2.0 (full speed) communication	
	Data capacity	Database on internal flash memory	
	Memory	Up to 3,500 measurements	
Environmental	IP rating	IP54	
	Drop test	1 metre	
General	Battery type	AA (2) Alkaline or Lithium-ion 2 V DC	
specifications	Battery life	250 measurements	
	Size (LxWxH) and Weight	25.72 cm × 16.19 cm × 9.84 cm, 1.16 kg	
	Connectors	USB mini-B 7-pin, stereo audio output jack	
		(3.5 mm Audio Plug), external sensor jack	



Mechanical Maintenance

potential mechanism failure with confidence on a variety of machinery, in a wide range of industries, without making physical contact with the machine. The Fluke 820-2 LED Stroboscope is a rugged, compact, portable strobe with high intensity LED head, ideal for stop motion diagnostics, mechanical troubleshooting, and process or product research and development.

- High intensity 7-LED array-4,800 lux @ 6,000 FPM/30 cm
- High efficiency LED solid-state light source with uniform flash characteristics allow for higher flash rates—30-300,000 FPM (flashes per minute)
- Digital pulse width modulation for exceptionally sharp images at high speeds
- Rugged, durable design utilises solid-state LEDs with no filaments, gases, hollow cavities, or glass
- Quartz-accuracy control system provides high accuracy +/-(0.02% + 1 digit)
- Multi-line LCD display
- Check the rotating speed of machinery without physical contact or need for reflective tape

#### **Included Accessories**

USB Cable, Storage Case, Belt Holster, Quick Reference Guide, CD-ROM (includes MS Excel Template and Documentation) and Two AA Batteries.

#### **Ordering Information**

FLUKE-805FC	Fluke Connect <sup>®</sup> Vibration Meter
FLUKE 805ES	External Vibration Sensor for 805 Vibration Meter
FLK-820-2	LED Stroboscope

Contact your local distributor for price and availability. fluke.co/wtb

# Fluke 810 Vibration Tester

Take a vibration expert along





#### **Get answers now!**

The Fluke 810 Vibration Tester is the most advanced troubleshooting tool for mechanical maintenance teams who need an answer now. It is a unique new kind of troubleshooting tool, engineered to detect and evaluate the most common mechanical problems.

The Fluke 810 Vibration Tester uses a simple step-by-step process to report on machine faults the first time measurements are taken, without prior machine history.

- · Easily determine the root cause, location and severity of common mechanical faults
- Efficiently prioritise and plan equipment repair or replacement
- Effectively deploy maintenance resources at the point of greatest impact
- Three year warranty

#### **Simple 3 Step Process**

The Fluke 810 helps you locate and diagnose common mechanical problems and prioritise repair actions in three simple steps:



1. Setup: Vibration testing has never been easier. The Fluke 810 asks for basic machine information you already know, like RPM and horsepower. Its onboard info feature gives you field tips for setting up and taking measurements like a professional.



2. Measure: The Fluke 810 easily fits into your maintenance routine. Use it to quickly troubleshoot problems or monitor machine condition.

Diagnosis: Faults	
Extreme: Notor Tree Full Boaring Looseness	
Serious: Motor Drive End Bearing Looseness	
Moderate: Motor Drive E	nd
A 1 of 6	0 10 100
	nt <sup>a</sup> mart unit

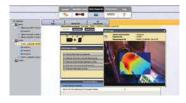
3. Diagnose: Fix it right the first time with the press of a button, the Fluke 810 identifies the root cause, its location, and the problem's severity.

**Diagnostic specifications** Analysis for Motors, fans, blowers, belts and chain drives, gearboxes, couplings, centrifugal pumps, piston pumps, sliding vane pumps, propeller pumps, screw pumps, rotary thread/gear/lobe pumps, piston compressors, centrifugal compressors, screw compressors, closed coupled machines, spindles Standard faults Unbalance, looseness, misalignment and bearing failures Motor rotational speed range 200 rpm to 12000 rpm Plain-text diagnosis, fault severity (slight, moderate, serious, extreme), Diagnosis details repair details, cited peaks, spectra **Tester specifications** IP rating IP54 A/D converter 4 channel, 24 bit 128 dB Dvnamic range FFT resolution 800 lines Battery Lithium-ion, rechargeable, 8 hours operating life Onboard storage capacity 2 GB internal + user accessible slot for additional storage **Sensor specifications** Sensor type Tri-axial accelerometer , 100 mV/g (±5%, 25°C) **Tachometer specifications** Tachometer type Laser Diode Class 2



#### **Viewer PC Software**

- Store and track your data
- · Generate diagnostic reports and track the severity of your machine's condition
- Import and store JPEG images



#### Interactive, self-paced training on DVD

Learn more about the basics of vibration and how to fully utilise the features and functionality of the Fluke 810. Fluke has partnered with Mobius Institute, an industry leader in vibration training, to develop an interactive training DVD included with each Fluke 810.

#### **Included Accessories**

Tri-axial TEDS Accelerometer, Accelerometer Magnet Mount, Accelerometer Mounting Pad Kit with Adhesive, Accelerometer Quick Disconnect Cable, Laser Tachometer and Storage Pouch, Smart Battery Pack with Cable and Adapters, Shoulder Strap, Adjustable Hand Strap, Viewer PC Application Software, Mini-USB to USB Cable, Getting Started Guide, Illustrated Quick Reference Guide, User Manual CD, Instructional Training DVD, Hard Carrying Case.

Vibration Tester

#### **Ordering Information**

FLUKE-810

Contact your local distributor for price and availability. fluke.co/wtb



# Fluke 831 Laser Shaft Alignment Tool





# Precision shaft alignment made easy

The Fluke 831 Laser Shaft Alignment Tool is the ideal test tool to precision-align rotating shafts in your facility. If you are still using rulers and dial indicators to ensure your rotating machinery is properly aligned, you could be losing thousands of dollars per year in replacement bearing costs, hours of unnecessary repair time and crippling unplanned downtime, not to mention taking years off your machine's useful life. With its problem-solving Adaptive Alignment features, the Fluke 831 offers you an unbeatable price-performance ratio.

- The single-laser measurement technology results in better data accuracy
- The intuitive guided user interface and touch tablet helps you quickly complete machine alignments
- Easy for the novice yet powerful for the skilled technician which means you can cover more of your machines – all the functionality needed on the plant floor like thermal growth, user defined tolerances, etc.

General specifications		
CPU	Processor: Exynos 9810, 2.7GHz,1.7GHz Octa-Core	
	Memory: 4 GB RAM, 64 GB Flash memory	
Display Technology: TFT Integrated light sensor for automated adjustment of the brightness to the display according to the lighting condition hence extending battery life. Resolution: 1920 x 1200 Pixel Size: 203.1 mm		
Connectivity	Wi-Fi: 802.11 a/b/g/n/ac/ax 2.4G+5GHz, HE80, MIMO, 1024-QAM. Wireless: 5.0 RFID: NFC	
Camera	Main camera resolution: 13.0 MP, Auto Focus Front camera resolution: 5.0 MP	
Environmental protection	IP 68: dustproof, submersible 1.5 m	
Ingress Protection (IEC 60529)	IP65 (dustproof and water spray resistant), shockproof Relative humidity 10% to 90%	
Temperature range	Operation: -20°C to 50°C	
Battery	Battery Type: Li-Ion rechargeable battery 3.8 V / 5 3.8 V / 5050 mAh / 19.2 Wh Operating time: Up to 11 hours	
Dimensions/weight (without hand straps)	Approx. 256 x 149 x 35 mm Approx. 710 g	
Reflector		
Туре	90° roof prism	
Accuracy (average)	> 99%	
Environmental protection	IP 67 (submersible, dustproof)	
Sensor		
Measurement principle	Coaxial, reflected laser beam	
LED indicators	1 LED for laser beam status and battery status	
Power supply		
Battery	Lithium-Ion rechargeable battery 3.7 V / 5 Wh	
Operating time	10 hours (continuous use)	
Charging time	Using charger - 2.5 h for up to 90% 3.5 h for up to 100% Using USB port - 3 h for up to 90% 4 h for up to 100%	



3. Results

#### **Included Accessories**

sensALIGN 3 Sensor Laser, Reflector Prism, Chain-type Mounting Bracket with 150 mm Support Posts (2x), 300 mm Support Posts (4x), Lens Cleaning Cloth, USB Sensor Cable, USB PC Cable, USB Drive, USB Drive Cable, Tape Measure, Power Adapter (2x) Quick Reference Guide and Safety Information Sheet, Carrying Case

#### **Ordering Information**

FLK-831 Laser Shaft Alignment Tool

Contact your local distributor for price and availability. fluke.co/wtb

# Fluke 835 Laser Belt Alignment Tool





Fluke 835 NEW



# Get more out of your belt driven systems through proper alignment

Misalignment can take years off your machinery's useful lifespan, leading to time and money being wasted on unnecessary repairs and replacements, and resulting in costly unplanned downtime. The Fluke 835 Laser Belt Alignment Tool is the ideal tool to precision-align belt-driven machines in your facility.

The Fluke 835 Laser Belt Alignment Tool provides fast, easy, and accurate pulley alignments to help keep your plant up and running. In just a few steps, you can precisely align all of the belt-driven machines in your facility.

With the Fluke 835, a single operator can quickly and easily achieve precision alignment for all your standard belt-driven machines whose alignment has never been previously prioritised. The benefits of precision alignment include longer-lasting parts, including bearings, belts and seals, and cost savings gained from reduced production loss and energy waste.

- Efficient, accurate one-person operation with no training needed
- Time-saving pulley alignment method requires no cross-check
- Shows offset, vertical, and horizontal angles simultaneously
- Live corrections validate when precision alignment is achieved
- Strong magnets mount onto virtually any pulley face
- Fluke 835 provides 6 hours of continuous use with four AAA batteries
- Two year warranty



Fluke 805ES External Assembly Vibration Sensor See page 179

820-2 LED Stroboscope See page 145

#### Recommended Fluke 805 FC Vibration Meter

The Fluke 805 FC is not a vibration pen; it's a meter. A Fluke meter that eliminates the confusion of vibration screening and provides reliable measurements you can trust to make critical go or no-go maintenance decisions. With the Fluke 805 FC, you can identify the strength and severity of vir



you can identify the strength and severity of vibration and easily track the data over time to monitor an asset's condition.

For more details see page 145



#### **Included Accessories**

Four Batteries (AAA), Fluke 835 Reflector Unit, Fabric Carrying Pouch, Safety Info, Quick Reference Guide

#### **Ordering Information**

FLK	835	

Laser Belt Alignment Tool

Contact your local distributor for price and availability. fluke.co/wtb

Features	835 Laser Belt Alignment Tool
Accuracy	0.2°
Laser wavelength	505 – 535 nm (green – more visible)
Output power	< 1.0 mW
Classification class	2
Measuring distance	10 m between units
Laser line length	7 m at 5 m distance
Controls	Laser ON/OFF rocker switch
Battery type	4 AAA alkaline batteries
Operating time	6 hours
Operating temp	-5°C to 40°C
Storage temp	-10°C to 70°C
Mounting method	Strong magnets
Weight	0.3 kg
Dimensions	37 mm x 40 mm x 170 mm
Housing	Gray anodised aluminium
Features	835 Reflector Unit
Accuracy	0.2°
Reflector size	21 mm x 32 mm
Mounting method	Strong magnets
Weight	0.3 kg
Dimensions	37 mm x 40 mm x 170 mm
Housing	Gray anodised aluminium

# Intrinsically Safe Test Tools

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Intrinsically Safe is a protection method employed in potentially explosive atmospheres. Certificate IS tools are designed to prevent the release of sufficient energy to cause ignition of flammable material. IS standards apply to all equipment that can create one or more of a range of defined potential explosion sources.

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# **Intrinsically Safe Test Tools**

for Hazardous Areas

Intrinsically Safe is a protection method employed in potentially explosive atmospheres. Certificate IS tools are designed to prevent the release of sufficient energy to cause ignition of flammable material. IS standards apply to all equipment that can create one or more of a range of defined potential explosion sources.



**ATEX** – The primary intrinsically safe standard, which has been set in the European Union with the Directive 94/9/EC, commonly called ATEX (ATmosphères EXplosibles).

Fluke Pro	ducts	ATEX	certified	Certification
200	28 II Ex AU Intrinsically Safe True-RMS Multimeter ANZEX 12.2008x Ex Ia I Ma	æ	II 2G Ex ia IIC T4 Gb I M1 Ex ia I Ma	Class I, Div 1, Groups A,B,C,D T4 Class I, Zone 1, AEx ia IIC T4 Ex ia IIC T4 IP67
	718Ex Intrinsically Safe Pressure Calibrator		II 1G Ex ia IIC T4	I.S. Class I, Div 1, Groups A,B,C,D T4
	721Ex Intrinsically Safe Precision Pressure Calibrator	æ	II 2G Ex ia IIB T3 Gb	IECEx: Ex ia IIB T3 Gb
	750PEx Intrinsically Safe Pressure Modules		II 1G Ex ia IIC T4 Ga	IECEx: Ex ia llC T4 Ga
	568Ex Intrinsically Safe Infrared Thermometer	æ	II 2G Ex ia IIC T4 Gb	Class I, Div 1, Groups A,B,C,D, T4 Class I, Div 2, Groups A,B,C,D, T4 Class I, Zone 1, AEx ia IIC T4 Gb
٢	700G Series Intrinsically Safe Pressure Gauges		II 3G Ex ic IIB T6 Gc	CSA Class I, Div. 2 Groups A,B,C,D
	1551A Ex/1552A Ex Intrinsically Safe "Stik" Thermometers		II 2G Ex ib IIB T4 Gb	
	Fluke FL-45 Ex Intrinsically Safe Flashlight		II 1G Ex ia IIC TS Ga I M1 Ex ia I Ma	Class I Div 1 and 2 Group A,B,C,D Class II Div 1 and 2 Group E,F,G Class III TS IP67
	Fluke FL-120 Ex Intrinsically Safe Flashlight	S	II 1G Ex ia IIC T4 Ga I M1 Ex ia I Ma	Class I Div 1 and 2 Group A,B,C,D Class II Div 1 and 2 Group E,F,G Class III T4 IP6X
1 AND IN THE REAL PROPERTY INTERNAL PROPERTY	Fluke FL-150 Ex Intrinsically Safe Flashlight	æ	II 1G Ex ia IIC T4 Ga I M1 Ex ia I Ma	Class I Div 1 and 2 Group A,B,C,D Class II Div 1 and 2 Group E,F,G Class III T4 IP67
ø	Fluke HL-200 Ex Intrinsically Safe Headlamp		II 1G Ex ia IIC T4 Ga	Class I Div 1 and 2 Group A,B,C,D Class II Div 1 and 2 Group E,F,G Class III T4 IP67





Ordering Information				
FLUKE-28IIEX/ AU	Intrinsically Safe True-RMS Digital Multimeter			
<b>FLUKE-718EX</b> (30, 100, 300G ranges)	Intrinsically Safe Pressure Calibrator			
FLUKE-721EX	Intrinsically Safe Pressure Calibrator			
<b>FLUKE-750PEX</b> (750P: 01, 05, 06, 09, 24, 27, 29, A4Ex)	Intrinsically Safe Pressure Modules			
FLUKE-568EX	Intrinsically Safe Infrared Thermometer			
FLUKE-700G	Pressure Test Gauges (23 ranges) O to 10 in H20 up to 10,000 psi			
FLUKE-1551AEX FLUKE-1552AEX	"Stik" Thermometer 1551A: -50 to 160C 1552A: -80 to 300C			
FLUKE-568EX	Intrinsically Safe Infrared Thermometer			
FL-45 EX	45 Lumen Intrinsically Safe Flashlight			
FL-120 EX	120 Lumen Intrinsically Safe Flashlight			
FL-150 EX	150 Lumen Intrinsically Safe Flashlight			
HL-200 EX	200 Lumen Intrinsically Safe Headlamp			

Contact your local distributor for price and availability. fluke.co/wtb

# Insulated Hand Tools

Safe, rugged and with a lifetime warranty. Forged from German steel, Fluke offers a line of premium insulated hand tools that are built to last a lifetime.

# **Fluke Insulated Hand Tools**



#### Fluke Insulated Screwdrivers

Precision insulated tools fit and rip the fastener properly to apply maximum torque without damage to the head. Hardened chromium-molybdenum-vanadium steel blades minimise wear. Fluke offers three styles and multiple sizes—seven drivers in all. All certified to 1000 volts AC and 1500 V DC. Every screwdriver individually tested to 10,000 volts.

- The ergonomic handle adapts to the user's hand, causing less strain and work fatigue and providing maximum torque
- The full length, impact-proof handle core is coated with soft-grip outer material and has a hanging hole for extra security and an anti-roll handle design
- The slim insulated shaft allows access in hard to reach areas
- All blades are manufactured from German CMV steel for superior durability

#### **Fluke Insulated Pliers and Cutters**

Fluke insulated pliers and cutters give you a range of options when the job requires jaws with bite. All Fluke pliers and cutters are built with German CMV steel.

#### **Long Nose Pliers**

- Unique milled wave patter gripping zones
- Straight, half-round, long and slim knurled jaws, specially profiled
- Side cutting edge for wire cutting

#### Heavy-Duty, High-Leverage Diagonal Cutter

- · Cuts hard materials including steel and piano wire
- Power joint and precision cutting edges

#### **Fast Adjust Pump Pliers**

- 27 jaw adjustment steps for more accurate gripping of the workpiece with less slippage than other designs
- Self-locking on pipes and nuts: no slipping on the workpiece, with low hand force required
- Gripping surfaces with teeth hardened to HRC61 for low wear and reliable gripping
- Box-joint design; high stability because of double guide
- Pinch guard that prevents operators' fingers being pinched

#### **Heavy Duty Combination Pliers**

- Secure hold by aggressive serrated jaws and 4-point gripping hole
- Slim shape for better access to wires in tight spaces
- Powerful gripping jaw, yet 20% lighter weight than other designs







#### **Ordering Information**

j	
ISLS3	Insulated Slotted Screwdriver 2.5 mm × 75 mm
ISLS5	Insulated Slotted Screwdriver 4 mm × 100 mm
ISLS8	Insulated Slotted Screwdriver 6 mm × 125 mm
IPHS1	Insulated Phillips Screwdriver 75 mm
IPHS2	Insulated Phillips Screwdriver 100 mm
ISQS1	Insulated Squared Screwdriver 100 mm
ISQS2	Insulated Squared Screwdriver 125 mm
INLP8	Insulated Long Nose Plier 200 mm
INDC8	Insulated Diagonal Cutter 200 mm
INPP10	Insulated Pump Plier 250 mm
INCP8	Insulated Lineman Combination Plier 200 mm

Contact your local distributor for price and availability. fluke.co/wtb









## **Fluke Insulated Hand Tools Kits**







Hand Tool Kits	IKSC7	IKPL3	IKST7	ІКРК7	
Description	Insulated 7 Unit Screwdriver Kit, 1,000 V	Insulated 3 Unit Pliers Kit, 1,000 V	Insulated Hand Tools Starter Kit, 1,000 V	Fluke Pack30 Professional Tool Backpack + Insulated Hand Tools Starter Kit	
Included	3 Slotted Tips, 2 Phillips Tips, 2 Square Drive Tips	Long Noise Pliers, Heavy Duty Diagonal Cutter, Heavy Duty Combo Pliers, Roll-up Tool Pouch	3 Slotted Tips, 2 Phillips Tips, Long Nose Pliers, Diagonal Cutter, Linesman Combination Plier, Roll-up Tool Pouch	Fluke Pack30 Professional Tool Backpack, 3 Slotted Tips, 2 Phillips Tips, Long Nose Pliers, Diagonal Cutter, Combination Pliers, Roll-up Tool Pouch	
Warranty	Lifetime	Lifetime	Lifetime	1 year*	
*Hand tools in kits all carry the limited lifetime warranty.					





# Insulated Hand Tools

Tools + Hand Tool Kits	IBT6K	IB875K	IB117K	IB179K	IB376K
Description	Fluke T6 Electrical Tester + Insulated Hand Tools Starter Kit	Fluke 87V Industrial Multimeter + Insulated Hand Tools Starter Kit	Fluke 117 Electrician's Multimeter + Insulated Hand Tools Starter Kit	Fluke 179 True-RMS Digital Multimeter + Insulated Hand Tools Starter Kit	Fluke 376FC True-RMS Clamp Meter + Insulated Hand Tools Starter Kit
Included	Fluke T6 Electrical Tester, 3 Slotted Tips, 2 Phillips Tips, Long Nose Pliers, Diagonal Cutter, Combination Pliers, Roll-up Tool Pouch	Fluke 87V Industrial Multimeter, 3 Slotted Tips, 2 Phillips Tips, Long Nose Pliers, Diagonal Cutter, Combination Pliers, Roll-up Tool Pouch	Fluke 117 Electrician's Multimeter, 3 Slotted Tips, 2 Phillips Tips, Long Nose Pliers, Diagonal Cutter, Combination Pliers, Roll-up Tool Pouch	Fluke 179 True-RMS Digital Multimeter, 3 Slotted Tips, 2 Phillips Tips, Long Nose Pliers, Diagonal Cutter, Combination Pliers, Roll-up Tool Pouch	Fluke 376FC True-RMS Clamp Meter, 3 Slotted Tips, 2 Phillips Tips, Long Nose Pliers, Diagonal Cutter, Combination Pliers, Roll-up Tool Pouch

 Warranty
 2 year\*
 Lifetime
 3 year\*

 \*Hand tools in kits all carry the limited lifetime warranty.

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Lifetime

Lifetime

AccessoriesRUP8Pack30DescriptionRoll-up Tool Pouch. Holds up to 3<br/>pliers and 5 screwdrivers, rolls shut,<br/>closes with hook and loop fastenersOver 30 pockets in six main storage<br/>compartments. Rugged, waterproof base<br/>protects your tools.IncludedTools not includedTools not includedWarranty1 year1 year (extendable)

#### \*Insulated Hand Tool Lifetime Limited Warranty

Each Fluke insulated Hand Tool will be free from defects in material and workmanship for its lifetime. As used herein, "lifetime" is defined as seven years after Fluke discontinues manufacturing the product, but the warranty period shall be at least fifteen years from the date of purchase. This warranty does not cover damage from neglect, missay, containnation, alteration, accident or abnormal conditions of operation or handling, damage or normal wear and tear of mechanical components. This warranty covers the original purchaser only and is not transferable.

To establish original ownership and prove date of purchase, please complete and return the registration card accompanying the product, or register your product on fluke.com/registration. Fluke will, at its option, repair at no charge, replace or refund the purchase price of a defective product purchased through a Fluke authorised sales outlet and at the applicable international price. Fluke reserves the right to charge for importation costs of repair/replacement parts if the product purchased in one country is sent for repair elsewhere.

If the product is defective, contact the authorised seller you purchased the tool from for immediate replacement or your nearest Fluke authorised service center to obtain return authorisation information, then send the product to that service center, with a description of the difficulty, postage and insurance prepaid (POB Destination). Fluke assumes no risk for damage in transit. Fluke will pay return transportation for product replaced in-warranty. Before making any nonwarranty repair, Fluke will estimate cost and obtain authorisation, then invoice you for repair and return transportation.

THIS WARRANTY IS YOUR ONLY REMEDY. NO OTHER WARRANTIES, SUCH AS FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSED OR IMPLIED. FLIKE SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR COMSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, ARISING FROM ANY CAUSE OR THEORY. AUTHORISED RESELLERS ARE NOT AUTHORISED TO EXTEND ANY DIFFERENT WARRANTY ON FLIKE'S BEHALF.

	Information	

Uraerin	g information
IKSC7	Insulated 7 Unit Screwdriver Kit, 1,000 V
IKPL3	Insulated 3 Unit Pliers Kit, 1,000 V
IKST7	Insulated Hand Tools Starter Kit, 1,000 V
IKPK7	Pack30 Professional Tool Backpack + Insulated Hand Tools Starter Kit
IBT6K	Fluke T6 Electrical Tester + Insulated Hand Tools Starter Kit
IB875K	Fluke 87V Industrial Multimeter + Insulated Hand Tools Starter Kit
IB117K	Fluke 117 Electrician's Multimeter + Insulated Hand Tools Starter Kit
IB179K	Fluke 179 True-RMS Digital Multimeter + Insulated Hand Tools Starter Kit
IB376K	Fluke 376FC True-RMS Clamp Meter + Insulated Hand Tools Starter Kit
RUP8	Roll-up Tool Pouch
PACK30	Professional Tool Backpack

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# Accessories

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FLUKE

Accessories increase the functionality of your test tool and increase your safety and proficiency. Your digital multimeter can become a thermometer, clamp meter, or even a pressure gauge. With Fluke genuine accessories, you can broaden the ability to take meter measurements in different environments to meet your industrial, electrical, and electronic needs.

# IR CAMERA ACCESSORIES

#### **Battery and Charger Compatibility**

Prevent the unexpected loss of power with our rugged and rechargeable battery packs and keep your Fluke Infrared Camera charged while you're on the road with our car chargers.

Model Number	Ti27/ TiR27 / Ti29/ TiR29/ Ti32/ TiR32	Ti29/ TiR29	Ti32/ TiR32	Ti90/ Ti95	TiS10/ TiS20/ TiS20+/ TiS20+ MAX/ TiS40/ TiS40	TiS55/ TiS60/ TiS60+/ TiS65/ TiS75	Ti100/ Ti105/ Ti110/ TiR105/ TiR110 T1125/ TiR125	Ti200/ Ti300/ Ti300+/ Ti400/ Ti401/ Ti450/ Ti480	TiX500/ TiX501/ TiX520/ TiX560/ TiX580	TiX620/ TiX640/ TiX660/ TiX1000
<b>TI-SBC3B</b> Battery Charging Base	•	•	•	•	•	•	•	•	•	
<b>TI-SBP3</b> Rechargeable Lithium-ion Smart Battery Pack	•	•	•	•	•	•	•	•		
TI-CAR CHARGER	•	•	•	•	•	•	•	•	•	

#### **Tripod Base Compatibility**

Lightweight, one-piece mounting accessory quickly and easily attaches to your Fluke Infrared Camera and allows you to mount to a standard tripod or monopod for those applications or situations that require a more stable or semi-fixed platform.

Model Number	64 MAX	Ti27/ TiR27	Ti29/ TiR29	Ti32/ TiR32	Ti90/ Ti95	TiS10/TiS20/ TiS20+/ TiS20+ MAX/ TiS40/TiS40	TiS55/TiS60/ TiS60+/ TiS65/TiS75	Ti100/ Ti105/Ti110/ TiR105/ TiR110	Ti125/ TiR125	Ti200/ Ti300/ Ti300+/Ti400/ Ti401/Ti450/Ti480
TI-TRIPOD2					٠			•	٠	
TI-TRIPOD3						•	•			•



Model Number	TL175	TL26A	TL40	<b>TL71</b>	TL75	TL76	TL221	TL222	TL224	<b>TL910</b>
Test Leads										
110/114/115/116/117	•	•	•	•	•	•	•	•	•	•
175/177/179	•	•	•	•	•	•	•	•	•	•
87V	•	•	•	•	•	•	•	•	•	•
287/289	•	•	•	•	•	•	•	•	•	•
8845/8846	•	•	•	•	•	•	•	•	•	•
120 Series	•	•	•	•	•	•	•	•	•	•
190 Series	•	•	•	•	•	•	•	•	•	•
323/324/325	•	•	•	•	•	•	•	•	•	•
370 Series, 381	•	•	•	•	•	•	•	•	•	•
705/707	•	•	•	•	•	•	•	•	•	•
712	•	•	•	•	•	•	•	•	•	•
715	•	•	•	•	•	•	•	•	•	•
716/717	•	•	•	•	•	•	•	•	•	•
718	•	•	•	•	•	•	•	•	•	•
725/726	•	•	•	•	•	•	•	•	•	•
787/B/789	•	•	•	•	•	•	•	•	•	•
1577/1587 FC	•	•	•	•	•	•	•	•	•	•
Clips and Probes	1	1	1		1		1	1	1	
AC175				•	•	•				
AC87							•	•	•	
AC89							•	•	•	
AC220							•	•	•	
AC280							•	•	•	
AC238A							•	•	•	
AC285							•	•	•	
AC288							•	•	•	
FTP-1							•	•	•	
TLK290							•	•	•	
TLK291							•	•	•	
TP1							•	•	•	
TP2							•	•	•	
TP4							•	•	•	
TP38							•	•	•	
TP74							•	•	•	
TP80							•	•	•	
TP175							•	•	•	
TP220							•	•	•	
TP912										•
TP920				•	•					
T5 Starter Kit						ible with T5/1	 [+/T+Pro/330	) Series Clam	p Meters)	
TP165X							507/1577/15			

TEST LEADS. PROBES AND CLIPS

Accessories

#### Test Lead/Probe-in-One



#### TL175 TwistGuard™ Test Leads

- Probes meet IEC 61010-031 requirements for safety
- Patented extendable tip guard meets CAT III 1000 V, CAT IV 600 V requirements while providing the flexibility you need for CAT II measurements
- Probes always show correct category rating for tip length being used



#### TL75 Hard Point™ Test Lead Set

One pair (red, black) comfort grip probes with PVC-insulated, right-angle shrouded 4 mm banana plugs.

• Safety rating: CAT II 1000 V, 10 A (CAT III 1000 V, CAT IV 600 V with protective cap)



#### **TL71 Premium Test Lead Set**

One pair (red, black) comfort grip probes with flexible silicone insulated, right-angle test leads.

- Heat and cold resistant
- Safety rating: CAT II 1000 V,10 A (CAT III 1000 V, CAT IV 600 V with protective cap)



#### TL76 2mm/4mm Test Lead Set

One pair (red, black) silicone test leads with right angle shrouded 4 mm banana plugs.

- Removable lantern tip for easy access to terminal blocks, 2 mm diameter
- Safety rating: CAT II 1000 V, 10 A (CAT III 1000 V, CAT IV 600 V with protective cap)



#### TL40 Retractable Tip Test Lead Set

One pair (red, black) flexible silicone insulated test leads with sharp needle point tips adjustable to desired length from 0 mm to 76 mm.

- Extra hard probe tips to provide long service life
- Safety rating: CAT II 600 V, 3 A rating



#### TL26A 60 in 5-Way Test Lead Set

One pair (red, black) silicone-insulated leads with five different ways to connect.

- U-shaped nose for blade-shaped terminals
- Notched jaw for gripping screw heads, bare wire or terminals
- Serrated teeth for gripping threaded or wire-wrapped terminals
- Sharp needle cluster for piercing small gauge (#22-#28 AWG) wires
- Large piercing needle
- Safety rating: 30 V, 10 A



#### **TL910 Electronic Test Probes**

One pair (red, black) leads with very small tips to access hard-to-reach electronic test points.

- Includes three sets of spring-loaded gold tips and two sets of stainless steel tips
- Tip length up to 100 mm
- Tip diameter: 1 mm
- Safety rating: CAT II 1000 V, 3 A



#### **TP912 Replacement Tips for TL910**

Five sets of spring-loaded, tips to refurbish TL910 Electronic Test Probes.

- Very small 1mm tips to access hardto-reach electronic test pointsProbe tip length up to 100 mm
- Three sets of gold-plated and two sets of stainless steel tips



#### **TP165X Remote Control Probe**

Probe with integrated test button simplifies measurement when accessing hard-to-reach points.

- Probe designed for 1500 Series Insulation and 1650/1660 Series Installation Testers
- Tip length up to .735 in
- Tip diameter: 1 mm
- Safety rating: CAT II 1000 V, (CAT III 1000 V, CAT IV 600 V with protective cap), 10 A



#### TL1500DC 1500 V DC Test Lead Set

Test leads specially developed for solar, wind & battery applications. Rugged design for rough outdoor environments.

- Safe and accurate voltage measurements up to 1500 V DC
   Safety action: CMT UL 1500 V
- Safety rating: CAT III 1500 V, CAT IV 600 V

#### **Probe-in-one clips**



AC288 SureGrip™ Terminal Block Probe

One pair (red, black) of probes features a retractable probe tip for connections to clamp and screw type terminal blocks.

- Designed for increased safety, while providing the flexibility to reach deep connection points
- 1mm diameter probe tip extends out to 8.4 mm length
- Recommended for use with the TL224, TL222, TL221 test leads
- Safety rating: CAT III 1000 V, CAT IV 600 V



#### AC175 Alligator Clip Set

One pair (red, black) slide-on alligator clips.

- 8mm clip opening
- Slide-on alligator clips are compatible with TL71, TL75, TL175 and TP175 test probes
- Safety rating: CAT IV 600 V, CAT III 1000 V, 10 A



#### **TP920 Test Probe Adapter Set**

Three pairs (red, black) push-on adapters.

- Includes IC test adapters, extended probe tips, and medium alligator clips
- Maximum opening 7.6 mm
- Safety rating: IC test adapter CAT II 300 V, extended probe tips CAT II 300 V, medium alligator clips CAT II 1000 V

# TEST LEADS. PROBES AND CLIPS

#### **Modular Test Leads**



#### TL221 SureGrip™ Test Lead Extensions Set

One pair (red, black) silicone-insulated leads with safety-shrouded, 4 mm banana plugs.

- Couplers have female connectors on both ends
- Safety rating: CAT IV 600 V, CAT III 1000 V, 10 A



#### TL222 SureGrip™ Silicone Insulated Test Leads

One pair (red, black) silicone-insulated test leads (red, black) with safety-shrouded, 4 mm banana plugs.

• Right angle connectors on both ends



#### TL224 SureGrip™ Insulated Test Leads

One pair (red, black) silicone-insulated test leads with safety-shrouded 4 mm banana plugs.

- Right angle connector on one end and straight connector on the other
- Safety rating: CAT IV 600 V, CAT III 1000 V, 10 A



#### **TL27 Heavy-duty Test Lead Set**

One pair (red, black) rugged, EPDMinsulated test leads with safety-shrouded 4 mm banana plugs.

- Straight connectors on both ends
- Safety rating: CAT III 1000 V, 10 A

#### **Test Lead Holder**



#### **H900 Test Lead Holder**

Heavy-duty holder for conveniently storing test lead wires.

- Mounting holes for securing to wall or other surfaces
- For test lead wires up to 8mm in diameter
- Overall dimensions (LxWxH): 279 mm × 89 mm × 32 mm

#### **Modular Clips**



#### AC285/-FTP SureGrip™ Alligator Clips

One pair (red, black) large alligator clips with insulated, nickel-plated steel jaws.

- Multi-purpose tooth pattern grips from fine gauge wire to a 20 mm bolt
- Safety rating: CAT IV 600 V, CAT III 1000 V, 10 A
- AC285-FTP includes AC285 and adapters for FTP-1 or FTPL-1 Fused Test Probes



#### AC220 SureGrip<sup>™</sup> Alligator Clips

One pair (red, black) of small, insulated, nickel-plated jaws.

- Blunt tip grabs round screw heads up to 9.5 mm
- Safety rating: CAT IV 600 V, CAT III 1000 V, 10 A



#### AC280 SureGrip™ Hook Clips

One pair (red, black) nickel-plated hookstyle clips.

- Hook opening 6.4 mm at front
- Base opening of 0.2 mm
- Safety rating: CAT IV 600 V, CAT III 1000 V, 3 A



#### AC283A SureGrip™ Pincer Clips

One pair (red, black) nickel-plated pincers open to 5 mm.

- 11.4 cm flexible insulated shaft
- Safety rating: CAT II



#### AC89 Heavy Duty Insulation Piercing Test Clip

Ideal probe for establishing accurate contact through insulation.

- Pierces 0.25 mm to 1.5 mm insulated wire
- Safety rating: 1000 V, 10 A



#### AC87 Heavy Duty Bus Bar Clip Set

One pair (red, black) flat, right angle clips designed for connecting to bus bars.

- Adjustable collar provides two ranges of jaw openings up to 30 mm
- Safety rating: CAT III 600 V, 5 A

#### **Modular Test Probes**



#### TP175 TwistGuard™ Test Probes

- Modular test probes of the popular TL175 Test Leads
- Patented extendable tip guard meets CAT III 1000 V, CAT IV 600 V requirements while providing the flexibility you need for CAT II measurements
- 2 mm diameter stainless steel probe tips



#### **TP220 SureGrip<sup>™</sup> Industrial Test Probes**

One pair (red, black) industrial test probes with stainless steel tip.

- Sharp, 12 mm tips
- Safety rating: CAT II 1000 V (CAT III 1000 V, CAT IV 600 V with protective cap), 10 A



#### TP1 Slim Reach™ Test Probes

One pair (red, black) slender probes with flat stainless steel blade to hold securely in blade-type electrical wall sockets.

- Tip length up to 14.7 mm
- Safety rating: CAT II 1000 V, 10 A (CAT III 1000 V, CAT IV 600 V with protective cap)



#### TP2 Slim Reach™ Test Probes

One pair (red, black) slender stainless steel probes for accessing closely-spaced or recessed terminals such as in electronic environments.

- 2 mm diameter tip
- Safety rating: CAT II 1000 V, 10 A (CAT III 1000 V, CAT IV 600 V with protective cap)



#### **TP4 Slim Reach™ Test Probes**

One pair (red, black) slender stainless steel probes for accessing closely-spaced or recessed electrical terminals.

- 4 mm diameter probe tip designed to fit securely into IEC (C13 and C14) electrical wall outlets
- Safety rating: CAT II 1000 V, 10 A

# TEST LEADS. PROBES AND CLIPS

#### **Test Lead Sets and Kits**

FTP-1 / FTPL-1 SureGrip<sup>™</sup> Fused



#### **TP80 Electronic Test Probes**

One pair (red, black) electronics test probes.

- IC-insulated cap prevents shortening of IC legs for probing high density components or boards
- Tip length up to 3.9 mm
- Tip diameter: 1 mm
- Safety rating: CAT III 1000 V, 1 A



#### **TP74 Lantern Tip Test Probes**

One pair (red, black) featuring nickelplated brass ends.

- Banana-style 4 mm spring contacts
- Safety rating: CAT II 1000 V, 10 A (CAT III 1000 V, CAT IV 600 V with protective cap)



#### TP38 Slim Reach™ Test Probes

One pair (red, black) slender stainless steel probes for accessing closelyspaced or recessed terminals.

- Tip length: 24 mm which includes the insulated part of the tip
- Probe tip insulated to 4 mm from the end
- Safety rating: CAT IV 600 V, CAT III 1000 V, 10 A

#### **Patch Cords**



#### TL932 Patch Cords (90 cm)

One pair (red, black) multi-stacking banana plug patch cords, 90 cm long.

- Nickel-plated, 4 mm banana plugs
- 90 cm long PVC insulated leads
- 30 V RMS or 60 V DC, 15 A



#### TL930 Patch Cords (60 cm)

One pair (red, black) multi-stacking banana plug patch cords, 61 cm long.

- Nickel-plated, 4 mm banana plugs
- 61 cm long PVC insulated leads
- 30 V RMS or 60 V DC, 15 A



#### TL935 Patch Cords (60 cm, 90 cm, 120 cm)

Three sets (red and black pairs) of multi-stacking banana plug patch cords in different lengths.

- Nickel-plated, 4 mm banana plugs
  60 cm, 90 cm, and 120 cm long PVC insulated leads
- 30 V RMS or 60 V DC, 15 A



#### **TL940 Mini-Hook Test Leads**

One pair (red, black) of test leads with multi-stacking 4 mm banana plugs and mini-hooks.

- Mini-hooks attach to component leads up to 1.5 mm diameter
- 90 cm long PVC insulated leads
- 30 V RMS or 60 V DC, 3 A



#### **TL950 Mini-Pincer Test Leads**

One pair (red, black) of test leads with multi-stacking 4 mm banana plugs and mini-pincers.

- Mini-pincers open to 2.3 mm
- 90 cm long PVC insulated leads
- 30 V RMS or 60 V DC, 3 A



#### **TL960 Micro-Hook Test Leads**

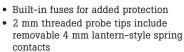
One pair (red, black) of test leads with multi-stacking 4 mm banana plugs and micro-hooks.

- Micro-hooks attach to component leads up to 1 mm diameter
- 90 cm long PVC insulated leads
- 30 V RMS or 60 V DC, 3 A



#### **TL970 Hook and Pincer Set**

- TL940 Mini-Hook Test Lead Set
- TL950 Mini-Pincer Test Lead Set
- TL960 Micro-Hook Test Lead Set



**Test Probes** 

- FTPL-1 comes with a set of TL224 SureGrip™ Insulated Test Leads
- Safety rating: CAT II 1000 V (CAT III 1000 V, CAT IV 600 V with protective cap), 10 A



#### TL238 SureGrip™ Test Lead Set for High Energy Environments

This kit is specially designed for high energy environments. Three-piece kit:

- TP238 SureGrip™ Insulated Test Probe Set
- TP280 SureGrip™ Test Probe Extender
- TL224 SureGrip™ Insulated Test
- Leads • Safety rating:
- TP238 and TL224: CAT IV 600 V, CAT III 1000 V, 10 A
- TP280: CAT III 1000 V, 10 A



#### TLK290 Flexible Socket Probe Set

Set includes three flexible socket probes and a large alligator clip for use with 4mm shrouded test leads.

- Test probes are for use on motor and three-phase sockets
- Probes have flexible test points that fit securely between 4 mm and 8 mm sockets
- Safety rating: CAT II 1000 V, 8 A



#### **TLK291 Fused Test Probe Set**

One pair (red, black) fused test probes. Probes fit on modular leads or on fixedlead test tools.

- Each probe contains a 500 mA/1000 V/50 kA fuse
- Safety rating: CAT IV 600 V, CAT III 1000 V





Model number	<b>TL27</b>	TL80A	TL81A	<b>TL220</b>	<b>TL223</b>	<b>TL225</b>	<b>TL238</b>	TLK- 220	<b>TLK-</b> 225	<b>TLK287</b>	<b>TLK289</b>	<b>TLS430</b>
Test Lead Sets and Kits	1											
110/114/115/116/117	•	•	•	•	•	•	•	•	•	•	•	
27 II	•	•	•	•	•	•	•	•	•	•	•	
175/177	•	•	•	•	•	•	•	•	•	•	•	-
179	•	•	•	•	•	•	•	•	•	•	•	comj
87V	•	•	•	•	•	•	•	•	•	•	•	patik
287/289	•	•	•	•	•	•	•	•	•	•	•	ole v
8845/8846	•	•	•	•	•	•	•	•	•	•	•	vith
120/B Series	•	•	•	•	•	•	•	•	•	•	•	(compatible with 430 Series II Power Quality Analysers)
190/-II Series	•	•	•	•	•	•	•	•	•	•	•	Ser
323/324/325	•	•	•	•	•	•	•	•	•	•	•	ies I
370 Series, 381	•	•	•	•	•	•	•	•	•	•	•	I Pov
705/707	•	•	•	•	•	•	•	•	•	•	•	wer
712/713	•	•	•	•	•	•	•	•	•	•	•	Qua
715	•	•	•	•	•	•	•	•	•	•	•	lity .
716/717	•	•	•	•	•	•	•	•	•	•	•	Anal
718	•	•	•	•	•	•	•	•	•	•	•	lysei
725/726	•	•	•	•	•	•	•	•	•	•	•	rs)
787B/789	•	•	•	•	•	•	•	•	•	•	•	
1577/1587 FC	•	•	•	•	•	•	•	•	•	•	•	
Clips and Probes												
AC175		•	•									
AC87	•		•	•	•	•	•	•	•	•	•	
AC89	•		•	•	•	•	•	•	•	•	•	
AC220	•		•	•	•	•	•	•	•	•	•	
AC280	•		•	•	•	•	•	•	•	•	•	
AC238A	•		•	•	•	•	•	•	•	•	•	
AC285	•		•	•	•	•	•	•	•	•	•	
FTP-1	•		•	•	•	•	•	•	•	•	•	
TLK290			•	•	•	•	•	•	•	•	•	
TLK291			•	•	•	•	•	•	•	•	•	
TP1	•		•	•		•	•	•	•	•	•	
TP2	•		•	•	•	•	•	•	•	•	•	
TP4	•		•	•	•	•	•	•	•	•	•	
TP38	•		•	•	•	•	•	•	•	•	•	
TP74	•		•	•	•	•	•	•	•	•	•	
TP80	•		•	•	•	•	•	•	•	•	•	
TP175	•		•	•	•	•	•	•	•	•	•	
TP220	•		•	•	•	•	•	•	•	•	•	
TP912				-				-		•		
TP912 TP920		•	•							•		
		•		aomnotiki-	with TE/T	1 /T 1 Dro/20	C Sories Cl	mn Motor	1	1		
T5 Starter Kit TP165X				compatible npatible wi			30 Series Cla					

# TEST LEAD SETS AND KITS

#### Test Lead Sets and Kits



#### **TLK289 Industrial Master Test Lead Set**

Designed for electrical and electronics testing including clips and probes for dependable contact with a variety of test points. Includes:
One pair each (red, black): AC285 Large Jaw Alligator Clips

- AC285 Large Jaw Alligator Clips AC220 Plunger Style Alligator Clips AC280 SureGrip™ Hook Clips TP220 SureGrip™ Industrial Test Probes
- TPAK ToolPak™
- 80BK-A Integrated DMM Temperature Probe
- C116 Soft Carrying Case



#### **TLK287 Electronics Master Test Lead Set**

The perfect test lead set electronics test and design. Includes 11 items:

- Precision electronic probes with multiple spring-loaded sharp tips to maximise contact with SMD test points
- Micro-grabbers and leads to enable fine SMD testing
- Mini-alligator clips, grabbers, and probes
- Modular test leads and lead-probe combinations
- Couplers for long lead applications



#### **TL81A Deluxe Electronic Test Lead Kit**

This 11-item kit includes pouch and two each (red, black) of:

- Test leads with a safety-shrouded, right angle banana connector on one end and a stainless steel test probe on the other. Rated up to 10 A.
- Insulated alligator clips. Rated up to 10 A
- Insulated probe tip extenders. Rated up to 3 A
- Modular test probes with banana jack connector. Rated up to 10 A
- Modular hook-style clip test leads. Rated up to 5 A
- Modular pinch-style clip test leads. Rated up to 5 A
- Modular alligator clips. Rated up to 10 A
- Slide-on IC probe tip adapters (rated up to 3 A) and test lead couplers
- Bare spade lug. Rated up to 10 A



#### TL220 SureGrip™ Industrial Test Lead Set

Handy all-in-one set that includes essential test items for industrial environments. Three-item set includes:

- AC220 Plunger Style Alligator Clips
- TP220 SureGrip™ Industrial Test Probes CAT II 1000 V, 10 A without protective cap
- TL224 SureGrip<sup>™</sup> Silicone Insulated Test Leads
- Safety rating: All CAT IV 600 V, CAT III 1000 V



#### TL80A Basic Electronic Test Lead Kit

The fundamental accessories for testing are included in this four-item kit.

- Medium alligator clip CAT II 1000 V, 10 A
- Extended probe tips CAT II 300 V, 3 A
- TL71 Premium Test Lead Set



#### TLK-225 SureGrip™ Master Accessory Set

Set includes all the SureGrip™ leads, clips, and probes in a handy roll-up pouch. This 13-item set includes:

- AC220 Plunger Style Alligator Clips
- AC280 SureGrip<sup>™</sup> Hook Clips
- AC238A SureGrip<sup>™</sup> Pincer Clips
- AC285 Large Jaw Alligator Clips
- TP175 TwistGuard<sup>™</sup> Test Probes
- TL224 SureGrip<sup>™</sup> Insulated Test Leads
- Six-pocket Storage Pouch
- Safety rating: all CAT IV 600 V, CAT III 1000 V



#### TL223-1 SureGrip™ Electrical Test Lead Set

All-in-one set includes three test lead accessories:

- AC220 Plunger Style Alligator Clips
- TP1 Slim Reach Test Probes
- TL224 SureGrip™ Insulated Test Leads
- Safety rating: CAT II 1000 V, 10 A (CAT III 1000 V, CAT IV 600 V with protective cap)



#### TLK-220 SureGrip™ Industrial Test Lead Kit

Special-value SureGrip™ five-piece kit for industrial applications, in a roomy carrying case. Kit includes:

- AC220 Plunger Style Alligator Clips
- AC285 Large Jaw Alligator Clips
- TP220 SureGrip<sup>™</sup> Industrial Test Probes
- TL224 SureGrip<sup>™</sup> Insulated Test Leads
   C116 Zippered Vinyl Case with Moveable Divider
- Safety rating: CAT II 1000 V (CAT III 1000 V, CAT IV 600 V with protective cap), 10 A



#### T5 Starter Kit

Special-value three-piece kit for the electrical professional with a Fluke T5 Voltage, Continuity and Current Tester. Kit includes:

- TP238 Insulated Test Probes
- AC285 Large Jaw Alligator Clips
- C33 Soft Carrying Case
- Safety rating: all CAT IV 600 V, CAT III 1000 V



#### TLS430 Test Leads and Alligator Clips

Test lead replacement set for the Fluke 430 Series II Three-Phase Power Quality Analysers.

- Set includes five of each (4 black, 1 green) test leads and alligator clips
- Safety rating: CAT IV 600 V, CAT III
   1000 V



#### TL225 SureGrip<sup>™</sup> Stray Voltage Adapter Test Lead Kit

The Fluke TL225 adds low input impedance to a multimeter, desensitising it to low energy and eliminating ghost or stray voltages. Four-piece kit includes:

- SV225 Stray Voltage Adapter
- TL224 SureGrip<sup>™</sup> Insulated Test Leads
- TP238 Insulated Test Probes
- Safety rating: All CAT IV 600 V, CAT III 1000 V, 10 A

# **TEMPERATURE ACCESSORIES**

	Ве	ad	HVAC	Immersion	Surface	Air	Piercing	General Purpose	Industrial Surface	Pipe Clamp
	80BK-A	80PK-1 80PJ-1	80 <b>PK-1</b> 1	80PK-22	80PK-3A	80PK-24	80PK-25 80PT-25	80PK-26	80PK-27	80PK-8
Lowest Temperature	-40	D°C	-30°C	-40°C	0°C	-40°C	Type K: -40°C cm Type T: -196°C	-40°C	-127°C	-29°C
Highest Temperature	260°C	105°C	1090°C	260°C	816°C	350°C	816°C	600°C	149°C	
Probe Material	Type K v teflon in		Velcro	Inconel 600	Type K sensor with teflon body	Inconel	316 Stainless Steel	304 Stainless Steel	304 Stainless Steel	Type K sensor with pvc body
Probe Length	1 m lead wire	1 m lead wire	19 m Velcro cuff	21.27 cm	9.525 cm	21.59 cm	10.16 cm	21.57 cm	20.32 cm	for pipes from 6.4 mm to 34.9 mm
Cable Length	1 m	1 m	1 m	1 m	1.3 m	1 m	1 m	1 m	1 m	1 m
Connection	Standard banana jack	Molded thermocouple plug	Molded thermocouple plug	Molded thermocouple plug	Molded thermocouple plug	Molded thermocouple plug	Molded thermocouple plug	Molded thermocouple plug	Molded thermocouple plug	Molded thermocouple plug
SureGrip Handle	No	No	No	Yes	No	Yes	Yes	Yes	Yes	No
Key Feature	Ideal for initial troubleshooting. Can be secured in place with a magnet.		Velcro probe allows hands free temperature measurement.			Perforated baffle for air and non-caustic gas measurements.	Probe material safe for use in foods. Sharp tip pierces solid surfaces.	Use for general purpose air or surface measurements.	Low conductivity stainless steel minimises thermal shunting. Extra rugged.	Clamps securely to pipe. Measurements are repeatable to 0.56°C
Thermocouple Types	К	К, Ј	К	К	К	К	К, Т	К	К	К

Temperature Co	Temperature Compatibility												
Model Number	80AK-A	80BK-A	All 80PK Probes	80PJ-1/ 80PJ-9	80 <b>PT-2</b> 5	80TK	80T- 150UA	80PJ- EXT	80PK- EXT	80PT- EXT	80CK-M	80CJ-M	80PR-60
110/114/115/ 116/117	116	116											
27 II						•	•		*		*		
175/177			*			•	•		*		*		
179	•	•											
87V	•	•											
287/289	•	•					•						
8845/8846			*			•	•		*		*		
43B			*			•	•		*		*		
120/B Series			*			•	•		*		*		
190/-II Series			*			•	•		*		*		
51/52/53/54 II			•	•	•			•	•	•	•	•	
63													66/68
714			•	•	•			•	•	•	•	•	
715			*			•	•		*		*		
725/726			•	•	•			•	•	•	•	•	
787B/789			*			•	•		*		*		
902	•	•	•						•				
1587 FC	•	•											
1577	•												
561			•										

● Compatible; ★ Requires 80TK; ▲ Requires 80AK-A; 116 only: requires 80AK-A

# TEMPERATURE ACCESSORIES



Accessories



#### 80PJ-1 or 80PK-1 Bead Probe

Type J or K thermocouple probe for general purpose applications. Ideal for troubleshooting.

- 1 mm probe with Teflon<sup>®</sup> insulation
- Measurement range: -40°C to 260°C



#### 80PJ-9 or 80PK-9 General Purpose Probe

Type J or K thermocouple probe for air and non-caustic gases. The sharp tip pierces pipe insulation and the flat surface makes good contact.

- 15.25 cm stainless steel probe
- Measurement range: -40°C to 260°C



#### 80PK-26 SureGrip™ Tapered Probe

Type K thermocouple probe with tapered tip for speedy air, surface, noncaustic gas, and liquid measurements.

- 1 m lead
- 203 mm stainless steel probe
- Measurement range: -40°C to 816°C



#### **80PK-3A Surface Probe**

Type K thermocouple with exposed junction for flat or slightly convex surfaces such as plates and rollers.

- 9.525 cm probe with Teflon<sup>®</sup> insulation
- Measurement range: 0°C to 260°C



#### 80PK-27 SureGrip<sup>™</sup> Industrial Surface Temperature Probe

Type K thermocouple probe for surfaces in rugged environments.

- 1 m lead
- 20.32 cm stainless steel probe
- Measurement range: -127°C to 600°C



#### 80PK-25 or 80PT-25 SureGrip™ Piercing Probe

Type K or T thermocouple suitable for food industry, liquids, and gels. Sharp tip pierces solid surfaces.

- 1 m lead
- 10.16 cm stainless steel probe
- Measurement range:
- Type K: -40°C to 350°C
- Type T: -196°C to 350°C



#### 80PK-24 SureGrip™ Air Probe

Type K thermocouple probe for air and non-caustic gas measurements.

- 1 m lead
- 21.59 cm Inconel® probe
- Bead protected by perforated baffle
- Measurement range: -40°C to 816°C



#### 80PK-22 SureGrip™ Immersion Probe

Type K thermocouple probe for use in liquids and gels.

- 1 m lead
- 21.27 cm Inconel<sup>®</sup> probe
- Measurement range: -40°C to 1090°C



#### 80PK-8 and 80PK-10 Pipe Clamp Probe

Type K thermocouple clamps securely to pipes for fast temperature and superheat measurements.

- Durable ribbon sensor
- 80PK-8 for pipe diameters 6.4 mm to 34.9 mm
- 80PK-10 for pipe diameters 32 mm to 64 mm
- Measurements are repeatable to 0.56°C
- Measurement range: -29°C to 149°C



#### 80PK-11 Type-K Velcro® Thermocouple Probe

Type K Velcro cuff for use with any temperature-measuring instrument that accepts type K thermocouples.

- Use multiples and leave in place for route-based routine maintenance
- 48 cm Velcro<sup>®</sup> cuff
- Measurement range: -30°C to 105°C



#### 80PK-18 Pipe Clamp Temperature Probe Kit

- Includes both 80PK-8 and 80PK-10 Type K clamps
- Provides full range of pipe measurement sizes
- Includes soft carrying case



#### 80PR-60 RTD Temperature Probe

This probe expands the utility of an RTD non-contact infrared thermometer by simultaneously taking contact and noncontact temperature readings.

- For use with the Fluke 66 and 68 Infrared Thermometers
- 90 mm platinum 1 k0 probe
- 3.5 mm phono type jack
- Measurement range: -40°C to 260°C



#### **80AK-A Thermocouple Adapter**

Adapts type K thermocouple mini-connector to dual shrouded 4 mm banana plug inputs.

- Measurement range and accuracy: probe dependent
- Suitable for low voltage applications (below 30 V AC, 60 V DC)



#### 80BK-A Integrated DMM Temperature Probe

Convenient, integrated type K thermocouple probe with standard shrouded 4 mm banana jack.

- Compatible with Fluke DMM with temperature measurement functions
- Measurement range: -40°C to 260°C



#### 80TK Thermocouple Module

This module converts a DMM to a thermometer and is designed for use with type K thermocouples in low voltage applications.

- Voltage range: below 24 V AC, 60 V DC
- Measurement range: -50°C to 1000°C (probe dependent)



#### 80T-150UA Universal Temperature Probe

Adapts any DMM using shrouded 4 mm banana plugs. This fast, accurate integrated probe is designed for low-voltage applications.

- For air, surface, and non-corrosive applications
- Voltage range: below 24 V AC, 60 V DC
- 15.7 cm probe tip
- Measurement range: -50°C to 150°C
   Output: switchable, from 1 mV/°C to 1 mV/°F



#### **AC Current Clamp Specifications**

	i200	i200s	i400	i400s	i800	i1000s	i3000s	i2000 Flex	i3000s Flex	i6000s
AC current range	1 A to 200 A	1 A to 200 A	1 A to 400 A	0.5 A to 400 A	1 A to 800 A	0.2 A to 1000 A	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	60 A to 6000 A
Accuracy	≤ 3% + 0.5 A 48 Hz to 65 Hz	≤ 1% + 0.5 A 48 Hz to 65 Hz	2% + 0.06 A 45 Hz to 400 Hz	.5 A to 40 A, 2% + .015 A, 5 A to 400 A, 2% + .04 A, 45 Hz to 400 Hz	0.1 A to 10 A $\pm 3\% + .01$ A, 10 A to 200 A $\pm 2\%$ , 200 A to 800 A $\pm 1\%$	0.2 to 10 A: 3% + 0.1 A 10 A to 100 A: 2% + 0.5 A 100 A to 1000 A: 1% + 1 A 48 Hz to 65 Hz	1 to 30 A: 2% + 0.1 A 1 to 300 A: 2% + 0.5 A 1 to 3000 A: 2% + 2 A 48 Hz to 65 Hz	±1% of range 45 Hz to 65 Hz Ranges: 20 A, 200 A, 2000 Å	±1% of range, 45 Hz to 65 Hz Ranges: 30 A, 300 A, 3000 A	±1% of range 45 Hz to 65 Hz
Bandwidth (-3 dB)	40 Hz to 40 kHz	40 Hz to 40 kHz	5 kHz to 20 kHz	5 Hz to 10 kHz	30 Hz to 10 kHz (typical)	5 Hz to 100 kHz	10 Hz to 100 kHz	10 Hz to 20 kHz	10 Hz to 50 kHz	10 Hz to 50 kHz, (- 3 dB)
Maximum conductor diameter	20 mm	20 mm	32 mm	32 mm	54 mm	54 mm	64 × 100 mm	177 mm	177 mm or 265 mm	193 mm or 289 mm
Maximum conductor size	150 mm <sup>2</sup>	150 mm <sup>2</sup>	400 mm <sup>2</sup>	400 mm <sup>2</sup>	2× 240 mm <sup>2</sup> or 1× 500 mm <sup>2</sup>	2× 240 mm <sup>2</sup> or 1× 500 mm <sup>2</sup>	64 mm	610 mm circumfer- ence	610 mm or 915 mm circumfer- ence	610 mm or 915 mm
Output levels	1 mA/A	10 mV/A 100 mV/A	1 mA/A	10 mV/A 1 mV/A	1 mA/A	1 mV/A 10 mV/A 100 mV/A	10 mV/A 1 mV/A 0.1 mV/A	100 mV/A 10 mV/A 1 mV/A	100 mV/A 10 mV/A 1 mV/A	50 mV/A 5 mV/A 0.5 mV/A
Output cable	1.5 m shrouded banana plugs	2 m to BNC termination	1.5 m shrouded banana plugs	2.5 m to BNC termination	1.6 m shrouded banana plugs	1.6 m to BNC termination	2.1 m to BNC termination	2 m with double shrouded banana plugs	2.1 m to BNC termination	2 m to BNC, 4 mm plug adapter supplied
Warranty	One-year	One-year	One-year	One-year	One-year	One-year	One-year	One-year	One-year	One-year
Safety rating	CAT III 600 V	CAT III 600 V	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V

#### AC Current Clamp Selection Guide

	i200	i200s	i400	i400s	i800	i1000s	i3000s	i2000 Flex1	i3000s Flex
110/114/116		1 A to 200 A		0.6 A to 400 A*		0.6 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A
115/117	60 A to 200 A	1 Å to 200 Å	60 A to 400 A	0.6 A to 400 A*	60 A to 800 A	0.6 Å to 1000 Å*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A
233	60 A to 200 A	1 Å to 200 Å	60 A to 400 A	0.6 Å to 400 Å*	60 A to 800 A	0.6 Å to 1000 Å*		2 A to 2000 A	3 A to 3000 A
27II	2 A to 200 A	1 Å to 200 Å	2 A to 400 A	1 A to 400 A*	2 A to 800 A	0.1 Å to 1000 Å*	1 Å to 3000 Å	2 A to 2000 A	3 A to 3000 A
28II	1.8 A to 200 A	1 A to 200 A	1.8 A to 400 A	1.8 A to 400 A	1.8 A to 800 A	0.2 Å to 1000 Å*	2 A to 3000 A	2 A to 2000 A	3 A to 3000 A
77 IV		1 Å to 200 Å		1 A to 400 A*		0.1 Å to 1000 Å*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A
175/177/179	3 A to 200 A	1 Å to 200 Å	3 A to 400 A	1 A to 400 A*	3 A to 800 A	0.3 Å to 1000 Å*	3 A to 3000 A		3 A to 3000 A
1577/1587FC	3 A to 200 A	1 A to 200 A	3 A to 400 A	3 A to 400 A*	3 A to 400 A	0.3 Å to 1000 Å*	3 Å to 3000 Å	2 Å to 2000 Å	3 A to 3000 A
83V/88V	2 A to 200 A	1 A to 200 A	2 A to 400 A	1 A to 400 A*	2 A to 800 A	0.1 Å to 1000 Å*	1 Å to 3000 Å	2 Ā to 2000 Ā	3 Å to 3000 Å
87V	2 A to 200 A	1 A to 200 A	2 A to 400 A	2 A to 400 A*	2 A to 800 A	0.2 Å to 1000 Å*	2 A to 3000 A	2 Å to 2000 Å	3 Å to 3000 Å
287/289	1 A to 200 A	1 A to 200 A	1 A to 400 A	0.5 A to 400 A*	1 A to 800 A	0.2 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A
43B		1 A to 200 A		0.35 A to 400 A		0.1 Å to 1000 Å	1 A to 3000 A	2 A to 2000 A	3 Å to 3000 Å
434/435-II		1 A to 200 A		1.2 A to 400 A		0.3 A to 1000 A	1.2 A to 3000 A	i430Flex- TF-II	i430Flex- TF-II
120/B		1 A to 200 A		2.5 A to 400 A		0.25 Å to 1000 Å	2.5 Å to 3000 Å	2 A to 2000 A	3 Å to 3000 Å
190/-II		1 A to 200 A		1 A to 400 A		0.1 Å to 1000 Å	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A
8808A	1 A to 200 A	1 A to 200 A	1 A to 400 A	0.5 A to 400 A*	1 A to 800 A	0.1 Å to 1000 Å*	1 A to 3000 A	2 A to 2000 A*	3 Å to 3000 Å*
8845A/8846A	1 A to 200 A	1 A to 200 A	1 A to 400 A	1 A to 400 A*	1 A to 800 A	0.2 Å to 1000 Å*	1 A to 3000 A	2 A to 2000 A*	3 A to 3000 A*
787B/789	50 A to 200 A	1 A to 200 A	50 A to 400 A	2 A to 400 A*	50 A to 440 A	0.2 Å to 1000 Å*	2 A to 3000 A	2 A to 2000 A	3 A to 3000 A

# AC CURRENT CLAMPS

#### **Current Clamps AC**



#### i800 AC Current Clamp

This AC current clamp is designed to extend the current measuring capability of a digital multimeter to 800 A AC. It is compatible with a digital multimeter that accepts shrouded 4 mm banana plugs and has an AC milliamp range.

- Current range: 100 mA to 800 A RMS AC
- Frequency range: 30 Hz to 10 kHz (-3 dB)
- Safety rating: CAT III 600 V RMS



#### i400 AC Current Clamp

This high-safety current clamp for digital multimeters is a single range 400 A AC clamp that is designed to offer maximum utility in a very compact shape. The division ratio is 1000:1.

- Current range: 1 A to 400 A AC
- Frequency range: 5 kHz to 20 kHz (-3 dB)
- Safety rating: CAT IV 600 V,
- CAT III 1000 V



i400s AC Current Clamp

This high-safety compact current clamp with BNC output is a companion to a ScopeMeter or Power Quality Meter to measure up to

400 A AC

- Current range: 0.5 A to 400 A AC
- Frequency range: 5 Hz to 10 kHz (-3 dB)
- Optional PM9081/001 Dual Banana Plug Male to Female BNC Adapter is available for digital multimeters
- Safety rating: CAT IV 600 V, CAT III 1000 V





This small-sized single-range current clamp features safety-shrouded 4mm banana plugs. It is compatible with most Digital Multimeters or other current measurement devices that accepts shrouded 4 mm banana plugs and has an AC milliamp range.

- Current range: 1 A to 200 A AC
- · Frequency range: 40 Hz to 40 kHz
- Safety rating: CAT III 600 V



#### i200s AC Current Clamp

This small-sized dual-range current clamp offers voltage output using a safety-insulated BNC connector. A dual banana-to-BNC adapter allows the clamp to be connected to meters with banana inputs.

- Current ranges: 0.1 A and 200 A AC switchable
- Frequency range: 40 Hz to 10 kHz
- Safety rating: CAT III 600 V



#### i2000 Flex AC Current Clamp

This current probe can be used to measure currents up to 2000 A when used in conjunction with multimeters, recorders, or data loggers. The flexible and lightweight measuring head allows quick and easy installation on thick and hard-to-reach areas.

- Current range: 20 Å, 200 Å, and 2000 Å ÅC switchable
- Frequency range: 10 Hz to 20 kHz
- Safety rating: CAT III 600 V



#### i1000s AC Current Clamp

This large AC current clamp expands applications in industrial and power environments by connecting directly to an oscilloscope using a reinforced coaxial cable and an insulated BNC connector. It is ideal for measuring distorted current waveform RMS and harmonics.

- Current range: 0.1 A to 1000 A AC
- Frequency range: 10 Hz to +9100 kHz
- Accurate displays due to a passive filter that eliminates noise and ring on rapidly-rising di/dt waveforms
- Safety rating: CAT III 600 V



#### i3000s AC Current Clamp

This AC current clamp is designed as a clamp-on unit for use with Oscilloscopes.

It also includes a dual banana to BNC adapter for use with multimeters with 4mm banana input plugs.

- Current range: 1 A to 3000 A
- Frequency range: 10 Hz to 100 kHz
- Safety rating: CAT III 600 V



#### i3000s Flex-24 or -36 AC Current Clamp

i3000s Flex-24 is available in a convenient four-pack (i3000s Flex 4 Pack)

The flex clamp uses the Rogowski (aircored coil) principle and can be used to measure three ranges of currents up to 3000 A when used in conjunction with oscilloscopes, recorders or data loggers. The flexible and lightweight measuring head allows quick and easy installation in hard-to-reach areas without batteries or an external power source. This clamp fits around large conductors and is available in 610 mm and 914 mm lengths.

- Current range: 30 A, 300 A, and 3000 A switchable
- Frequency range: 10 Hz to 50 kHz
- Safety rating: CAT III 600 V



#### i5s AC Current Clamp

Also available in a convenient three-pack (i5sPQ3)

This compact 5 A AC clamp, specially configured to provide low-current accuracy while taking measurements on secondary current transformers, expands the use of the Fluke 430 Series Three-Phase Power Quality Analysers.

- Current range: 10 mA to 5 A
- Frequency range: 40 Hz to 5 kHz
- Safety rating: CAT III 600 V (for insulated conductors only)



i6000s Flex-24 or -36 AC Current Clamp

This AC current clamp flexible and lightweight measuring head allows quick and easy installation in hard-to-reach areas without batteries or an external power source. This clamp fits around large conductors and is available in both 610 mm and 914 mm lengths.

- Current range: 60 Å, 600 Å, and 6000 Å switchable
- Frequency range: 10 Hz to 50 kHz (-3 dB)
- Safety rating: CAT III 600 V



# AC/DC CURRENT CLAMPS

#### **AC/DC Current Clamp Specifications**

	80i-110s	i410	i1010	i30	i30s	i310s
DC range	0.1 Å to 100 Å	1 A to 400 A	1 A to 1000 A	30 mA to 30 A	30 mA to 30 A	0.1 Å to 450 Å
AC range	0.1 Å to 70 Å	1 Å to 400 Å	1 A to 600 A	30 mA to 20 A RMS	30 mA to 20 A RSM	0.1 A to 300 A
Accuracy	0.1 A to 10 A; AC to 1 kHz: ±3% + 50 mA; up to 100 A add 15%; up to 20 kHz add 12%	3.5% + 0.5 A for DC or AC (45 to 400 Hz)	2% + 0.5 A for DC or AC (45 to 400 Hz)	±1% of reading, ±2 mA	±1% of reading, ±2 mA	30 A range: 1% + 50 mA 300 A range: 1% + 300 mA
Bandwidth (-3 dB)	100 kHZ	3 kHz	10 kHz	dc to 20 kHz (-0.5 dB)	dc to 100 kHz (-0.5 dB)	dc to 20 kHz
Zero error adjustment	•	٠	•	•	•	٠
Maximum conductor diameter	11.8 mm	30 mm	30 mm	19 mm	19 mm	19 mm
Maximum conductor size	35 mm <sup>2</sup>	1× 400 mm <sup>2</sup> or 2× 240 mm <sup>2</sup>	1× 400 mm <sup>2</sup> or 2× 240 mm <sup>2</sup>	120 mm <sup>2</sup>	120 mm <sup>2</sup>	120 mm <sup>2</sup>
Output levels	10 mV/A, 100 mV/A	1 mV/A	1 mV/A	100 mV/A	100 mV/A	1 mV/A, 10 mV/A
Output cable	1.6 metre with BNC termination	1.2 metre with shrouded banana plugs	1.2 metre with shrouded banana plugs	1.5 metre with shrouded dual banana plugs	2 metres with BNC termination	2 metres with BNC termination and a BNC to safety shrouded banana adapter
Battery life	40 hours	60 hours	60 hours	30 hours	30 hours	30 hours
Warranty	One-year	One-year	One-year	One-year	One-year	One-year
Safety	CAT II 600 V; CAT III 300 V	CAT III 600 V	CAT III 600 V	CAT III 300 V	CAT III 300 V	CAT III 300 V

#### **AC/DC Current Clamp Selection Guide**

	80i-110s	i410	i1010	i30	i30s	i310s
114/115/	0.1 A to 100 A DC/	1.4 A to 400 A DC/	1.4 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
116/117	0.1 A to 70 A AC*	6 A to 400 A AC	6 A to 600 A AC	60 mA to 20 A AC	60 mA to 20 A AC	0.6 A to 300 A AC
233	0.1 A to 100 A DC/	1.4 A to 400 A DC/	1.4 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.1 A to 70 A AC*	6 A to 400 A AC	6 A to 600 A AC	60 mA to 20 A AC	60 mA to 20 A AC	0.6 A to 300 A AC
2711	0.1 Å to 100 Å DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mĀ to 30 Ā DC/	30 mĀ to 30 Ā DC/	0.1 A to 450 A DC/
	0.1 Å to 70 Å ÅC*	1 A to 400 A AC	1 A to 600 A AC	30 mĀ to 20 Ā ĀC	30 mĀ to 20 Ā ĀC	0.1 A to 300 A AC
28II	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.2 A to 70 A AC*	6 A to 400 A AC	6 A to 600 A AC	60 mA to 20 A AC	60 mA to 20 A AC	2 A to 300 A AC
77-IV	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.1 A to 70 A AC*	5 A to 400 A AC	5 A to 600 A AC	40 mA to 20 A AC	40 mA to 20 A AC	0.4 A to 300 A AC
175/177/179	0.11 Å to 100 Å DC/	1.6 A to 400 A DC/	1.6 A to 1000 A DC/	30 mĀ to 30 Ā DC/	30 mĀ to 30 Ā DC/	0.1 A to 450 A DC/
	0.3 Å to 70 Å ÅC*	30 A to 400 A AC	30 A to 600 A AC	300 mĀ to 20 Ā ĀC	300 mĀ to 20 Ā ĀC	3 A to 300 A AC
1577/1587 FC	0.1 A to 100 A DC/	1.2 A to 400 A DC/	1.2 A to 1000 A DC/	30 mĀ to 30 Ā DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.3 A to 70 A AC*	30 A to 400 A AC	30 A to 600 A AC	300 mĀ to 20 Ā ĀC	300 mA to 20 A AC	3 A to 300 A AC
83V/88V	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.1 A to 70 A AC*	1 A to 400 A AC	1 A to 600 A AC	30 mA to 20 A AC	30 mA to 20 A AC	0.1 A to 300 A AC
87V	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.2 A to 70 A AC*	20 A to 400 A AC	20 A to 600 A AC	200 mA to 20 A AC	200 mA to 20 A AC	2 A to 300 A AC
287/289	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.1 A to 70 A AC*	1 A to 400 A AC	1 A to 600 A AC	30 mA to 20 A AC	30 mA to 20 A AC	0.1 A to 300 A AC
123/124	0.1 A to 100 A DC/ 0.25 A to 70 A AC	1 A to 400 A DC/ 25 A to 400 A AC**	1 A to 1000 A DC/ 25 A to 600 A AC**		30 mA to 30 A DC/ 250 mA to 20 A AC	0.1 A to 450 A DC/ 2.5 A to 300 A AC
190 Series II	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.1 A to 70 A AC	5 A to 400 A AC**	5 A to 600 A AC**	50 mA to 20 A AC**	50 mA to 20 A AC	0.5 A to 300 A AC
8808A	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.1 A to 70 A AC*	2 A to 400 A AC	2 A to 600 A AC	30 mA to 20 A AC	30 mA to 20 A AC	0.2 A to 300 A AC
8845A/8846A	0.1 A to 100 A DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	30 mA to 30 A DC/	0.1 A to 450 A DC/
	0.1 A to 70 A AC*	1 A to 400 A AC	1 A to 600 A AC	30 mA to 20 A AC	30 mA to 20 A AC	0.1 A to 300 A AC
705/707	0.1 A to 100 A DC,	4 A to 400 A DC,	4 A to 1000 A DC,	40 mA to 30 A DC,	40 mA to 30 A DC,	0.4 A to 450 A DC,
	no AC*	no AC	No AC	no AC	no AC	no AC
715	0.1 A to 100 A DC,	4 A to 400 A DC,	4 A to 1000 A DC,	40 mA to 30 A DC,	40 mA to 30 A DC,	0.1 A to 450 A DC,
	no AC*	no AC	No AC	no AC	no AC	no AC
787/789	0.1 Å to 100 Å DC/	1 A to 400 A DC/	1 A to 1000 A DC/	30 mA to 30 A DC/	3 mĀ to 30 Ā DC/	0.1 Å to 450 Å DC/
	0.2 Å to 70 Å ÅC*	20 A to 400 A AC	20 A to 600 A AC	200 mA to 20 A AC	200 mĀ to 20 Ā ĀC	2 Å to 300 Å ÅC

\* Requires PM9081 Adapter \*\* Requires PM9082/001 Adapter

## AC/DC CURRENT CLAMPS

#### 

Accessories



#### i410 AC/DC Current Clamp

This battery-powered Hall-effect probe measures 1 A to 400 A with large-claw clamp that gives access to difficult-toreach areas. It is compatible with most multimeters and other devices that measure AC and DC current and accepts shrouded 4 mm banana plugs.

- On/Off LED indicator
- AC and DC current range:
- 1 A to 400 A
- Frequency range: 3 kHz
- Safety rating: CAT III 600 V



# i410-KIT AC/DC Current Clamp and Carry Case Kit

This special-value kit for electrical professionals adds AC and DC current measurement capabilities to a digital multimeter. A roomy carrying case holds a meter and the current clamp plus test leads, probes and manuals. Kit includes:

- i410 AC/DC Current Clamp
- C116 Soft Carrying Case



#### i1010 AC/DC Current Clamp

This clamp measures both AC and DC currents with a large-jaw, batterypowered Hall-effect probe that gives access to difficult-to-reach areas. It is compatible with most Fluke multimeters and any other devices that measure AC and DC current and accept shrouded 4 mm banana plugs.

- On/Off LED indicator
- AC current range: 1 A to 600 A AC
- DC current range: 0.5 A to 1000 A DC
- Frequency range: DC to 10 kHz
- Safety rating: CAT III 600 V RMS



# i1010-Kit AC/DC Current Clamp and Carry Case Kit

This special-value kit for electrical professional adds AC and DC current measurement capabilities to a digital multimeter. A roomy carrying case holds a meter and the current clamp plus test leads, probes and manuals. Kit includes:

- i1010 AC/DC Current Clamp
- C116 Soft Carrying Case



#### i30 AC/DC Current Clamp

Based on Hall-effect technology, this battery-powered clamp measures both AC and DC current. It may be used in conjunction with multimeters, recorders and other suitable recording instruments for accurate non-intrusive current measurement.

- AC current range: 30 mA to 20 A RMS
- DC current range: 30 mA to 30 A
- Frequency range: DC to 20 kHz (-0.5 dB)
- Safety rating: CAT III 300 V



#### i30s AC/DC Current Clamp

Based on Hall effect technology, this battery-powered clamp measures both AC and DC current. It may be used with ScopeMeter and other suitable recording instruments for accurate non-intrusive current measurement.

- AC current range: 30 mA to 20 A RMS
- DC current range: 30 mA to 30 A
- Frequency range: DC to 100 kHz
- Safety rating: CAT III 300 V



#### i310s AC/DC Current Clamp

Based on Hall-effect technology, this battery-powered clamp measures both AC and DC current. This clamp is especially useful for current measurements on inverters, switching power supplies, industrial controllers, automotive diagnostics, and other applications requiring current measurements and/or waveform analysis.

- AC current range: 0.1 A to 300 A
- DC current range: 0.1 A to 300 A
- Frequency range: DC to 20 kHz
- Safety rating: CAT III 300 V



#### **80i-110s AC/DC Current Clamp**

This clamp is compatible with ScopeMeters, power harmonics analysers, multimeters, or other voltage measurement devices that has BNC input connectors.

- AC current range: 0.1 A to 70 A
- DC current range: 0.1 A to 100 A
- Frequency range: 1 Hz to 100 kHz
- Optional PM9081/001 Dual Banana Plug Male to Female BNC Adapter is available for digital multimeters
- Safety rating: CAT II 600 V

## Did you know?

# Does your current probe read zero current when you clamp it around a power cord?

That's because the power cord has both the hot and neutral current carrying wire in it. If both wires are in the jaws of the clamp meter, the fields cancel each other out, and the current clamp will read nothing. You need to put just one current-carrying conductor in the jaw of the current clamp. If you don't have access to the separate wires within the cord, use a line splitter tool to avoid breaking the circuit.



# FLUKE HOLSTERS & HANGERS CASES

Fluke Tool	110/114/115/116/117	175/177/179	287/289	27 II/28 II	61	77 IV	83V/87V/88V	233	287/289	323/324/325	373/374/375/376/902	353/355	365	393 FC	1503/1507/1577/1587	9040/9062	430/173X/174X Series	120B Series	190 Series	51/52/53/54 II	561	570 Series	705/707	712/714/715/717	718	724/725/726	753/754	787B	789	922	971	T5/T6/T+/T+Pro	T90/T110/T130/T150	VT02/VT04/VT04A
Soft Cases																																		
C23	•				•	•		٠		٠									_											•	•			
C25	•	•		•		•	•	•		•					•	•				•				•				•	•	•	•			
C33						•				•	•																	•				•		
C35	•	•		•		•	•	•							•			٠		•			•	•	•			•	•	•				
C43								٠				•						٠							٠	٠								
C50	•																			•														
C115	•	٠		•		•	•	٠				_			٠			٠	_	٠			٠	٠	•	٠		•	٠					
C116	•	•	•			•	•	•							•			٠		•			•	•	•	•		•	•					
C150						•				•	•	_							_									•				•	•	
C280	•	•				•	•	•							•			•		•			•	•	•	•		•	•					
C345																																		
C550 C781			•										FOT I	nuitij	pie m	leters	s, tes	t lead	as an	ia ac	cess	ories			•	•	•		•					
C789			•												•			•							•	•	•	•	•					
Hard Case	s																	•																
C20				•					•																									
C101		•		•	•		•	•	•	•	•				٠	•				•			•	•	•	•		•	•		•		•	
C11XT	•	•		•						•																								
СЗ7ХТ	•	٠		•			•	•		•	•			٠	٠											٠		•	•			٠		
СХТ80				•			•	•																				•	•					
CXT170	•	•				•									•					•				•				•	•					
СХТ280			•																									•	•					
CXT1000													For 1	nultij	ple m	eters	s, acc	essoi	ies a	nd o	ther	tools												
C800		•				•	•	٠																•				•						J
C1600													For 1	nultij	ple m	eters	s, acc	essoi	ies a	nd of	ther	tools											_	
Leather Ca	ses																																	
C520A							•																					•		•		•		
H80M Holster																												•		•				
H3										•	•																							
H5											•																					•		
H6																					•												•	
H15																																T+/T +Pro	•	
Hangers								1																										
ToolPak	•	•				•	•	•	•							•				•				715		•			•					

IN THE OWNER



#### **C23 Soft Carrying Case**

Zippered case featuring a belt loop for convenient carrying and an inner pocket to store test leads or small accessories.

- ٠ Made of durable vinyl
- Ideal companion case to:
- Fluke 61/65 IR Thermometers and
- Fluke 321/322 Clamp Meters Dimensions (HxWxD):
- $225~\text{mm}\times95~\text{mm}\times58~\text{mm}$



#### **C25 Large Soft Case for DMMs**

Zippered carrying case with padding and inside pocket for holding accessories

- ٠ Made of polyester
- Dimensions (HxWxD): 218 mm × 128 mm × 64 mm



#### **C33 Soft Carrying Case**

Zippered carrying case with durable vinyl exterior and belt loop. Inner pocket stores test leads and small accessories.

- · Made of polyester
- Dimensions (HxWxD):
- 280 mm × 115 mm × 55 mm



#### **C35 Soft Carrying Case**

Case top opens laterally to allow use of test tool without removing it from the case and includes a Velcro® strap to secure the tool.

- Made of durable polyester 600D
- Dimensions (HxWxD):
- 220 mm × 140 mm × 65 mm



#### **C43 Soft Carrying Case**

Zippered carrying case includes inner front pocket with closure and two pockets to store test leads or small accessories.

- Made of durable polyester 600D ٠
- Dimensions (HxWxD): 318 mm × 230 mm × 90 mm



#### **C50 Meter Case**

Zippered and padded case featuring an inside strap as well as a belt loop for convenient carrying. Also includes an inside pocket for holding accessories.

The Fluke C60 is a soft case compatible

with many Fluke test tools including: T6

and T5 Series, T+/T+PRO, 110 Series,

· Made of polyester

**C60 Accessory Case** 

· Made of polyester

**C115 Soft Carrying Case** 

• Dimensions (HxWxD):

Includes two padded pockets for

for test leads and other accessories.

· Made of durable polyester 600D

240 mm × 205 mm × 75 mm

protection of two test tools, and a pouch

170 Series.

• Dimensions (HxWxD): 192 mm × 90 mm × 38 mm



#### **C150 Soft Carrying Case**

Zippered carrying case with inner pocket for storing test leads and small accessories.

- High quality 1000D fabric
- Dimensions (HxWxD):
- 298 mm × 114 mm × 56 mm



#### **C280 Soft Case**

Designed especially for larger format test tools. Includes detachable, extendable shoulder strap and an inner front pocket with closure and dual pouch pockets for test tools and accessories.

- Made of durable polyester 600D
- Dimensions (HxWxD): 230 mm × 185 mm × 65 mm



#### C345 Soft Case

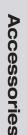
The perfect case for carrying a wide range of Fluke handheld test tools and accessories. Includes an elastic accessory strap and mesh accessory retainer as well as an outer pouch, outer zipper packet and two slash pockets for convenient accessory storage.

- Made of durable polyester 600D
- Dimensions (HxWxD): 360 mm × 200 mm × 240 mm

#### **C116 Soft Carrying Case**

Provides adjustable padded space with a moveable Velcro® divider.

- Made of durable polyester 600D
- Dimensions (HxWxD): 240 mm × 230 mm × 65 mm





## fluke.co/accessories



# CASES. HOLSTERS & HANGERS



#### Pack30 Professional Tool Backpack

- Lightweight take the load off your back
  Rugged, waterproof bottom base protects your tools and loans them wright
- your tools and keeps them uprightOver 30 pockets in six main storage compartments



#### C550 Tool Bag

Rugged, weather-resistant tool bag, features a large 25 pocket storage compartment and steel-reinforced frame.

 Dimensions (HxWxD): 333 mm × 513 mm × 231 mm



#### **TB25 Tool Bucket Organiser Bag**

Tool bucket with a 5.2-gallon capacity, hard exterior shell, and plastic waterproof base

- 19 interior and 9 exterior pockets
- Dimensions (HxWxD): 425 mm x 305 mm x 330 mm



#### C570 Soft Case

Designed specifically for the Fluke 560 and 570 Series Infrared Theremometers

 Dimensions (HxWxD): 240 mm × 89 mm to 170 mm × 56 mm



#### **C195 Soft Carry Case**

- Zippered with multiple storage compartments & shoulder strap
- Dimensions (HxWxD): 513 mm × 331 mm × 231 mm



#### C125/C781 Meter Case

Zippered case, designed for carrying a meter as well as a detachable external pouch for holding test leads.

- Made of durable polyester 600D
- Dimensions (HxWxD): 269 mm × 141 mm × 90 mm



#### **C789 Meter and Accessory Case**

Large carrying case with three compartments, removable handle, and shoulder strap. Holds a meter and multiple accessories.

- Made of durable polyester 600D
- Dimensions (HxWxD):
- 308 mm × 256 mm × 77 mm



#### **C799 Soft Field Case**

For use with Fluke 750 Series Documenting Process Calibrators

- Allows instrument to be operated inside case with clear front protecting keyboard
- Dimensions (HxWxD): 305 mm × 229 mm × 165 mm)

Hard Cases



#### C101 Hard Case

Tough polypropylene case with configurable diced foam interior to store and protect tools and accessories.

• Exterior dimensions (HxWxD): 305 mm × 360 mm × 105 mm



#### C290 Hard Shell Protective Carry Case

For use with Fluke 190 Series II ScopeMeters®

• Dimensions (HxWxD): 1245 mm × 939 mm × 368 mm



#### C1600 Gear Box

A rugged, molded plastic case with a deep interior and lift-out tray.

- Includes five hook and loop straps to wrap cords and test leads
- Dimensions (HxWxD): 260 mm × 390 mm × 200 mm



#### **C11XT EVA Foam Hard Case**

Includes a large pocket on one side for multiple accessories and a mesh pocket on the other side for one test tool.

- For use with 11x and 17x multimeters, and 32x clamp meters
- Dimensions (HxWxD): 240 mm x 155 mm x 105 mm



#### **C37XT EVA Foam Hard Case**

Features a divider with elastic straps to hold one test tool, with two pockets and straps for accessories. Also includes space to secure an iFlex<sup>®</sup> probe.

• Dimensions (HxWxD): 397 mm × 346 mm × 122 mm



#### **CXT Extreme Case Series**

- CXT1000: for multiple meters, accessories and other test tools (Dimensions (HxWxD): 343 mm × 465 mm × 178 mm
- CXT1000 features a diced foam interior for custom storage configuration
- Unbreakable, watertight, airtight, dust proof, chemical resistant and corrosion proof
- CXT80: for use with 87V, 80 Series, 187/189, 27 II/28 II series
- CXT170: for use with 170 Series, 114/115/116/117, 77 III, and 77 IV
- CXT280: for use with 287 or 289
  Dimensions (HxWxD):
- 279 mm × 318 mm × 127 mm

#### Leather Cases



#### **C520A Leather Tester Case**

Rugged leather case designed to hold Fluke electrical testers. It features a large belt loop and a top flap to secure the tester. Made of top-grain cowhide with heavy-duty stitching and reinforced rivets.

• Dimensions (HxWxD): 256 mm × 154 mm × 106 mm



#### **C510 Leather Meter Case**

Rugged leather case features a large belt loop and a top flap to secure the tool. Made of top-grain cowhide with heavy-duty stitching and reinforced rivets.

• Dimensions (HxWxD): 287 mm × 179 mm × 106 mm

# HOLSTERS, HANGERS AND LIGHT KITS

#### Holsters



#### **H5 Electrical Tester Holster**

Rugged fabric holster designed to hold Fluke T3 and T5 Electrical Testers. It features a built-in belt loop and flap for test lead storage.

 Dimensions (HxWxD): 192 mm × 90 mm × 38 mm



#### H6 Infrared Thermometer Holster

Durable nylon construction with Velcro® closures provides quick access and protection for infrared thermometers.

• Dimensions (HxWxD): 302 mm × 178 mm × 57 mm



#### **HT6 Holster**

For use with models T6-600 and T6-1000

• Flap for test lead storage and built-in belt loop



#### **H15 Electrical Tester Holster**

Rugged fabric holster designed to hold Fluke T90, T110, T130 and T150 Two-Pole Testers.

- High quality 1000D fabric
- Dimensions (HxWxD):
- 279 mm × 92 mm × 51 mm



#### H80M Protective Holster with Magnetic Hanging Strap

Convenient snap-on holster with a magnetic hanging system enables hands-free work while protecting digital multimeters or calibration tools.

- Includes a hanging magnet, general purpose hanger, and hook/loop straps
- Dimensions (HxWxD): 190 mm × 95 mm × 43 mm



#### TPAK ToolPak™ Magnetic Meter Hanger

Hang your meter in a variety of ways for convenient hands-free operation.

Attaches to back of many Fluke meters, including 110, 170, 180, 280 Series, 83V and 87V DMMs, 724, 725 and 789 Process Calibrators, 70 Series III DMMs, 1503, 1507, 1577 and 1587 FC Insulation Multimeters and 50 Series II Digital Thermometers.

#### Lights



#### L200 Probe Light

Small, rugged light that easily attaches to any Fluke test probe, illuminates the contact area and frees hands for work.

- Bright white LED with 120 hours of battery life
- Two 3 V watch batteries included



#### L205 Mini Hat Light

Rugged, high-intensity Xenon work light with pre-focused optical-quality reflector attaches to a baseball cap to allow hands-free work.

- Includes waterproof ABS case that won't crack or chip
- Two AAA batteries included



#### L206 Deluxe LED Hat Light

Attach this water-resistant light to a hard hat, a baseball hat, or even a panel door for hands-free bright light where needed. Includes a 360° rotating clip, special hard-hat attachment, and neck lanyard.

(Hat not included).

- Three LEDs with 40-hour battery life
- Three AAA battery included



#### L210 Probe Light Kit

Two probe extenders 20 cm fit modular test probes and keep hands away from live circuits. Ultra-bright white LED provides 120 hours of battery life. Kit includes:

- L200 Probe Light
- SureGrip™ test probe extenders
- Two 3 V watch batteries included
- Probe extenders safety rating: CAT III 1000 V, 10 A



#### L211 Probe Light Kit

This special-value combo pairs the new L200 Probe Light with one of the most popular test leads by Fluke and a handy carrying case. Probe light attaches to any Fluke test probe to free both hands for work. Kit includes:

- L200 Probe Light
- TL71 Premium Test Lead Set



#### L215 SureGrip<sup>™</sup> Kit with Probe Light and Probe Extender

Kit includes:

- L200 Probe Light
- SureGrip™ Test Probe Extenders, 20 cm
- TP220 SureGrip™ Industrial Test Probes
- TL224 SureGrip™ Insulated Test Leads
- Foldable pouch with six pockets and hook & loop closure

Safety rating:

 TP220: CAT II 1000 V, 10 A.
 (CAT III 1000 V, CAT IV 600 V with protective cap)

- TL224: CAT III 1000 V, CAT IV 600 V, 10 A

- Probe extenders: CAT III 1000 V, 10 A





#### **High Frequency**



#### **85RF High Frequency Probe**

Converts a DC voltmeter with an input impedance of 10 megohms into a high frequency (100 kHz to 500 MHz) RF voltmeter.

- Voltage range: 0.25 V to 3 V AC RMS
- Maximum input: 30 V RMS, 200 V DC
- AC to DC ratio: 1:1
- Ratio accuracy at 25 MHz and loaded with 10 megohms

#### **Fiber Optics**



#### FOM Fiber Optic Meter

Allows testing and maintenance of fiber optic cables without buying a new meter. It plugs directly into any digital multimeter with an mV DC function and a 10 megohm input impedance to quickly and accurately verify fiber optic cable system loss.

- Wave lengths: 1550, 1300, 850 & nm
- Light sources sold separately



#### FOS-850 and FOS-850/1300 Fiber Optic Light Source

Both of these fiber optics accessories are designed to offer a variety of light sources for testing different cable lengths.

 Wave lengths: FOS-850: 850 nm; FOS-850/ 1300 850 and 1300 nm

#### **Miscellaneous**



7

MADC

21

#### IR189USB USB Cable Adapter

Included with FVFSC2 and FVF-Basic software.

• Small adapter to connect the cable to the 189, 287, 289, 1653B or the 1550C is included



#### SV225 Stray Voltage Adapter

Stray voltage can appear in electrical installations, due to the capacity between wires. This may result in erroneous readings on high impedance meters. The SV225 solves this without compromising safety.

- On energised wires, the meter will indicate the real voltage
- On non-energised circuits the meter will read close to zero (even if there are stray voltages)
- Can be used on all meters with standard input spacing
- Safety rating: CAT III 1000 V,
- CAT IV 600 V

Note: This adapter should not be used on lowvoltage control circuits or where the circuit under test could be adversely-affected by this low impedance load. The adapter is designed to handle continuously-applied power system voltages without damage. However, this adapter can be used intermittently to determine whether a circuit is energised.

#### Fluke Connect®



#### ir3000 FC Connector for Fluke Connect®

- Get all the benefits of the Fluke Connect<sup>®</sup> app, and be on the same page, even while in different places
- Wirelessly share measurements with your team—anywhere, anytime
- Connect the Fluke 289/287 Multimeters, Fluke 1550C/1555 Insulation Testers and Fluke 789 ProcessMeter<sup>™</sup> with the ir3000 FC



#### **PC3000 Wireless PC Adapter**

- Fluke PC3000 FC Adapter and software
- Must be connected to the USB port in order to enable communication between FC modules and software.
- SW3000 supports up to two PC3000 FC Adapters



Accessories



#### **BP880 BNC to Female Double Stacking Banana Plug**

Converts a BNC scope lead to a dual banana plug for connection to a digital multimeter to provide hands-free testing in controlled voltage environments.

- · Voltage range: up to 500 V AC RMS
- · 4 mm banana plug is nickel-plated, beryllium copper for low contact resistance



#### **BP881 BNC to Male Double Stacking** Banana

Easily connects a digital multimeter to a BNC patch cord to provide handsfree testing in controlled voltage environments. This adapter connects accessories that have a male BNC output.

- Voltage range: up to 500 V AC RMS
- · 4 mm banana plug is nickel-plated, beryllium copper for low contact resistance



#### **TL28A Automotive Test Lead Set**

Silicone-insulated test leads (red, black) with large, solid copper alligator clips with 12.7 mm opening and serrated teeth.

- 1.5 m test leads
- Safety rating: 30 V, 10 A



#### **TL82 Automotive Pin and Socket Adapter Set**

This collection of male and female adapters provides firm connection to pin-and-socket connectors. Rated to 60 V DC. Set includes:

- Two retractable shrouded test leads (red, black) 1.2 m
- Eight pin-and-socket adapters with flexible tips (red, black):
- Size 22 contact 0.76 mm, rated 5 A
- Size 20 contact 1.02 mm, rated 7.5 A
- Size 16 contact 1.60 mm, rated 13 A
- Size 12 contact 2.36 mm, rated 23 A



#### TLK281 SureGrip **Automotive Test Lead Kit**

Sharp stainless steel probes can be used to contact the wire conductor or pinpoint tests on a circuit or relay while the large-jaw alligator clips ensure a good ground on the engine or connection to battery terminals. Rated to 60 V DC. Kit includes:

- TP81 Insulation Piercing Clip Set
- TL224 SureGrip<sup>™</sup> Insulated Test Leads
- TP220 SureGrip<sup>™</sup> Industrial Test Probes
- AC220 SureGrip<sup>™</sup> Alligator Clips
- AC285 SureGrip<sup>™</sup> Alligator Clips Soft case



#### TLK282 SureGrip<sup>™</sup> Deluxe Automotive Test Lead Kit

This kit includes everything in the TLK281 Kit plus a few extras. The back probe pins slide past weatherpack connectors on fuel injectors, TPS, and MAP sensors. A hook probe with plunger actuation allows quick connection to pins or exposed conductors. Rated to 60 V DC. Kit includes:

- TP81 Insulation Piercing Clip Set
- TP40 Automotive Back Probe Pins (five)
- TL224 SureGrip™ Insulated Test Leads
- TP220 SureGrip™ Industrial Test Probes
- AC220 SureGrip™ Alligator Clips
- AC285 SureGrip™ Alligator Clips
- AC280 SureGrip™ Hook Clips
- Soft Case



#### **TP40 Automotive Back Probe Pins**

Flexible and formable 31-75 mm pins provide an easy connection past weather-pack seals to connector conductors. These five pins are a must-have for fuel injectors, TPS, and MAP sensors, as well as for any underhood or under-vehicle connector with weather-pack seals.

- 4 mm banana jack accepts digital multimeter and banana jack leads
- Easily connects to modular leads
- Bated to 60 V DC



#### **TP81/TP82 Insulation Piercing Clip Set**

Two stainless steel probes (red, black) pierce insulation on 14, 16 and 18 gauge wire. Needle depth can be controlled to minimise insulation damage. Essential for use under hood or under dash. Can be used on fuel injectors or sensors while providing complete insulation to grounding. Probe connects to a banana jack that accepts all digital multimeter and banana jack leads (such as the TL224 SureGrip™ Insulated Test Leads).

- TP81 has non-rotating 4 mm banana jack to prevent leads from tangling
- Rated to 60 V DC
- · TP82 is for use with test leads with 2 mm probes



#### **TP88 Rigid Back Probe Pins**

Better than a test probe alone, these rigid back probe pins easily pass between a weather-pack seal and wire. A sharp point ensures good contact to the electrical connector, and insulation protects the pin from shorting to other wires. Rated to 60 V DC

- · Slides onto 2 mm test probes
- Probe length: 51 mm



**RPM80 Inductive Pick-Up/ External Trigger** 

- Provides RPM measurement capability when clipped on spark plug wire
- For use with Fluke 88 Series and 78 Series Digital Multimeters.



Compatibility Chart	120B Series	190 Series	190 Series II
Voltage Probes			
VPS41 Voltage Probe Set 10:1, 40 MHz, Bl (Black)	•		
VPS410-II-X Ind. Voltage Probe 10:1, 500 MHz, × = B (Blue), G (Grey), R (Red) or V (Green)			•
VPS210-X Voltage Probes, 200 MHz, R (Red), G (Grey)		•	
STL120-IV Shielded Test Lead Set 1:1, B (Blue) & R (Red)	•		
Probe Accessories			
AS400 Probe Accessory Extension Set 1			•
RS400 Probe Accessory Replacement Set for VPS400 Series Voltage Probes		•	•
RS500 Probe Accessory Replacement Set for VPS510 Series Voltage Probes		•	•
AC Current Clamps			
i3000s AC Current Clamp	•*	•	•
i3000s Flex-24/36 AC Current Clamp, 610 mm (24 in. and 36 in.)	•*	•	•
i1000s AC Current Probe	•*	•	•
i400s AC Current Clamp	•*	•	•
i200s AC Current Clamp	•*	•	•
i5s AC Current Clamp	•*	•	•
AC/DC Current Clamps			
80i-110s AC/DC Current Clamp	•*	•	•
i1010 AC/DC Current Clamp	•		
i410 AC/DC Current Clamp	•		
i30s AC/DC Current Clamp	•*	•	•
Automotive			
SCC128 Automotive Troubleshooting Kit for 120 Series	•		
SCC198 Automotive Troubleshooting Kit for 190 Series		•	
SCC298 Automotive Troubleshooting Kit for Fluke 190 Series II			•
Test Lead Accessories			
TL175 TwistGuard <sup>™</sup> Test Leads	•	•	
Cables and Adapters			1
PM9091 50 Ohm Coaxial BNC Cable Set (3 × 1.5 m)		•	•
<b>PM9092</b> 50 Ohm Coaxial BNC Cable Set ( $3 \times 0.5 \text{ m}$ ),		•	•
PM9093 Male BNC to Dual Female BNC Adapter, 600 V Cat III		•	•
PM9081 Dual Banana Plug (Male) to Female BNC Adapter, 600 V Cat III		•	•
PM9082 Dual Banana Jack (Female) to Male BNC Adapter, 600 V Cat III		•	•
BB120-II Shielded Banana to Female BNC Adapter*	•		
TRM50 Coaxial Feed-through BNC Male to BNC Female Cable Terminator		•	•
Miscellanous			
CS20MA Current Shunt		•	
EBC290 External Battery Charger for BP290 and BP291	•		•
BC190/830 Mains Adapter/Battery Charger		•	•
BC430/820 Mains Adapter/Battery Charger	•		
BP190 Rechargable NiMH Battery Pack		•	•
BP290 Li-ion Battery Pack, 2400 mAh	•		•
BP291 Li-ion Battery Pack, 4800 mAh			•
OC4USB USB Interface Cable	•	•	•
BHT190 Break-Out Adapters for Industrial Bus Connections	125B only	•	
HH290 Hanging Hook for ScopeMeter 190-Series II	2		•

 $\ast$  "s" version clamps require BB120-II Adapter when used with the Fluke 120B Series



#### VPS420-X High Working Voltage **Ruggedised Probe**

- Set includes: VPS420-X 100:1, 150 MHz
- X = Red, Blue, Grey or Green
- Hook clip for Probe tip (Black) •
- Large jaw probe clip (Black)
- Reference lead with 4 mm Banana plug
- Large jaw alligator clip for 4 mm banana plug (Black)



SCOP

#### PM9091 Set of 3× Coaxial Cables with BNC Connectors

- Length: 1.5 m each
- Impedance: 50 ohm
- Colour: 2× Red, 2× Black, 2× Grey
- Max signal voltage: 300 Vrms
- Max voltage to ground: CAT III 600 Vrms per IEC/EN61010-031



#### **PM9092 Set of Coaxial Cables with BNC Connectors**

- Length: 0.5 m each
- Impedance: 50 ohm
- Colour: 1× Red, 1× Black, 1× Grey
- Max signal voltage: 300 Vrms
- Max voltage to ground: 600 Vrms CAT III per IEC/ EN61010-031



#### PM9093 Adapter BNC (Male) to Dual BNC (Female) in T model (6)

- Colour: 2× Black
- Max signal voltage: CAT III 300 Vrms per IEC/EN61010
- Max voltage to ground: CAT III 600 Vrms per IEC/EN61010



#### PM9081 Adapter BNC (Female) to Dual Banana Jack

- Colour: 2× Red, 2× Black
- Max signal voltage: CAT III 600 Vrms per IEC/EN61010
- Max voltage to ground: CAT III 600 Vrms / CAT II 1000 Vrms per IEC/ EN61010



#### PM9082 Adapter BNC (Male) to Dual Banana Jack

- Colour: 2× red, 2× black
- Max signal voltage: CAT III 600 Vrms per IEC/EN61010
- · Max voltage to ground: CAT III 600 Vrms /CAT II 1000 V per IEC/ EN61010



#### **HC120 Hook Clips**

- Colour: 1× red, 1× grey
- Max voltage: CAT III 600 Vrms per IEC 1010-2-031
- Nickel plated steel



#### **BB120-II Adapter BNC (Female) to Shielded Banana Jack**

• Set of 2

ACCESS

- Max signal voltage: CAT III 300 Vrms per IEC/EN61010
- Max voltage to ground: CAT III 600 Vrms per IEC/EN61010



#### **TRM50 Coaxial Feed-through** BNC (Male) to BNC (female) Cable Terminator

- Set of 2
- Impedance: 50 ohm
- Max voltage over ground:
- CAT III 1000 V
- Max power 1 W



#### **BHT190 Bus Health Test Break-out Adapter Set**

- Board with M12 connectors (male to female, 5 pins)
- DB-9 connectors (male to female, 9 pins + shield)
- RJ-45 connector, with short patch cable providing male to female interconnection (8 pins)



#### **EBC290 External Charger**

For Fluke 120B and 190 Series II ScopeMeter<sup>®</sup> Oscilloscope

- Charging time (BP291): five hours, giving an operating time of up to seven hours
- DC input voltage: 15 V to 23 V, 714 mA nom. (DC input from BC190: 17.8 V / 0.84 A max)

Accessories



- Reference lead with hook clip (Blk) 22 cm
- · Large jaw probe clip (black)
- CAT II 1000 V
- 2 mm test probe for probe tip (1×, black) 4 mm test probe for probe tip (1×, black)



#### **RS400 Probe Replacement Set**

For VPS400 Series Probes and VPS210 Series Probes

- CAT III 1000 V/CAT IV 600 V
- 1× Probe hook clip (black)
- Ground lead w/ mini alligator clip
- 2× Insulation sleeve (black)
- CAT II 30 V
- 2× Ground spring (black)



#### **RS500 Probe Replacement Set**

- CAT II 300 V
- 1× hook clip (black)
- 1× ground lead with mini alligator clip
- 2× insulation sleeves for probe's ground contact (black)
- 1× BNC to probe tip adapter (black)
- 2× ground browsers (black)
- 1× insulated mini screwdriver, for probe adjustment purposes



**TP920 Test Probe Adapter Set** 

Suited for STL120 Test Leads (STL120-III, not compatible), TL71, TL75 & TL76 Test Leads

· Rated for 3 A max

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#### For VPS510 Series Probes



Fluke Model Number	i3000 Flex 4PK	i400s	i430-FLEXI-TF-II	i5sPQ3	3210-PR -TF-II
Description	4 phase 3000 A Flexible current clamp set	Single phase 400 A current clamp (4 required)	4 phase 3000 A Flexible current clamp set	3 phase 5 A Current clamp set	1000 A Single phase flexible current clamp
Fluke 1750					•
Fluke 43X -II	•	•	•	•	
Nominal Current Range(s)	30 A 300 A 3000 A	40 A 400 A	3000 A	5 A	
Cont. AC Current Range	1 A 30 A 1 A 300 A 1 A 2400 M	0.5 A 40 A 5 A 400 A	30 A 3000 A	0.01 A 6 A	0.5 A 1000 A
Highest Current	4000 A	1000 A	100 kA	70 A	1000 A
Lowest Measurable Current	1 A	0.5 A	30 A	10 mA	0.5 A
Basic Accuracy (48 65 Hz) <sup>1)</sup>	2% + 2 Å	2% + 0.15 A	1%	1%	±1% of reading
Usable Frequency	10 Hz 100 kHz	45 Hz 3 kHz	10 Hz 7 kHz	40 Hz 5 kHz	40 Hz 5 kHz
Flex Head Length		Clamp opening: 32 mm	61 cm	Clamp opening: 15 mm	61 cm
Output Level(s)	10 mV/A 1 mV/A 0.1 mV/A	10 mV/A 1 mV/A	0.085 mV/A @50 Hz	400 mV/A	2 mV/A
Output Cable (m)	2.1	2.5	2.5	2.5	3
Safety Rating	CAT III 600 V	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V	CAT III 600 V	CAT III 1000 V CAT IV 600 V

 $^1$  Basic accuracy: % reading plus floorspec. n/a = not applicable

Fluke Model Number	Fluke i17XX- Flex 1500A 12 IN	Fluke i 17XX- Flex 3000A 24 IN	Fluke i17XX- Flex 6000A 36 IN	Fluke i 17XX i40s-EL Clamp- On Current Transformer	Fluke i17XX- Flex 1500A 12 IN	Fluke i 17XX- Flex 3000A 24 IN	Fluke i17XX- Flex 6000A 36 IN
Description	1500 A Single phase flexible current clamp IP 50	3000 A Single phase flexible current clamp IP 50	6000 A Single phase flexible current clamp IP 50	4/40 A Current clamp (3 required)	1500 A Single phase flexible current clamp IP 65	3000 A Single phase flexible current clamp IP 65	6000 A Single phase flexible current clamp IP 65
Fluke 1742/46/48				•	•	•	•
Fluke 1732/34/36/38	•	•	•	•			
Nominal Current Range(s)	1 A to 150 A, 10 A to 1500 A	3 A to 300 A, 30 A to 3000 A	6 A to 600 A, 60 A to 6000 A	40 mA to 4 A, 0.4 A to 40 A	1 A to 150 A, 10 A to 1500 A	3 A to 300 A, 30 A to 3000 A	6 A to 600 A, 60 A to 6000 A
Cont. AC Current Range	1 A 150 A 10 A to 1500 A	1 A 300 A 10 A 3000 A	1 A 600 A 10 A 6000 A	1 A 150 A 10 A 1500 A	1 A 150 A 10 A to 1500 A	1 A 300 A 10 A 3000 A	1 A 600 A 10 A 6000 A
Highest Current	1500 A	3000 A	6000 A	200 A	1500 A	3000 A	6000 A
Lowest Measurable Current	1 A	3 A	6 A	0.04 A	1 A	3 A	6 A
Basic Accuracy (48 to 65 Hz) <sup>1)</sup>	0,70%	0,70%	0,70%	0,50%	0,70%	0,70%	0,70%
Usable Frequency	40 Hz to 5 kHz	40 Hz to 5 kHz	40 Hz to 5 kHz	40 Hz to 5 kHz			
Flex Head Length	30.5 cm	61 cm	122 cm	n/a	30.5 cm	61 cm	122 cm
Output Level(s)	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Output Cable (m)	2	2	2	2	2	2	2
Safety Rating	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V			

# POWER QUALITY

#### 

Accessories

#### Fluke 430 Series-II



#### i430-FLEXI-TF-II/4PK 6000 A Thin **Flexible Current Probe**

- 6000 A current range
- 61 cm (24 in) length
- Available in single and 4 pack



#### **i400s AC Current Clamp**

400 A AC current range

• 32 mm (1.25 in) jaw size Optional PM9081/001 Dual Banana • Plug Male to Female BNC Adapter is available for digital multimeters



#### **I5SPQ3 5 A Current Clamp, 3 pack**

- 5 A AC Current Clamp for 430 Series-II
- 15 mm (0.6 in) jaw size



#### **TLS430 Test Lead and Alligator Clip** Set

- · Test lead replacement set for the 430 Series-II
- · Set includes five test leads and five alligator clips (4 black, 1 green)

#### WC100 Colour Coding Clips and **Regional Decals**

Cable markers for 3-phase +N leads



## **C1740 SOFT CASE**

Soft Case with compartments and shoulder strap for 430 Series II



#### C437-II Hard Case Black waterproof case with wheels



### **BP290 Batterv**

430 Series-II Replacement Battery Pack



#### **BP291 Battery**

430 Series-II Double Capacity Replacement Battery Pack



#### BC430/820 Battery Charger

Battery Charger for 430 Series II

#### Fluke 1730 & 1740 Series



#### **I17XX-FLEX iFlex\* Current Clamps**

- iFlex<sup>®</sup> probes connect directly to the 173X Energy or Power Logger, displaying current measurements without error prone scaling factors
- Fluke 17XX iFlex® cables are available in 12, 24, and 36 inch models
- Available to order in single, 3 or 4 pack



#### **I17XX-FLEX IP65 Current Probes**

IP65 rating is obtained when connected to the 1740 Series only.

- 1.5KA 60 cm (24 in) length
- 3KA 60 cm (24 in) length
- 6KA 120 cm (48 in) length
- Available in single, 3 and 4 packs



#### **3PHVL Voltage Cable Assembly**

- · Voltage Measurement Lead Set for 1730 & 1740
- · Flat. four wire cable



#### **17XX i40s-EL Clamp-on Current Transformers**

- · Suitable for making measurements up to 40 A, and also measures accurately on 1 A and 5 A secondary current transformers
- The i40s-EL jaw is capable of being clamped on current conductors up to 15mm in diameter



#### **IP65 VOLT CONN**

IP65 rated Voltage Connector for wet measurement environments.

• Six pole connector with six leads for connection of voltage and instrument power.



#### **MP1-Magnet Probe 1**

Magnetic probe tips for voltage test leads with 4 mm banana connectors.



#### **MP1-3R/1B Magnetic Voltage Probes**

3 Red/1 Black Magnet Probes for 4 mm Banana



#### **I17XX-FLEX5M-EXT**

Fluke 17XX IFLEXI Extension Cable 5 m



FLUKE-17XX-TL 2M

#### **Test Lead Set**

- 1000V CAT III, Non-Stack Conn;
  - Available in: 0.2m; Red/Blk



#### **Fluke 1730-HANGER STRAP**

Two piece hanging kit for the Fluke 173X Energy or Power Logger.



#### **FLUKE-174X-HANGER**

Hanger Kit includes strap and magnetic hanger used with 174X Series.







## POWER QUALITY



C173X Soft Case Soft Case for 173X/174X Series

> Image Not Available

## FLUKE-174X GPS-REC

GPS Receiver Antenna



F17XX CABLE MARKERS Cable Marker Kit for 173X and 174X Series



#### **BP1730-BATTERY**

173X & 174X Series Replacement Battery Pack



#### **1730-CABLE Auxilliary Input Cable**

- Input -10 V to +10 V DC
- Binder to BNC connecting cable



#### 17XX AUX

Auxillary input adapter for 1740 Series



#### **Unit Upgrade Kits**

Upgrades your select 17XX Fluke unit to the specified higher end unit and includes accessories that would normally come with the upgraded model.

- 1732 to 1734 Upgrade Kit
- 1736 to 1738 Upgrade Kit
- 1742 to 1746 Upgrade Kit
- 1742 to 1748 Upgrade Kit
- 1746 to 1748 Upgrade Kit

#### Fluke 1750/ET



**3210-PR-TF-II 1000 A Thin FLEXI 60 cm (24in)** 1000 A AC Current Range

60 cm length, 20 cm diameter



**3310-PR-TF-II 1000 A Thin FLEXI 60 cm (24 in)** 5000 A AC Current Range

• 60 cm length, 20 cm diameter



**3312-PR-TF-II 1000 A Thin FLEXI 120 cm (48in)** 5000 A AC Current Range

120 cm lenth, 38 cm diameter



#### I5S-PR 1750, 5 A Current Clamp

5 A AC current range

• 15 mm jaw size



#### I40S-PR 1750. 40 A CURRENT CLAMP

40 A AC Current Range

• 15 mm (0.6 in) jaw size



**3140R AC CURRENT CLAMP** 

4000 A AC Current Range



#### 1750/CASE Transit Case

Rugged-hard water tight transit case with rollers



TPS FLEX 18-TF-II Thin Flexible Current Probe

100 A/500 A AC current range

• 45 cm length, 15 cm diameter

#### TPS FLEX 24-TF-II Thin Flexible Current Probe

- 200 A/1000 A AC current range
- 61 cm length, 20 cm diameter

#### TPS FLEX 36-TF-II Thin Flexible Current Probe

- 3000 A/6000 A AC current range
- 91 cm length, 29 cm diameter



#### TPS Clamp 10 A/1 A Clip-on Current Transformer

Three 15 mm (0.6 in) options available

- TPS Clamp 10 A/1 A Clip-on Current Transformer - 1 A/10 A AC
- TPS Clamp 200 A/20 A Clip-on Current Transformer – 20 A/200 A AC
- TPS Clamp 50 A/5 A Clip-on Current Transformer – 5 A/50 A AC

#### Fluke 6000 NORMA



#### **80I-2010S Current Clamp**

Measure up to 2,000 A AC and/or DC on large conductors with 0.8% accuracy • 81.5 mm jaw opening

#### 80I-2010S/3PK Current Clamp

3 pack. Measure up to 2,000 A AC and/ or DC on large conductors with 0.8% accuracy.



# VIBRATION AND ALIGNMENT

#### Fluke 80X Vibration Meter



#### **802ES External Sensor Assembly**

- External vibration sensor that is ideal in situations where it is either difficult or impractical to use the onboard vibration sensor tip of the 802 Vibration Meter
- Rugged, coiled cable minimises dangling, while stretching to provide greater length when needed



#### **805ES External Sensor Assembly**

- External vibration sensor that is ideal in situations where it is either difficult or impractical to use the onboard vibration sensor tip of the 805 Vibration Meter
- Low-profile 90-degree sensor body allows the sensor to get into tight spots
- Rugged, coiled cable minimises dangling, while stretching to more than 2.1 m (7 ft) when needed
- Powerful "U" shaped magnet mount creates a firm connection to flat, or curved measurement surfaces

#### Fluke 810 Vibration Tester



#### **810QDC Quick Disconnect Cable**

2.4 m (8 ft) quick-disconnect cable connects the triaxial vibration sensor



#### 810SC-20 Sensor Cable

6.1 m (20 ft) cable connects the triaxial vibration sensor to the Fluke 810 Vibration Tester



#### **810S Triaxial Vibration Sensor**

Triaxial vibration sensor captures vibration data in all three primary axes simultaneously for faster, more accurate data collection



#### **810SMM Sensor Magnetic Mounts**

- High-power magnet attaches firmly to motors and machinery
- Parallel magnet tips engage both flat and cylindrical surfaces



#### 810SMP Sensor Mounting Pads for Vibration Sensors (pack of 10)

10-pack of Sensor Mounting Pads provide standardised sensor attachment points on critical equipment.



#### **810T Tachometer**

- Noncontact tachometer for use with the Fluke 810 Vibration Tester; to measure the speed of motors; conveyor belts; and other moving and rotational systems
- Measures from 6 to 99,999 rpm with accuracy to +/-0.05%
- Takes noncontact measurements using a laser beam that works at a distance of 1 to 100 cm for user safety
- Integral 50 cm cable connects the tachometer to the vibration tester for power and measurement data recording



#### **810PAAC Power Adapter**

AC power adapter with international plug set



#### **SBP810 Smart Battery Pack**

Lithium-ion battery pack provides 8-hours of runtime under normal operating conditions

#### Fluke 831 Laser Alignment



#### 830/MAGNET Compact Sensor/Prism Magnetic Mounting Bracket Set

- High-power magnets attach firmly to shaft couplings
- Narrow profile can mount on equipment with little clearance between the coupling and the machine housing
- Ideal for large-diameter couplings or for the simplest, most rapid set-ups



#### 830/SHIMS Precision Alignment Shim Kit

- Stainless steel precut shims are more accurate and designed to speed up the alignment job - when even minutes of downtime count.
- Bur-free for higher accuracy in alignment
- Time-saving permanent thickness/ dimension marking
- Reusable, corrosion-resistant highquality stainless steel
- Two machine foot sizes and eight thicknesses that fit almost all machine feet



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#### **700PTPK2 Pneumatic Test Kit**

- Combine with any Fluke 700G Series Gauge, 1,000 psi (69 bar) or less, to make a complete pressure testing kit
- Generate pressure up to 600 psi, 40 bar with the 700PTP-1 Test Pump
- Connect the 700G Series Gauge directly to the included PTP-1 Hand Pump



#### 700HTPK/2 Hydraulic Test Kit

- Combine with any Fluke-700G Series Gauge, 1,000 psi (69 bar) range or greater, to make a complete pressure testing kit
- Generate pressure up to 10,000 psi, 690 bar with the included 700HTP-2 Test Pump
- Connect the 700G Series Gauge directly to the HTP-2 Hand Pump



#### **700LTP-1 Low Pressure Test Pump**

- Hand operated pressure pump designed to generate either vacuum to

   13 psi / -.90 bar or pressures to 100 psi / 6.9 bar
- Has two pressure ports with quick fit connectors
- For use with Fluke 750 Series Pressure Modules and Fluke 717 Pressure Calibrators



#### **700PTP-1 Pneumatic Test Pump**

A handheld pressure pump designed to generate either vacuum to -11.6 psi/-0.8 bar or pressure to 600 psi/40 bar



#### **700HTP-2 Hydraulic Test Pump**

- Generate pressures up to 10,000 psi/700bar
- Use the Fluke 700PRV adjustable relief valves to limit pressures from 1360 psi to 5450 psi



#### **71XTrap Liquid and Dirt Trap**

- Works with pressure up to 500 psi
- Designed to work with the Fluke 718 and 719PRO



#### 71X, Hose Kit

- Compatible with Fluke 717 and 718 Calibrators 100 psi and below
- Kit contains three translucent hoses (1 m long) and one 1/8 to 1/4 NPT femalefemale adapter



#### **700ILF In-line Filter**

- Can be used to isolate the calibrator from incidental contact with fluids
- Useful with the 718 Fluke Calibrator to help keep moisture or oils from contaminating the on-board pump



#### **700HTH-1 Hydraulic Test Hose**

10,000 psi, 690 bar working pressure test hose



#### **700PMP Pressure Pump**

- · Provides pressures up to 150 psi/1000 kPa
- Output fitting is 1/8 FNPT



#### 720RTD RTD Probe

Fluke-720RTD Temperature Probe is for use with Fluke 721 Precision Pressure Calibrators and Fluke 719Pro Electric Pressure Calibrators

 10 inch (254 mm) insertion depth with <sup>1</sup>/<sub>4</sub> inch (6.3 mm) diameter stainless steel sheath



#### 720URTDA Universal RTD Adapter

Fluke Universal RTD Adapter 720URTDA for Fluke 721 Precision Pressure Calibrators and Fluke 719Pro Electric Pressure Calibrators



#### Fluke 700MTH Premium Transmitter Test Hose Kit

Easy to use premium pressure transmitter test hose kit for connection to 1/4" female metric/BSP

- 5,000 psi rating
- Includes 1/8" NPT connection for permanent mount to a calibrator or test pump



#### Fluke 700M20TH Premium Transmitter Test Hose Kit

Easy to use premium pressure transmitter test hose kit for use with female M20 connections

Includes:

- One (1) 5,000 psi rated, premium test hose
- Premium, no tools required M20 adapter



#### **700-IV Current Shunt**

- Conversion factor: 10 mV = 1 mA
- Accuracy (% of input, one-year): 0.025%
- Input current: 0 mA to 55 mA
- Input resistance: 250  $\Omega$  nominal
- Output resistance: 10  $\Omega$  nominal



#### **700PRV Pressure Relief Valve Kit**

- Consists of a relief valve settable from 725 to 5800 PSI (50 to 200 bar) to be used with the 700HTP-1 Hydraulic Test Pump
- The 1/8" NPT male thread to fit directly into the Fluke 700HTP-1 Pressure Pump



#### **BP7235 NiMH Battery Pack**

- 7.2V 3500 mAh rechargeable NiMH battery pack
- Provides typical 16-hour battery life when used in 700 or 740 Calibrator
- Dimensions: 150 mm × 56 mm × 22 mm
- Weight: 310 g



#### **BP7240 Li-Ion Battery Pack**

Battery pack for Fluke 75X Documenting
 Process Calibrators



	No an	A COLORIAN AND		
Models	11A 1000V P/N 803293 P/N 203406 (Lot Qty 5)	315mA 1000V P/N 2279339	440mA 1000V P/N 943121 P/N 203414 (Lot Qty 5)	440mA fuse assembly P/N 4016494
DMM				
110/115/117	•			
233	•			
175/177/179	•		•	
27II/28II	•		•	
28II Ex	•			•
287/289	•		•	
77IV	•		•	
83V/87V/87V MAX/88V	•		•	
3000 FC			•	
Battery Testers				
BT508/BT510/BT520/BT521			•	
ProcessMeter™				
787/787B/789			•	
Insulation Testers				

**Fuse Compatibility** 



1577/1587 FC



Take your Fluke tools even further with the ability to analyse, interrogate remotely, export and create in depth reports on your PC and smart phone via Fluke's extensive software and application library.

Fluke Product Group	Fluke Software	Compatible Fluke Tools	Availability	
	Fluke Connect® Desktop	PTi120 Pocket Infrared Camera Tis20+/20+MAX/TisS6+/TisS5+/Tis75+ /Ti200/300+/400/401PR0/450/450PR0/480PR0/450 SF6, TIX501/580/620/640/660/1000 Infrared Cameras Fluke ii900/ii910 Acoustic Imager	Free download via www.fluke.com.au	
Industrial Imagers & Infrared Cameras	Fluke SmartView®	PTi120 Pocket Infrared Camera Fluke VT04/VT004/VT02 Visual Infrared Thermometers TiS10/20/40/45/50/55/60/65/75 Ti200/300/400/450/450PR0/480/480PR0 Ti450/SF6, TiX500/520/560/580/620/640/660/1000 Infrared Cameras	Free download via www.fluke.com.au	
	Fluke VT Report	Fluke VT06/VT08 Visual Infrared Thermometers	Free download via www.fluke.com.au	
Fluke Connect®	Fluke SW3000FC	Fluke Connect <sup>®</sup> Modules, 3000FC DMM, 902FC, 376FC/375FC/374FC Must be used with PC3000FC USB dongle	Free download via www.fluke.com.au	
ScopeMeters <sup>∞</sup>	FlukeView <sup>®</sup> for ScopeMeter <sup>®</sup>	Fluke 190 Series II & III ScopeMeters <sup>®</sup> , Fluke 120 Series ScopeMeter <sup>®</sup> , Fluke 19xB/C Series, Fluke 2x5C Series,	Sold separately	
-	FlukeView <sup>®</sup> 2 for ScopeMeters <sup>®</sup> (Sold as SW90W)	120B Series ScopeMeters® MDA-510/550 Motor Drive Analyser ScopeMeter®	Sold separately	
	Energy Analyse Plus	Fluke 1748/1746/1742, Fluke 1738/1736/1734/1732, 1730 Power & Energy Loggers	Free download via www.fluke.com.au	
Power Quality Tools	PowerLog 430-II	Fluke 438-II/437-II/435-II/434-II Power Quality Analysers	Free download via www.fluke.com.au	
Tonor Quanty Tools	PowerLog Classic	Fluke 345, VR1710, 1735 and 435/434/433 Power Quality Analysers	Free download via www.fluke.com.au	
	Power Analyser Software	Norma 6000 Series	Free download via www.fluke.com.au	
Battery Testers	Battery Management Software	Fluke BT521/BT5210/BT510 Battery Testers	Free download via www.fluke.com.au	
	DPC/TRACK2	Fluke 754/753 Documenting Process Calibrators	Sold separately	
Process Calibration Tools	709H/Track HART® Communications Software	Fluke 709/H Precision Loop Calibrator with HART	Sold separately	
	700G/Track	Fluke 700G Pressure Gauges (with Interface Cable)	Sold seperately	
	730G/PCSW	Fluke 730G Digital Smart Pressure Calibrator	Sold seperately	
Vibration & Alignment	Viewer Software	Fluke 810 Vibration Tester	Free download via www.fluke.com.au	
	FlukeView® Forms Basic FVF-SC5 (no cables included)	Software only, no cable (for all instruments listed below)		
	FlukeView® Forms Basic FVF-BASIC (with USB/IR cable)	Fluke 289/287 Multimeters, 789/787B ProcessMeters™, 1555/1550B Insulation Resistance Testers, 180 Series Meters		
General Meters & Testers	FlukeView <sup>®</sup> Forms plus Designer FVF-SC2 (with USB/IR cable)	Fluke 1664FC/1663/1662, 1654B/1653B/1653/1652C Multifunction Installation Testers, Fluke 55–II B/53–II B Thermometers	Sold separately	
	FlukeView <sup>®</sup> Forms plus Designer FVF-SC4 (with USB/Serial cable)	Fluke 8846A, 8845A, 8808A, 45 Bench Digital Multimeters		
	FlukeView® Forms plus Designer FVF-UG	Software only upgrade, from FlukeView® Forms Basic to FlukeView® Forms plus Designer		
Solar Data Management	Fluke TruTest™ Solar Data Management and Reporting Software	Fluke SMFT-1000 Multifunction PV Tester and Performance Analyzer	Sold separately www.fluke.com	



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#### Fluke 279 FC/iFlex® TRMS Thermal **Multimeter Combo Kit**

- 279 FC TRMS Thermal Multimeter • 18" (45.72 cm) iFlex® Flexible Current
- Probe
- TL175 Test Leads
- Rechargeable Lithium-ion Battery and Charger
- Hanging Strap
- Soft Carrying Case



#### Fluke 287/289 FlukeView<sup>®</sup> Forms **Combo Kit**

- Fluke 287/289 True-RMS Electronics Logging Multimeter
- FlukeView<sup>®</sup> Forms Software and Cable
- 80BK-A Thermocouple Probe
- TL224 Test Leads with 175 Modular Probe Tips
- AC175 Alligator Clips
- TL71 Probe Caps
- C280 Soft Case



#### Fluke 287/289 FlukeView<sup>®</sup> Forms **Combo/ with IR Connector**

- Fluke 287/289 True-RMS Industrial Logging Multimeter
- FlukeView<sup>®</sup> Forms Software with Cable
- 80BK-A Thermocouple Probe
- TL71 Silicone Test Lead Set
- AC175 Alligator Clips
- TPAK Magnetic Hanging Kit
- C280 Soft Case
- Fluke IR 3000FC Connector
- AMP Jack Plugset



#### Fluke 87V/E2 Industrial Electrician **Combo Kit**

- Fluke 87V True-RMS Industrial Multimeter
- TL224 Silicone Test Leads
- AC220 Alligator Clips
- TP238 Test Probes
- TPAK Magnetic Hanging Kit
- 80BK-A Thermocouple Probe
- C35 Soft Meter Case

**Fluke Kits** 

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#### **Fluke 87V Industrial Multimeter Service** Kit

- Fluke 87V Industrial Multimeter
- Fluke i400 400 A AC Current Clamp
- 80BK-A Temperature Probe
- TL75 Test Lead Set
- AC175 Alligator Clip Set



#### Fluke 87V MAX Electrician Combo Kit

- Fluke 87V MAX True-RMS Digital Multimeter
- TL224 SureGrip™ Insulated Test Leads
  AC220 SureGrip™ Alligator Clips
  TL238 SureGrip™ Test Probes

- ToolPak™ Magnetic Meter Hanging Kit
- 80BK-A Temperature Probe
- C35 Soft Carrying Case



#### **Fluke 88V/A Automotive Multimeter Combo Kit**

- Fluke 88V Automotive Multimeter
- TL224 Silicone Test Leads
- AC285 Alligator Clips
- TP220 Test Probes
- RPM 80 Inductive RPM
- TPAK ToolPak<sup>™</sup> Magnetic Meter Hanging Kit
- 80BK-A Thermocouple Probe
- C800 Carrying Case
- Holster
- 9V Battery (installed) •
- Two Automotive Back Probe Pins
- Insulation Piercing Probe



#### Fluke 116/323 HVAC Combo Kit

- Fluke 116 HVAC Multimeter
- Fluke 323 Clamp Meter
- TL175 Test Lead Set •
- TPAK Magnetic Hanging Kit
- 80PK-1 Bead Probe
- 80AK-A Thermocouple Adapter
- 80PK-1 Flexible Cuff Pipe Clamp Thermocouple
- · C115 Deluxe Soft Carrying Case with Shoulder Strap



#### Fluke 116/62 MAX+ HVAC Technician's **Combo Kit**

- Fluke 116 HVAC Multimeter
- Fluke 62 MAX+ Infrared Thermometer
- TL175 Test Lead Set
- TPAK Magnetic Hanging Kit
- 80BK-A Thermocouple Probe
- 80AK-A Thermocouple Adapter
- 80PK-11 Flexible Cuff Pipe Clam Thermocouple
- C115 Deluxe Soft Carrying Case with Shoulder Strap



#### Fluke 117/323 Electricians' Multimeter **Combo Kit**

- Fluke 117 True-RMS Multimeter
- Fluke 323 Clamp Meter
- TL175 Test Lead Set
- TPAK Magnetic Hanging Kit
- C115 Deluxe Soft Carrying Case with Shoulder Strap



#### Fluke 179/EDA2 Industrial Electronics **Combo Kit**

- Fluke 179 Multimeter
- 80BK-A Integrated DMM Temperature Probe

• TL224 SureGrip<sup>™</sup> Insulated Test Leads

TPAK ToolPak<sup>™</sup> Magnetic Meter Hanger

**Fluke 179 Industrial Multimeter Service** 

**Fluke 289 Industrial Multimeter Service** 

• Fluke 289 True-RMS Multimeter

• AC175 Alligator Clip Set

• Fluke i400 400 A AC Current Clamp • TL71 Flexible Silicone Test Lead Kit

• Fluke 179 True-RMS Multimeter • Fluke 323 True-RMS Camp Meter 80BK-A Temperature Probe

• TL75 Test Lead Set

AC175 Alligator Clip Set

 Installed 9V Battery • AC280 SureGrip<sup>™</sup> Hook Clips

• Soft Carry Case

Kit

Kit

• TL910 Electronic Test Probes





Kits



#### Fluke 3000 FC General Maintenance System

- Fluke 3000 FC Series Wireless Multimeter
- Fluke v3000 Voltage Module
- Fluke v3001 Voltage Module
- Fluke a3001 FC Wireless iFlex<sup>®</sup> AC
- TL224, TL222, TL175 Test Leads
- AC285, AC220, AC175 Alligator Clips
- iFlex<sup>®</sup> i2500-10 Flexible Current Probe
- Magnetic Hanging Strap (3)
- Fluke Connect<sup>®</sup> Wireless PC Adapter
  Modular 3-Compartment Soft Carry



#### Fluke 3000 FC Industrial System

- Fluke 3000 FC Series Wireless
   Multimeter
- Fluke a3001 FC Wireless iFlex<sup>®</sup> AC (3)
- Fluke v3000 Voltage Module
- TL224 Test Leads
- TL175 Test Leads
- AC285 Alligator Clips
- AC175 Alligator Clips
- iFlex<sup>®</sup> i2500-10 Flexible Current
- Probe (3)
- Magnetic Hanging Strap (4)
- Fluke Connect® Wireless PC Adapter
- Modular 3-Compartment Soft Carry
  Case



#### Fluke 3000 FC HVAC System

- Fluke 3000 FC Series Wireless Multimeter
- Fluke a3000 FC Wireless AC
- Fluke t3000 Thermocouple Thermometer
- TL175 Test Leads
- AC175 Alligator Clips
- 80PK-1 K-Type Bead Thermocouple
- Magnetic Hanging Strap
- Fluke Connect<sup>®</sup> Wireless PC Adapter
   Modular 3-Compartment Soft Carry Case

#### Fluke 3000 FC/1AC-II Wireless Multimeter and Non-Contact Voltage Detector Kit

- Fluke 3000 FC Series Multimeter
- Fluke 1AC-II VoltAlert™ Tester
- TL224 Test Leads
- TP175 Industrial Test Probes
- AC220 Alligator Clips
- C35 Soft Meter Case

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TPAK Magnetic Hanging Kit



#### Fluke 3000 FC/TPAK Wireless Multimeter and Magnetic Hanger Combo Kit

- Fluke 3000 FC Series Wireless
   Multimeter
- TL75 Test Leads
- C35 Soft Meter Case
- TPAK Magnetic Hanging Kit



#### Fluke 3000FC/EDA2 Combo Kit

- 3000 FC Series Wireless Multimeter
- TL910 Electronic Test Probes
- TL224 Silicone Test Leads
- AC280 Heavy Duty Hook Clips
- C35 Soft Meter Case
- ToolPak<sup>™</sup> Magnetic Hanging Kit



#### Fluke a3000 FC Wireless AC Current Clamp Kit

- Fluke 3000 FC Series Wireless
   Multimeter
- Fluke a3000 FC Wireless AC Current Clamp Module
- TL175 Test Leads
- AC175 Alligator Clips
- Modular 3-Compartment Soft Carry Case



## Fluke a3001 FC Wireless iFlex® AC Current Clamp Kit

- Fluke 3000 FC Series Wireless Multimeter
- Fluke a3001 FC Wireless iFlex® AC Current Module
- TL175 Test Leads
- AC175 Alligator Clips
- iFlex® i2500-10 Flexible Current Probe
- Magnetic Hanging Strap
- Modular 3-Compartment Soft Carry Case



#### Fluke Wireless t3000 FC Temperature Kit

- Fluke 3000 FC Series Wireless
   Multimeter
- Fluke t3000 K-Type Thermocouple Thermometer
- TL175 Test Leads
- AC175 Alligator Clips
- 80PK-1 K-Type Bead Thermocouple
- Other K-Type Temperature Probes also
- availableMagnetic Hanging Strap
- Magnetic Hanging Strap
   Modular 3-Compartment Soft Carry Case



#### Fluke Wireless v3000 FC AC Voltage Kit

- Fluke 3000 FC Series Wireless
   Multimeter
- Fluke v3000 AC Voltage Module
- TL175 Test Leads
- TL224 Test Leads
- AC175 Alligator Clips
- AC285 Alligator Clips
- Magnetic Hanging Strap
- Modular 3-Compartment Carry Case



#### Fluke Wireless v3001 FC DC Voltage Kit

• TL175 Test Leads

• TL222 Test Leads

Case

AC175 Alligator Clips

AC220 Alligator Clips

Magnetic Hanging Strap

- Fluke 3000 FC Series Wireless
   Multimeter
- Fluke v3001 DC Voltage Module

Modular 3-Compartment Soft Carry

Fluke v3003 FC Wireless AC-DC

• Fluke 3000 FC Series Wireless

• Fluke v3000 AC Voltage Module

• Fluke v3001 DC Voltage Module

**Voltage Measurement Kit** 

Multimeter

TL175 Test Leads

TL222 Test Leads

TL224 Test Leads

Case

• AC175 Alligator Clips

AC285 Alligator Clips

AC220 Alligator Clips

• Magnetic Hanging Straps (2)

Modular 3-Compartment Soft Carry

**Fluke Kits** 

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#### **Electrical Tester Kits**



#### Fluke T6-1000/PRV240FS Kit

- Fluke T6-1000 Electrical Tester
- Fluke PRV240FS Proving Unit with
- FieldSense™
- · C60 Soft Case



#### Fluke T6-HT6-1AC Kit

- Fluke T6-1000 Electrical Tester
- Fluke 1AC-II VoltAlert<sup>™</sup> Tester
- H-T6 Holster



#### Fluke T6-600/62MAX+/1AC Kit

- Fluke T6-600 Electrical Tester
- Fluke 62MAX+ Infrared Thermometer
- Fluke 1AC-II VoltAlert™ Tester
- C60 Soft Case

#### **Insulation Tester Kits**



#### Fluke 1587/i400 Current Clamp FC Kit

- Fluke 1587 FC 2-in-1 Insulation Multimeter
- Fluke i400 Current Clamp
- TP165X Remote Test Probe
- TL224 Test Leads
- AC285 Alligator Clips
- 80BK-A Thermocouple Probe
- Hard Case



#### Fluke 1587 FC Advanced Electrical **Troubleshooting Kit**

- Fluke 1587 FC 2-in-1 Insulation Multimeter
- Fluke i400 Current Clamp
- Fluke 62 MAX+ Infrared Thermometer
- TP165X Remote Test Probe
- TL224 Test Leads
- AC285 Alligator Clips
- 80BK-A Thermocouple Probe
- Hard Case



#### Fluke 1587/MDT FC Advanced Motor and Drive Troubleshooting Kit

- Fluke 1587 FC 2-in-1 Insulation Digital Multimeter
- Fluke i400 Current Clamp
- Fluke 9040 Phase Rotation Indicator
- TP165X Remote Test Probe
- TL224 Test Leads
- AC285 Alligator Clips
- 80BK-A Thermocouple Probe
- · Hard Case



#### Fluke 1550C 5 kV Insulation Tester Kit

- Fluke 1550C Insulation Resistance Tester
- TL1550B Alligator Clips and Test
- Lead Set TLK1550 Heavy Duty Alligator and Test
- Lead Set
- FlukeView<sup>®</sup> Forms Basic CD
- · Infrared Adapter to USB Cable
- IP67 Hard Case
- · AC Power Cord



#### Fluke 1550C Insulation Tester Kit w/ ir3000 FC

- Fluke 1550C 5 kV Insulation Tester
- Fluke ir3000 FC Connector
- Test cables with alligator clips
- IP67 Hard Case



#### Fluke 1555 10kV kV Insulation Tester Kit

- Fluke 1555 Insulation Resistance Tester
- TL1550B Alligator Clips and Test •
- Lead Set
- TLK1550 Heavy Duty Alligator and Test Lead Set
- FlukeView<sup>®</sup> Forms Basic CD
- Infrared Adapter to USB Cable
- AC Power Cord
- IP67 Hard Case



#### Fluke 1555 10kV kV Insulation Tester Kit w/ir3000 FC

- Fluke 1555 10kV Insulation Tester
- Fluke ir3000 FC Connector
- · Test cables with alligator clips
- IP67 Hard Case



#### Fluke 1623-2 GEO Earth Ground **Tester Kit**

- Fluke 1623-2 GEO Earth Ground Tester
- GEOX Probe Cable •
- EI-1623 Clamp Set
- 3 Cable Reels
- 4 Earth Ground Stakes
- C1620 Carrying Case



#### Fluke 1625-2 GEO Earth Ground **Tester Kit**

- Fluke 1623-2 GEO Earth Ground Tester
- GEOX Probe Cable
- EI-1623 Clamp Set
- 3 Cable Reels
- 4 Earth Ground Stakes
- C1620 Carrying Case

PLS LASER EVEL



#### PLS 3R/G KIT, 3-Point Red/Green Laser Kit

- PLS 3R/G Laser Level
- PLS Canvas Pouch
- PLS BP5 Alkaline Battery Pack
- PLS FS Floor Stand
- PLS MLB Magnetic L-Bracket
- PLS R/GRT4 Red/Green Reflective Target



#### PLS 5R/G KIT, 5-Point Red/Green Laser Kit

- PLS 5R/G Laser Level
- PLS Canvas Pouch
- PLS BP5 Alkaline Battery Pack
- PLS FS Floor Stand
- PLS MLB Magnetic L-Bracket
- PLS Pendulum Target
- PLS R/GRT4 Red/Green Reflective
   Target



#### PLS 6R/G KIT, Cross Line and Point Red/Green Laser Kit

- PLS 6R/G Laser Level
- PLS Canvas Pouch
- PLS BP5 Alkaline Battery Pack
- PLS UB9 Universal Ceiling and Wall Bracket
- PLS FS Floor Stand
- PLS MLB Magnetic L-Bracket
- PLS R/GRT4 Red/Green Reflective
   Target



#### PLS 6R/G SYS, Cross Line and Point Red/Green Laser System

- PLS 6R/G Laser Level
- PLS Canvas Pouch
- PLS BP5 Alkaline Battery Pack
- PLS SLD Red/Green Laser Line Detector
- PLS 60520 SLD Clamp
- PLS UB9 Universal Ceiling and Wall Bracket
- PLS FS Floor Stand

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- PLS MLB Magnetic L-Bracket
- PLS R/GRT4 Red/Green Reflective
   Target



#### PLS 180R/G KIT, Cross Line Red/ Green Laser Kit

- PLS 180R/G Laser Level
- PLS Canvas Pouch
- PLS BP5 Alkaline Battery Pack
- PLS UB9 Universal Ceiling and Wall Bracket
- PLS MLB Magnetic L-Bracket
- PLS R/GRT4 Red/Green Reflective
  Target



#### PLS 180R/G SYS, Cross Line Red/ Green Laser System

- PLS 180R/G Laser Level
- PLS Canvas Pouch
- PLS BP5 Alkaline Battery Pack
- PLS SLD Red/Green Laser Line Detector
  PLS 60520 SLD Clamp
- PLS UB9 Universal Ceiling and Wall
- Bracket
- PLS MLB Magnetic L-Bracket
- PLS R/GRT4 Red/Green Reflective
   Target



#### PLS 3x360R/G Kit, Three-plane Red/ Green Laser Kit

- PLS 3x360R/G Laser Level
- PLS Canvas Pouch
- Blow Mold Case
- Power Supply
- PLS RBP5 Li-ion Battery Pack
- PLS 3x360 Magnetic L-Bracket
- PLS R/GRT4 Red/Green Reflective
  Target



#### PLS H2 KIT, Horizontal Red/Green Rotary Laser Kit

- PLS H2 Rotary Laser Level
- PLS BP10 Alkaline Battery Tray
- PLS RBP10 NiMH Rechargeable Battery Tray with BC20 Universal Charging Cord
- PLS XLD Rotary Laser Detector
- PLS XLD Clamp
- PLS R/GRT4 Red/Green Reflective
  Target
- PLS TPOD500 Elevator Tripod
- PLS GR16 Grade Rod



Kits

#### PLS H2 SYS, Horizontal Red/Green Rotary Laser System

- PLS H2 Rotary Laser Level
- PLS BP10 Alkaline Battery Tray
- PLS RBP10 NiMH Rechargeable Battery Tray with BC20 Universal Charging Cord
- PLS XLD Rotary Laser Detector
- PLS XLD Clamp
- PLS R/GRT4 Red/Green Reflective
   Target



#### PLS HV2R/G KIT, Manual Slope Red/ Green Rotary Laser Kit

- PLS HV2R/G Rotary Laser Level
- PLS BP10 Alkaline Battery Tray
- PLS RBP10 NiMH Rechargeable Battery Tray with BC20 Universal Charging Cord
- PLS RC2 Remote Control
- PLS XLD Rotary Laser Detector
- PLS XLD Clamp
- PLS WCB10 Rotary Wall and Ceiling Mount
- PLS R/GRT4 Red/Green Reflective Target
- PLS TPOD500 Elevator Tripod
- PLS GR16 Grade Rod



#### PLS HV2R/G SYS, Manual Slope Red/ Green Rotary Laser System

- PLS HV2R/G Rotary Laser Level
- PLS BP10 Alkaline Battery Tray

• PLS RC2 Remote Control

• PLS XLD Clamp

Mount

Target

PLS XLD Rotary Laser Detector

 PLS RBP10 NiMH Rechargeable Battery Tray with BC20 Universal Charging Cord

PLS WCB10 Rotary Wall and Ceiling

**Fluke Kits** 

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PLS R/GRT4 Red/Green Reflective

INSULATED HAND TOO KITS



## Fluke Insulated 7 Unit Screwdriver Kit (IKSC7)

- ISLS3 Insulated Slotted Screwdriver 2.5 mm, 75 mm
- ISLS5 Insulated Slotted Screwdriver 4 mm, 100 mm
- ISLS8 Insulated Slotted Screwdriver 6 mm, 125 mm
- IPHS1 Insulated Phillips Screwdriver #1, 75 mm
- IPHS2 Insulted Phillips Screwdriver #2, 100 mm
- ISQS1 Insulated Squared Screwdriver #1, 100 mm
- ISQS2 Insulated Squared Screwdriver #2, 125 mm



#### Fluke Insulated 3 Unit Pliers Kit (IKPL3)

- INLP8 Insulated Long Nose /w Side Cutter
   INDC8 Insulated Heavy Duty Diagonal Cutter
- INCP8 Insulated Linesman Combination
   Plier
- RUP8 Roll Up Pouch



#### Fluke Insulated Hand Tools Starter Kit (IKST7)

- ISLS3 Insulated Slotted Screwdriver 2.5 mm, 75 mm
- ISLS5 Insulated Slotted Screwdriver 4 mm, 100 mm
- ISLS8 Insulated Slotted Screwdriver 6 mm, 125 mm
- IPHS1 Insulated Phillips Screwdriver #1, 75 mm
- IPHS2 Insulted Phillips Screwdriver #2, 100 mm
- INLP8 Insulated Long Nose /w Side Cutter
- INDC8 Insulated Heavy Duty Diagonal Cutter
- INCP8 Insulated Linesman Combination Plier
- RUP8 Roll Up Pouch



#### Fluke Pack30 Professional Tool Backpack + Insulated Hand Tools Kit (IKPK7)

- Fluke Pack30 Professional Backpack
- ISLS3 Insulated Slotted Screwdriver
- ISLS5 Insulated Slotted Screwdriver
- ISLS8 Insulated Slotted Screwdriver
- IPHS1 Insulated Phillips Screwdriver
- IPHS2 Insulted Phillips Screwdriver
- INLP8 Insulated Long Nose /w Side Cutter
- INDC8 Insulated Heavy Duty Diagonal Cutter
- INCP8 Insulated Linesman Combination Plier
- RUP8 Roll Up Pouch



#### Fluke T6-1000 Electrical Tester + Insulated Hand Tools Kit (IBT6K)

- Fluke T6-1000 Electrical Tester
- ISLS3 Insulated Slotted Screwdriver
- ISLS5 Insulated Slotted Screwdriver
- ISLS8 Insulated Slotted Screwdriver
- IPHS1 Insulated Phillips Screwdriver
- IPHS2 Insulted Phillips Screwdriver
- INLP8 Insulated Long Nose /w Side Cutter
   INDC8 Insulated Heavy Duty Diagonal Cutter
- INCP8 Insulated Linesman Combination Plier
- RUP8 Roll Up Pouch



#### Fluke 117 Electrician's Multimeter + Insulated Hand Tools Kit (IB117K)

- Fluke 117 Electrician's Multimeter
- ISLS3 Insulated Slotted Screwdriver
- ISLS5 Insulated Slotted Screwdriver
- ISLS8 Insulated Slotted Screwdriver
- IPHS1 Insulated Phillips Screwdriver
- IPHS2 Insulted Phillips Screwdriver
- INLP8 Insulated Long Nose /w Side Cutter
- INDC8 Insulated Heavy Duty Diagonal Cutter
- INCP8 Insulated Linesman Combination Plier
- RUP8 Roll Up Pouch



#### Fluke 87V Industrial Multimeter + Insulated Hand Tools Kit (IB875K)

- Fluke 87V Industrial Multimeter
- ISLS3 Insulated Slotted Screwdriver
- ISLS5 Insulated Slotted Screwdriver
- ISLS8 Insulated Slotted Screwdriver
- IPHS1 Insulated Phillips Screwdriver
- IPHS2 Insulted Phillips Screwdriver
- INLP8 Insulated Long Nose /w Side Cutter
- INDC8 Insulated Heavy Duty Diagonal Cutter
- INCP8 Insulated Linesman Combination Plier
- RUP8 Roll Up Pouch



#### Fluke 376 FC True-RMS Clamp Meter + Insulated Hand Tools Kit (IB376K)

- Fluke 376 FC AC/DC Clamp Meter
- iFlex<sup>®</sup> Flexible Current Probe
- TPAK Magnetic Hanging Strap
- TL75 Test Leads
- ISLS3 Insulated Slotted Screwdriver
- ISLS5 Insulated Slotted Screwdriver
- ISLS8 Insulated Slotted Screwdriver
- IPHS1 Insulated Phillips Screwdriver
- IPHS2 Insulted Phillips Screwdriver
- INLP8 Insulated Long Nose /w Side Cutter
- INDC8 Insulated Heavy Duty Diagonal Cutter
- INCP8 Insulated Linesman Combination Plier
- RUP8 Roll Up Pouch

#### **Infrared Thermometer Kits**

#### Indoor Air Quality Kits

#### **Process Calibration Kits**



#### Fluke 62 MAX+/323/1AC IR Thermometer, Clamp Meter and Voltage Detector Kit

- Fluke 62 MAX+ IR Thermometer
- Fluke 323 True-RMS Clamp Meter
- Fluke 1AC-II VoltAlert
- TL175 TwistGuard<sup>™</sup> Test Leads
- C115 Softcase



#### Fluke 417D/62MAX+ Laser Distance Meter/Infrared Thermometer Combo Kit

- Fluke 417D Laser Distance Meter
- Fluke 62 MAX+ Infrared Thermometer

#### **Solar Tools Kits**



#### Solar Tools Kit with 87V MAX Digital Multimeter and Solar Test Leads

- Fluke 87V MAX True-RMS Digital Multimeter
- TL175 TwistGuard Test leads
- Soft Carrying Case



#### Solar Tools Kit with Fluke 393 FC Clamp Meter and Solar Test Leads

- Fluke 393 FC CAT III 1500 V True-RMS Solar Clamp Meter
- iFlex 18-inch Flexible Current Probe
- CAT III 1500V Rated Test Leads
- Premium Carrying Case



#### Solar Tools Kit with 393 FC Clamp Meter, Irradiance Meter and Solar Test Leads

- Fluke 393 FC CAT III 1500 V True-RMS Solar Clamp Meter
- FLK-IRR1-SOL Irradiance Meter
- iFlex 18 inch Flexible Current Probe
- C250 & Premium Carrying Cases



#### Fluke 922 Airflow Meter/ Micromanometer Kit

- Fluke 922 Airflow Meter
- 12 inch Pitot Tube
- Two Rubber Hoses
- TPAK Magnetic Strip
- TPAK Strap, 9 inches
- TPAK Latch Tab
- User Manual
- Hard Carrying Case

#### **Renewable Test Kits**



#### FLK-FEV300/TY2

- FEV300 Adapter with Soft Cary Case
- FEV300 Type 2 & Type 1 Connector



#### FLK-FEV300/TY2 & TY1

- FEV300 Adapter with Soft Cary CaseFEV300 Type 2 Connector



#### FLK-FEV300/Kit

FEV300 Adapter with Soft Cary Case
Fluke 1664 FC Installation Tester with Hard Carry Case



#### Fluke SMFT-1000/Pro

- Fluke SMFT-1000 Multifunction PV Analyser
- Fluke IRR2- BT Wireless Solar Irradiance Meter Pro
- Fluke 393 FC CAT III 1500 V True-RMS Solar Clamp Meter
- TruTest<sup>™</sup> Data Management and Reporting Software
- Pomona PVLEAD3 MC4 Solar Clamp Test Lead Set
- Professional Tool Backpack

#### Fluke 700PTPK Pneumatic Test Pump Kit

- 700PTP-1 Pneumatic Hand Pump
- Hose Kit (1) and Adapters
- Hard Case



#### Fluke 700HTPK Hydraulic Test Pump Kit

- 700HTP-2 Hydraulic Hand Pump
- Hose Kit (1) and Adapters
- Hard Case



#### Fluke 700PTPK2 Premium Pneumatic Test Pump Kit

- 700PTP-1 Pneumatic Hand Pump
- Premium, 'no tools required Gauge' Connector
- Premium Transmitter Test Hose Kit (1) and Adapters
- Hard Case



#### Fluke 700HTPK2 Premium Hydraulic Test Pump Kit

- 700HTP-2 Hydraulic Hand Pump
- Premium, 'no tools required' Gauge Connector
- Premium Transmitter Test Hose Kit (1) and Adapters
- Hard Case



#### Fluke Connect<sup>®</sup> 789 ProcessMeter™ and Temperature Kit

- Fluke 789 ProcessMeter™
- Fluke t3000 FC Wireless K-Type Temperature Module
- Fluke ir3000 FC Connector
- TL71 Premium Test Lead Set
- AC72 Alligator Clips
- 4 AA Alkaline Batteries (installed)
- User Manual
- Quick Reference Guide

Kits

# FLUKE networks

.0

Cabling, copper or fiber optic, is a major cause of downtime on time sensitive industrial networks. Losing just a few data packets in a short time can cause a machine to shut down. This is especially true in industrial environments, where network cables are exposed to vibration, flexing, moisture, temperature changes and electromagnetic interference (EMI) from motor drives and other devices.

# PROFESSIONAL DATA COMMUNICATION TOOLS AND TESTERS

## FLUKE networks

## COPPER CABLE TROUBLESHOOTING AND CONNECTIVITY

## MicroScanner<sup>™</sup> Industrial Ethernet Cable Verifier

- Graphically displays length, wiremap, opens/ shorts and distance to fault
- Detects the class (0-8) from PoE, PoE+ and PoE++ (802.3at/af/bt) switches
- Identifies presence and speed of an active switch connected to the cable
- Tests RJ-45 connections and includes adapters for M8D, M12D, and M12X connectors

Search for: MS2-100-IE, MS-POE-IE



## NEW LinkIQ<sup>™</sup> Industrial Ethernet Cable + Network Tester

- Cable Performance testing up to 10GBASE-T via frequencybased measurements
- Network features including: IPv4 and v6 ping, nearest switch diagnostics (IP address, name, port / VLAN number, and advertised data rates)
- Ethernet Alliance certified PoE Verification – Detects the PoE class (1-8) and power, and performs a load test of available PoE from the connected switch
- Displays cable length, wire map, and distance to open or short
- Manage results and print reports from LinkWare™ PC
- Tests RJ-45 connections and includes adapters for M8D, M-12D, and M-12X

**Q** Search for:

NEW

🔰 LIQ-100, LIQ-100-IE, LIQ-KIT, LIQ-KIT-IE

FiberLert<sup>™</sup> Fiber Light Detector

## SOLUTIONS FOR FIBER OPTIC CONTAMINATION

The #1 problem affecting Industrial Ethernet fiber cables.

## FI-500 FiberInspector™ Micro

- PortBright<sup>™</sup>, a built-in flashlight illuminates dark areas
- Autofocus for stable images in few seconds
- Large display to view fiber endfaces
- Includes 4 UPC tips (LC, SC, 1.25 mm and 2.50 mm)
- APC, Bulkhead tips available
- Autocenter for precise fiber ferrule inspection











## FEATURED COPPER CABLE TEST SOLUTIONS

	Pro 3000	Intellitone Pro	Micro- Mapper	TS100	MS2-100 MS2-100-IE	MS-POE MS-POE-IE	LIQ-100 LIQ-100-IE
Port Location ID							
Digitaltoning		$\checkmark$			$\checkmark$	$\checkmark$	$\checkmark$
Analog toning	✓	✓	✓	1	✓	$\checkmark$	✓
Switch presence		✓			√	✓	✓
Identify switch name, port ID and VLAN							~
VDV service detection					✓	✓	
Cable Verification							
Cable wiremap		✓	$\checkmark$		Graphical	Graphical	Graphical
Cable length				$\checkmark$	✓	$\checkmark$	$\checkmark$
Qualified cabling speed (10/100/1000/10G)							$\checkmark$
Identify NBASE-T Capability						$\checkmark$	$\checkmark$
Identify PoE Capability						$\checkmark$	$\checkmark$
Cable Troubleshooting							
Identify open/short	$\checkmark$	✓	$\checkmark$	1	$\checkmark$	$\checkmark$	$\checkmark$
Distance to open/short				1	✓	✓	✓
Identify crosstalk fault							✓
Identify impedance fault							✓



MS-POE-KIT

#### MicroScanner<sup>™</sup> PoE

- PoE Switch Verification Determine if a switch port can provide enough power by reporting PoE class (0-8).
- Powered Pairs Graphically identifies powered pairs. Including Dual Signature where the switch port delivers power on 2 or 4 pairs (802.3bt or PoE ++).
- Active Switch Detection Determine if a cable is connected to a switch port and port speed up to 10G.
- Cable Testing Identify any shorted, open or crossed wires at both ends, length ofeach pair, and send tones to find cables.
- Validate and troubleshoot your Industrial Ethernet copper cabling
- PoE Injector verification Display injector voltage level
- IE model tests common connector types including RJ11, RJ45, Coax, and Industrial Ethernet connector types (M12X, M12D, an M8D)



Search for: MS-POE, MS-POE-IE, MS-POE-KIT

## FEATURED COPPER CABLE TEST SOLUTIONS



#### **Pro3000<sup>™</sup> Analog Tone and Probe**

- Tone and trace on non-active networks
- Identify exact pair with SmartTone technology and five distinct tones
- Loud speaker on probe easy to hear through drywall, wood, and other material
- Clear Innovative filter technology blocks interference ("buzz") that makes tracing difficult ("F" modles only)
- Clips allow easy access to individual pairs and RJ11 easily connects to telephone jacks—no need for adapters



PR03000F50-KIT Tone and Probe Kit



#### TS®100 Cable Fault Finder

- Numeric distance display
- Identify pairs with SmartTone<sup>™</sup> generation technology
- Identify and locate distance to opens and shorts
- Works on any two or more conductor cable up to 3,000 feet (915 metres)



26500000 TS100 with BNC to Alligator Clips



## IntelliTone<sup>™</sup> Pro 200 LAN Tone and Probe

- Digital toning eliminates noise and false signals
- SmartTone<sup>™</sup> analog toning isolates individual wire pairs
- Locates cables safely and effectively on active networks
- Visible end-to-end continuity test
- Built in wire mapper
- Works on twisted pair, audio, and video cabling

Search for: MT-8200-60-KIT

## MicroMapper™

- Simple verification of wiremaps and identification of faults with LEDs
- Tests twisted pair cables for open circuits, shorts, crossed pairs, reversed pairs and split pairs
- Remote identifier enables one-person testing
- Built-in tone generator for tracing installed cables hidden in walls, floors and ceilings.
   Works with Pro3000<sup>™</sup> Tone and Probe (sold separately)

Q Search for: MT-8200-49A





Fluke Networks

## **TELEPHONE TEST SET COMPARISON**

	TS <sup>®</sup> 54 TDR	TS <sup>®</sup> 52 PRO	TS <sup>®</sup> 22A	TS <sup>®</sup> 22	TS <sup>®</sup> 25D	TS®30	TS®19
TDR to detect shorts, opens, and distance to open	$\checkmark$						
Built-in toner	✓						
Display—back lit LCD and glow-in-the- the dark keypad	~	√			LCD only		
Extended range high-impedance DataSafe operation in monitor mode	$\checkmark$	$\checkmark$			$\checkmark$		
Data lockout protection Data lockout override	$\checkmark$	$\checkmark$			$\checkmark$		
DSL/POTS filtering technology	$\checkmark$	$\checkmark$			$\checkmark$		
Low/high voltage indication	$\checkmark$	$\checkmark$			$\checkmark$		
Low current (mA) indication	$\checkmark$	$\checkmark$			$\checkmark$		
Over voltage protection Over current protection	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	
Two-way speakerphone for true hands- free conversations	$\checkmark$	$\checkmark$	$\checkmark$				
One-way amplified speaker for hands- free monitoring	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$		
Waterproof—exceeds American Military Spec. MIL-STD-810E	$\checkmark$	$\checkmark$					
DropSafe—passes 20 foot (6 metre) drop test onto concrete	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$		$\checkmark$	
Polarity indication in talk mode	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Stores nine 18-digit numbers in repertory dialer (speed dialing)	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$		

#### 4 and 8 Wire Modular Adapters

- Easily complete testing and obtain circuit access on working lines without disrupting service
- Clear circuit markings on the sides and bottom of the unit
- Test line status with the 4-wire modular adapter



Model	Description
10113000	4 wire
10210100	4-wire in-line
10210101	4-wire in-line with K-Plug
10220100	6-wire in-line
10220101	6-wire in-line with K-Plug
10230100	8-wire in-line
10230101	8-wire in-line with K-Plug
10230100	8-wire in-line



## TERMINATION TOOLS AND ADAPTERS

Ergonomic design, high-quality materials and Fluke Networks quality for separating, stripping and cutting wire. Perfect tools for your every job.



	Modular Crimper	Crimping Pliers	D-Snips <sup>™</sup>	Cable Strippers	Probe Pic	Can Wrenches
SKU	11212530	11294000	44300000	44210015	44600000	44007000



#### D914<sup>™</sup> Series Impact Tools

- Hook, spudger and blade storage tools are built into the handle
- Select low impact for 24/26 gauge wire or high impact for 22-gauge wire
- Optional Phillips-head or flat screwdriver blade
- Supports a variety of torgue tool bits and sockets
- Easy blade insertion, locks in place
- D914S features soft touch rubber handle and ergonomic design

#### Search for: a

JackRapid™

JR-PAN-2

JR-ADC-2

JR-ORT-2

JR-SYS-2

JR-LEV-2

JR-LEV-1

JR-SYS-UNI-1

10061501 D914S impact tool with EverSharp 110, Ever-Sharp 66 blade and free blade



#### Pro-Tool<sup>™</sup> Kits

- Ergonomically designed Dur-a-Grip™ pouch for convenient tool storage on belt
- D914<sup>™</sup> and D814<sup>™</sup> industry standard punchdown tools make for solid terminations
- Easy to use cable stripper quickly rings
- and slits many types of cable • Probe Pic checks for loose or
- damaged connections • Cut and strip wire with Electricians'
- D-Snips<sup>™</sup>
- Three kit combinations available





Description	Model	
For Panduit NK6X88M, NK688M, NKP5E88M	10176500	E
For ADC C6a CopperTen $^{\otimes}$ UTP RJ45 jack and C6 TrueNet $^{\otimes}$ KM8 UTP RJ45	10178600	I
For Ortronics <sup>®</sup> TJ5E00, TJ600, TJ610	10056500	I
For Systimax <sup>®</sup> MGS400, MGS600, MFP420, MFP520 and Commscope <sup>®</sup> UNJ10G	10565000	
For Leviton <sup>®</sup> 61110, 5G110, 6110G	10565110	
For Systimax MPS100E, C5, M1BH and Commscope UNJ600/500/300	10176000	:
For Leviton 41106, 41108, 5G108	10436001	(
	10465001	1
	10645001	1

## **Punchdown Blades**

jack manufacturers

JackRapid<sup>™</sup> Punchdown Tool

• Terminate jacks eight times faster

than traditional impact tools.

The patented design seats and

Built-in blade cuts off the excess

wire eliminating the need for a

• Ergonomic design reduces hand

• Multiple versions support several

Convenient, built-in stripper

secondary trim step

terminations

fatique

• High-quality, consistent

terminates all wires simultaneously.

Model	Description
10176500	EverSharp 110 blade
10178600	EverSharp 110/66 cut blade
10056500	EverSharp 66 blade
10565000	Krone blade
10565110	Krone/110 cut blade
10176000	110 blade
10436001	Centerpunch blade
10465001	3M System D blade
10645001	Wood screw starter punch
10665000	BIX blade
10056000	66 blade
10057000	630 blade
10979002	Blade storage case



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## Fluke Australia Support

#### FLUKE

#### **Customer Care**

Please contact our customer care team for the following enquiries:

- Price enquiries
- Lead times
- Orders
- Feedback

Phone: 1300 135 853 Email: ordersanz@fluke.com

**Contact Us** fluke.co/contact

#### FLUKE ®

### **Technical Support**

Please contact our customer technical support team for the following enquiries:

- Product Technical Support
- Something not working
- Technical Product Information and guestions

Phone: 1300 135 853 Submit a support request here: fluke.co/techsupport



## **Calibration, Repairs and Warranty**

## **Authorised Service Provider**

Need your Fluke Test Tool repaired or calibrated? We recommend Fluke Australia's Authorised Repair and Calibration Service Agent, Plus ES, for all calibration, repairs, service and warranty requirements.

2. Plus ES will

contact you

You will be contacted by

a Plus ES representative

with further details.



Backed by over 100 years of continuous operation, Plus ES is the trusted service partner of various highquality equipment suppliers including Fluke and the largest utilities in New South Wales. With its NATA accredited calibration laboratory, Plus ES offers best-in-class quality and premium service across its people, processes, lab, and equipment.

Operating as a one-stop-shop for all repair and calibration needs, Plus ES completes 99% of all repairs and calibration in-house, meaning faster turnaround times for all projects and customers.

### How it works

1. Request service online



Submit the online form to request a Fluke calibration or service.

Request service: fluke.co/pluses Phone: 1800 924 200 Email: flukeservice@pluses.com.au



Calibration fluke.co/calibrate



Repairs

3. Send product for service



Send your tool to the delivery address provided.

4. Receive serviced product



Your tool will be calibrated or repaired and returned within 10 business days.



fluke.co/repairs

## Limited Lifetime Warranty

Lifetime is defined as seven years after Fluke discontinues manufacturing the product, but the warranty period shall be at least ten years from date of purchase; (Lifetime Warranty applies to products manufactured after October 1996).

The warranty does not cover manuals, fuses, disposable batteries, damage from neglect, misuse, contamination, alteration, accident or abnormal conditions of operation or handling, including failures caused by use outside of the product's specifications, or normal wear and tear of mechanical components. This warranty covers the original purchaser only and is not transferable.

## Fluke Australia Pty Ltd ACN 086 173 882 Warranty

Fluke Australia's obligations regarding product warranties are outlined on the Fluke website at **fluke.co/warranty** 

Fluke Australia's warranty will always apply to Fluke branded products imported or supplied by Fluke Australia.

- 1. Our warranty does not apply to any products purchased at auction (whether online or otherwise). If you buy a Fluke product at auction then we do not warrant that product; and
- 2. Our warranty does not apply to any Grey Products that you buy from a non-Fluke Australia Authorised Distributor.

Fluke Australia recognises that it is the right of every Consumer to decide who they purchase products from. However, if the Consumer chooses to purchase Fluke branded products from any supplier other than Fluke Australia (where applicable), or a non-authorised distributor or reseller in Australia, New Zealand or the Pacific Island region who have not obtained their products from Fluke Australia, then you may be purchasing a product that is not covered by Fluke Australia's warranty.

If you would like to know which distributors or resellers stock Fluke branded products that come with our warranty, then please refer to the Where to Buy section of our website at **fluke.co/wtb** 

Warranties fluke.co/warranty

## Protect your Fluke investment.

Fluke Australia sells its products only through its network of Authorised Distributors and Wholesalers in Australia, New Zealand and the Pacific Island regions which can be found at **fluke.co/wtb** 



Fluke stand behind their products. We strive to provide quality products, exceptional customer service, and a warranty that protects your investment in the event your product should encounter any issues. To ensure you receive the quality service you deserve, we select Fluke Authorised Distributor's and Service Centre's whom we believe share our vision of quality and service and are providing you 100% Fluke genuine product for use in the local market.

#### Benefits of purchasing via a Fluke Australia Authorised Reseller\*

- Be reassured you've purchased a 100% Fluke genuine product
- Your Fluke investment is covered by Fluke Australia's warranty
- Get more back: Take advantage of Fluke Australia's exclusive deals and promotional offers
- Get the Fluke Service you expect
- Training and support on your Fluke product

#### Find your local Fluke Australia authorised reseller at: fluke.co/wtb

\*If you are currently purchasing via a local electrical wholesaler in Australia, New Zealand or the Pacific Island regions who are not on our Where to Buy Page, please contact them direct and ensure they are purchasing from a Fluke Authorised Distributor.





## **Contact us**

#### **Customer Care enquiries**

#### Fluke Australia Pty Ltd

1300 1 FLUKE (1300 135 853) ordersanz@fluke.com

#### **Technical Support enquiries**

#### Fluke Australia Pty Ltd

1300 1 FLUKE (1300 135 853) fluke.co/techsupport

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