

# The safety you rely on.



**EATON**

*Powering Business Worldwide*



# The safety you rely on.

Delivering world-class reliability and safety in high consequence harsh and hazardous environments

## Eaton's Crouse-Hinds series products can deliver...

- Protection and safety of people and assets around the world with unsurpassed reliability and quality in every product we offer
- Industry leading innovation and product efficiency
- Product solutions designed and certified for global specifications
- Best-in-class, global sales, and customer service teams that provide local support

## CROUSE-HINDS SERIES

Crouse-Hinds remains the brand that stands for safety in the harshest of environments when power management is most critical. While it all began with the Condulet®, the Crouse-Hinds brand has grown into the premier name for a comprehensive portfolio of solutions for high-consequence harsh and hazardous environments.

And now, the next phase in the evolution of the brand you trust: Crouse-Hinds joins the leading Eaton portfolio of reliable, efficient and safe electrical power management solutions.

**More protection. More technology.  
Expect more.**



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Changzhou plant



Singapore plant



Australia plant

# Comprehensive global product solutions that fulfill local demand worldwide

Fast-growing industrial and commercial customers alike need international partners who can help them adapt to local requirements, and Eaton's Crouse-Hinds' global capabilities and local expertise help their expansion.

## NEPSI

*National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation*  
Chinese certification

## ATEX

*ATmosphères EXplosibles*  
European Union certification

## IEC & IEC-Ex

*International Electrotechnical Commission*  
International certification

## CSA

*Canadian Standards Association*  
Canadian certification

## INMETRO

*Instituto Nacional de Metrologia,  
Qualidade e Tecnologia*  
Brazilian certification

## UL

*Underwriters Laboratories*  
American certification

## TIIS

*Technology Institution of Industrial Safety*  
Japanese Certification

## KC

*Korea Certification*  
Korean certification

## ABS

*American Bureau of Shipping*  
American marine certification

## DNV

*Det Norske Veritas*  
Norwegian marine certification

## LR

*Lloyd's Register of Shipping*  
British marine certification

## CE

*Conformité Européenne*  
European certification



## Hazardous area reference guide:

### Hazardous areas due to explosive gases, vapours and liquids

**Zone 0** covers areas in which an explosive atmosphere caused by a mixture of air and gases, vapours or liquids is present, continuously, for long periods or frequently.

**Zone 1** covers areas in which the occasional occurrence of an explosive atmosphere due to the presence of gases, vapours or liquids is likely.

**Zone 2** covers areas in which the occurrence of an explosive of gases, vapours and liquids is not likely, but if one should occur, then only rarely and only for a short period.

### Hazardous areas due to explosive dust/air mixtures

**Zone 20** covers areas in which an explosive atmosphere due to dust/air mixtures is present continuously, for long periods or frequently.

**Zone 21** covers areas in which the occurrence of an explosive atmosphere due to dust/air mixtures is to be expected occasionally.

**Zone 22** covers areas in which the occurrence of an explosive atmosphere due to whirled-up dust is not likely, but, if it occurs, then in all probability only rarely and only for a short period.

# Principles of explosion-protection

## Liquids, gases & vapours

Zone 0 Continuously hazardous  
(Eg: Inside storage tanks containing flammable liquid.)



Zone 1 Frequently hazardous under normal conditions  
(eg. container filling area, pump alley in a refinery petrol pump)



Zone 2 Infrequently hazardous under abnormal conditions  
(eg. sealed container stored above 3m in a plant)

## Dusts, fibres & flyings

Zone 20 Dust/air mixtures is present continuously, for long periods or frequently  
(Eg: close container, inside grain hopper etc.)



Zone 21 Dust/air mixtures is to be expected occasionally  
(eg. include areas in the immediate vicinity of dust extraction, such as grain handling areas)



Zone 22 Dust is not likely, but, if it occurs, then in all probability only rarely and only for a short period  
(eg. milling rooms, where dust leaks from the mill and builds a dust layer)

# Principles of explosion-protection

Ex code	Hazardous areas	Type of protection	Standard	Principle	Application
ia	Zone 0, 20	Intrinsic safety	IEC 60079-11 EN 60079-11 AS/NZS 60079-11 GB3836.4		Measurement and control devices, data processing (low electric values)
ib	Zone 1, 21	Intrinsic safety			
ic	Zone 2, 22	Intrinsic safety			
eb	Zone 1	Increased safety	IEC 60079-7 EN 60079-7 AS/NZS 60079-7 GB3836.3		Connection and distribution boxes light fittings, measuring instruments, squirrel cage motors (no ignitable sparks in normal operation)
ec	Zone 2	Increased safety			
da	Zone 0	Flameproof	IEC 60079-1 EN 60079-1 AS/NZS 60079-1 GB3836.2		Power-operated apparatus, switchgear, motors (all types of apparatus producing ignitable arcs in normal operation)
db	Zone 1	Flameproof			
dc	Zone 2	Flameproof			
q	Zone 1	Powder filling	IEC 60079-5 EN 60079-5 AS/NZS 60079-5 GB3836.7		Capacitors, electronic components, fuses
nC	Zone 2	Sealed devices	IEC 60079-15 EN 60079-15 AS/NZS 60079-15 GB3836.8		Zone 2 only. Lamps, motors, plugs and sockets, measurement and control devices
pxb	Zone 1, 21	Pressurization	IEC 60079-2 EN 60079-2 AS/NZS 60079-2 GB3836.5		Power-operated apparatus (active safety measures required)
pyc	Zone 1, 21	Pressurization			
pzc	Zone 2, 21	Pressurization			
ma	Zone 0, 20	Encapsulation	IEC 60079-18 EN 60079-18 AS/NZS 60079-18 GB3836.9	Proved by test unable to cause ignition	Measurement and control devices, relays, electronic circuits
mb	Zone 1, 21	Encapsulation			
mc	Zone 2, 22	Encapsulation			
nR	Zone 2	Restricted breathing apparatus	IEC 60079-15 EN 60079-15 AS/NZS 60079-15 GB3836.8		Zone 2 only. Lamps, motors, plugs and sockets, measurement and control devices
ob	Zone 1	Liquid immersion	IEC 60079-6 EN 60079-6 AS/NZS 60079-6 GB3836.6		Transformers (rarely used)
oc	Zone 2	Liquid immersion			
ta	Zone 20	Dust-protected	IEC 60079-31 EN 60079-31 AS/NZS 60079-31 GB 12476.5		
tb	Zone 21	Dust-protected			Equipment dust ignition protection by enclosure 't'
tc	Zone 22	Dust-protected			

# Principles of explosion-protection

## Division of explosion-protected apparatus into explosion groups (Gas-ex area)

Explosion-protected electrical apparatus are divided into group I and II. It is further sub-division of the Explosion Group II into "A", "B" and "C".

Gas group	Temperature class					
	T1	T2	T3	T4	T5	T6
I	Methane	Ethylalcohol	Petrol	Acetaldehyde		
	Acetone, Ethane	i-amyl acetate	Diesel-fuel	Ethylether		
	Ethyl acetate	n-butane	Aviation-fuel			
	Ammonia, Benzol	n-butylalcohol	Heating-oils			
IIA	Acetic acid		n-hexane			
	Carbon monoxide					
	Methanol, Propane					
	Toluene					
IIB		Ethylene				
IIC		Acetylene				Carbon disulphide

The ignition temperature is the lowest temperature of a surface at which an explosive atmosphere will ignite. Gases and vapours can be divided into temperature classes according to their ignition temperatures. This results in a subdivision of explosion-protected electrical apparatus into the temperature classes T1 to T6. This classification allows explosion-protected apparatus to be used economically. The maximum surface temperature of an apparatus must always be lower than the ignition temperature of the gas/air or vapour/air mixture.

T6 is the highest temperature class with the lowest permissible surface temperature.

Max surface temperature	NEC table 500-3 (d)	IEC T class	IEC group	Representative	NEC group
450 °C	T1	T1	I	Methane (underground mining)	I
300 °C	T2	T2	IIA	Propane	D
280 °C	T2A		IIB	Ethylene	C
260 °C	T2B		IIB(H <sub>2</sub> )	Hydrogen	B
230 °C	T2C		IIC	Acetylene	A
215 °C	T2D				
200 °C	T3	T3			
180 °C	T3A				
165 °C	T3B				
160 °C	T3C				
135 °C	T4	T4			
120 °C	T4A				
100 °C	T5	T5			
85 °C	T6	T6			

# Principles of explosion-protection

## IECEx/GB Ex marking — Gas

Ex	de	IIC	T6	Gb
Ex logo	de	IIC	T6	Gb
Type of protection	Atmosphere group		T code	Equipment protection level(EPL)
d Flame proof	I Mines with firedamp		T1 450°C	G Gas
i Intrinsic safety	II All other areas-gas		T2 300°C	a Very High
m Encapsulation	IIIC Hydrogen and acetylene		T3 200°C	b High
q Sand filled	IIIB Ethylene		T4 135°C	c Low
e Increased safe	IIIA Nonmineral methane and propane		T5 100°C	
nR Restricted Breathing			T6 85°C	

## IECEx/GB Ex marking — Dust

Ex	tb	IIC	T80°C	Db
Ex logo	tb	IIC	T80°C	Db
Type of protection	Atmosphere group		Maximum surface temperature	Equipment protection level(EPL)
i Intrinsic safety	III All other areas-dust			D Dust
m Encapsulation	IIIA Combustible flying			a Very High
t Dust ignition protection by enclosure "t"	IIIB Non-conductive			b High
"ta"(EPL"Da")	IIIC Conductive			c Low
"tb"(EPL"Db")				
"tc"(EPL"Dc")				

## Degrees of ingress protection according to IEC 60529

First digit	Protection against solid foreign objects	Second digit	Protection against ingress of water with damaging effects
0	No special protection	0	No special protection
1	Protected against solid foreign bodies Ø 50 mm and larger	1	Protected against vertically dripping water
2	Protected against solid foreign bodies Ø 12.5mm and larger	2	Protected against dripping water when enclosure is inclined up to 15°C
3	Protected against solid foreign bodies Ø 2.5mm and larger	3	Protected against dripping water when enclosure is inclined up to 60°C
4	Protected against solid foreign bodies Ø 1mm and larger	4	Protected against splash water from any direction
5	Dust protected	5	Protected against jet water from any direction
6	Dust-tight	6	Protected against powerful water jets from any direction
		7	Protected against water intrusion when submerged for a limited time
		8	Protected against water intrusion when submerged, time irrelevant

# Quick product selector

Ex enclosure	Application area & degree of protection	Type of protection	Features	Certification	Page
<b>CTB stainless steel enclosures</b>	<ul style="list-style-type: none"> <li>• Zone 1 &amp; Zone 2</li> <li>• Zone 21 &amp; Zone 22</li> <li>• IP66</li> </ul>	<ul style="list-style-type: none"> <li>• Ex e</li> <li>• Ex ia</li> <li>• Ex e ia</li> <li>• Ex tb</li> </ul>	<ul style="list-style-type: none"> <li>• Superior ingress protection with 1/4 turn lock or captive stainless steel slotted hex bolt fastening</li> <li>• EPDM/Silicone rubber gasket</li> <li>• Permissible temp.: -35°C ~ +40°C / -55°C ~ +55°C</li> <li>• 7 J(Nm) impact resistance</li> </ul>	<ul style="list-style-type: none"> <li>• ATEX</li> <li>• IECEx</li> <li>• CCC</li> <li>• CU-TR</li> <li>• INMETRO</li> </ul>	2.1.1
<b>S-TB stainless steel enclosures</b>	<ul style="list-style-type: none"> <li>• Zone 1 &amp; Zone 2</li> <li>• Zone 21 &amp; Zone 22</li> <li>• IP66</li> </ul>	<ul style="list-style-type: none"> <li>• Ex e</li> <li>• Ex i</li> <li>• Ex e i</li> <li>• Ex tb</li> </ul>	<ul style="list-style-type: none"> <li>• Superior ingress protection with a high integrity single piece sealing gasket</li> <li>• Superior ingress protection using blind nuts/sets</li> <li>• Permissible temp.: -55°C ~ +70°C</li> <li>• 7J(Nm) impact resistance</li> </ul>	<ul style="list-style-type: none"> <li>• ATEX</li> <li>• IECEx</li> </ul>	2.1.7
<b>Ex-cell-T stainless steel enclosures</b>	<ul style="list-style-type: none"> <li>• Zone 1 &amp; Zone 2</li> <li>• Zone 21 &amp; Zone 22</li> <li>• IP66</li> </ul>	<ul style="list-style-type: none"> <li>• Ex e</li> <li>• Ex i</li> <li>• Ex e i</li> <li>• Ex tb</li> </ul>	<ul style="list-style-type: none"> <li>• Superior ingress protection with 1/4 turn lock or captive stainless steel slotted hex bolt fastening</li> <li>• High integrity "one piece" silicone gasket</li> <li>• An integral drain channel prevents liquids</li> <li>• Document holder optional</li> <li>• Permissible temp.: -60°C ~ +70°C</li> <li>• 7J(Nm) impact resistance</li> </ul>	<ul style="list-style-type: none"> <li>• ATEX</li> <li>• IECEx</li> <li>• UL</li> </ul>	2.1.11
<b>C10 Ex-terminal boxes</b>	<ul style="list-style-type: none"> <li>• Zone 1 &amp; Zone 2</li> <li>• Zone 21 &amp; Zone 22</li> <li>• IP66</li> <li>• WF2</li> </ul>	• Ex d	<ul style="list-style-type: none"> <li>• Light metal, grey coating RAL7040</li> <li>• Blind gasket meet the Ex demands without thread stopper</li> <li>• An outside earthing connection</li> <li>• Permissible temp.: -40°C ~ +50°C</li> </ul>	<ul style="list-style-type: none"> <li>• CCC</li> </ul>	2.1.18
<b>C3 Ex terminal boxes</b>	<ul style="list-style-type: none"> <li>• Zone 1 &amp; Zone 2</li> <li>• Zone 21 &amp; Zone 22</li> <li>• IP67</li> </ul>	<ul style="list-style-type: none"> <li>• Ex d</li> <li>• Ex tD</li> </ul>	<ul style="list-style-type: none"> <li>• Light metal, grey coating RAL7040</li> <li>• Connection cross-section vary by up to 6 mm<sup>2</sup> or up to 10 mm<sup>2</sup></li> <li>• An outside earthing connection</li> <li>• Permissible temp.: -20°C ~ +40°C/-20°C ~ +55°C / -50°C ~ +40°C</li> </ul>	<ul style="list-style-type: none"> <li>• ATEX</li> <li>• IECEx</li> <li>• CCC</li> </ul>	2.1.19
<b>GUA junction boxes</b>	<ul style="list-style-type: none"> <li>• Zone 1 &amp; Zone 2</li> <li>• Zone 21 &amp; Zone 22</li> <li>• IP66</li> </ul>	• Ex d	<ul style="list-style-type: none"> <li>• IIC gas group</li> <li>• Cast copper free aluminum</li> <li>• Small junction box</li> </ul>	<ul style="list-style-type: none"> <li>• IECEx</li> </ul>	2.1.21
<b>GUB flameproof enclosures</b>	<ul style="list-style-type: none"> <li>• Zone 1 &amp; Zone 2</li> <li>• Zone 21 &amp; Zone 22</li> <li>• IP67</li> </ul>	<ul style="list-style-type: none"> <li>• Ex d</li> <li>• Ex tD</li> </ul>	<ul style="list-style-type: none"> <li>• GUB 00/GUB 20/GUB 30</li> <li>• Light metal, cover RAL7016, box RAL7032</li> <li>• Permissible temp.: -20°C ~ +55°C</li> </ul>	<ul style="list-style-type: none"> <li>• ATEX</li> <li>• CCC</li> </ul>	2.1.23
<b>PBEC NEW GRP enclosures</b>	<ul style="list-style-type: none"> <li>• Zone 1 &amp; Zone 2</li> <li>• Zone 21 &amp; Zone 22</li> <li>• IP67</li> </ul>	<ul style="list-style-type: none"> <li>• Ex e</li> <li>• Ex ia</li> <li>• Ex e ia</li> <li>• Ex tD</li> </ul>	<ul style="list-style-type: none"> <li>• Glass-fiber reinforce polyester</li> <li>• Optional one-piece cruciform brass earth continuity plate or side brass earth plate</li> <li>• Permissible temp.: -50°C ~ +55°C</li> <li>• 7J(Nm) impact resistance</li> </ul>	<ul style="list-style-type: none"> <li>• ATEX</li> <li>• IECEx</li> <li>• CCC</li> <li>• INMETRO</li> </ul>	2.1.24
<b>GHC72/73/74 universal terminal boxes</b>	<ul style="list-style-type: none"> <li>• Zone 1 &amp; Zone 2</li> <li>• Zone 21 &amp; Zone 22</li> <li>• IP66</li> </ul>	<ul style="list-style-type: none"> <li>• Ex e</li> <li>• Ex ia</li> <li>• Ex e ia</li> <li>• Ex tD</li> </ul>	<ul style="list-style-type: none"> <li>• Glass-fiber reinforce polyester</li> <li>• Permissible temp.: -20°C ~ +40°C/-55°C ~ +55°C (option)</li> </ul>	<ul style="list-style-type: none"> <li>• ATEX</li> <li>• IECEx</li> <li>• CCC</li> <li>• INMETRO</li> </ul>	2.1.26

# Quick product selector

Ex control stations	Application area & degree of protection	Type of protection	Features	Certification	Page	
<b>Ex installation switches GHG273</b>		<ul style="list-style-type: none"> <li>Zone 1 &amp; Zone 2</li> <li>Zone 21 &amp; Zone 22</li> <li>IP66</li> </ul>	<ul style="list-style-type: none"> <li>Ex de</li> <li>Ex tD</li> </ul>	<ul style="list-style-type: none"> <li>Robust modified polyamide material</li> <li>A protective collar prevents inadvertent operation</li> <li>Entries size 2 x M20 or 2 x M25 from top or bottom</li> <li>Rated current: 16A</li> <li>Permissible temp.: -20°C ~ +40°C/ -55°C ~ +55°C (option)</li> </ul>	<ul style="list-style-type: none"> <li>ATEX</li> <li>IECEx</li> <li>CCC</li> </ul>	2.2.1
<b>Ex safety switches GHG26</b>		<ul style="list-style-type: none"> <li>Zone 1 &amp; Zone 2</li> <li>Zone 21 &amp; Zone 22</li> <li>IP66</li> </ul>	<ul style="list-style-type: none"> <li>Ex de</li> <li>Ex tD</li> </ul>	<ul style="list-style-type: none"> <li>Full AC-3 switching capacity</li> <li>Emergency stop</li> <li>Integrated locking facility for safety</li> <li>Rated current: 10-180A</li> <li>Permissible temp.: -55°C ~ +55°C</li> </ul>	<ul style="list-style-type: none"> <li>ATEX</li> <li>IECEx</li> <li>CCC</li> </ul>	2.2.2
<b>Ex-safety switches GHG25</b>		<ul style="list-style-type: none"> <li>Zone 1 &amp; Zone 2</li> <li>Zone 21 &amp; Zone 22</li> <li>IP66</li> </ul>	<ul style="list-style-type: none"> <li>Ex db eb</li> <li>Ex tb</li> </ul>	<ul style="list-style-type: none"> <li>IIC</li> <li>GRP or Stainless steel</li> <li>Motor control and disconnect protection</li> </ul>	<ul style="list-style-type: none"> <li>ATEX</li> <li>IECEx</li> </ul>	2.2.15
<b>Ex control switches GHG292/3</b>		<ul style="list-style-type: none"> <li>Zone 1 &amp; Zone 2</li> <li>Zone 21 &amp; Zone 22</li> <li>IP66</li> </ul>	<ul style="list-style-type: none"> <li>Ex de ia</li> <li>Ex tD</li> </ul>	<ul style="list-style-type: none"> <li>Terminal cross section up to 6mm<sup>2</sup></li> <li>Integrated locking facility for safety</li> <li>Rated current: 16-20A</li> <li>Permissible temp.: -20°C ~ +40°C/ -55°C ~ +55°C (option)</li> </ul>	<ul style="list-style-type: none"> <li>ATEX</li> <li>IECEx</li> <li>CCC</li> </ul>	2.2.22
<b>ESA control switches</b>		<ul style="list-style-type: none"> <li>Zone 1 &amp; Zone 2</li> <li>IP66/67</li> </ul>	<ul style="list-style-type: none"> <li>Ex d</li> </ul>	<ul style="list-style-type: none"> <li>IIB</li> <li>Cast aluminum</li> <li>Can be used for isolator and MCB</li> </ul>	<ul style="list-style-type: none"> <li>ANZEx</li> </ul>	2.2.27
<b>EMD control stations</b>		<ul style="list-style-type: none"> <li>Zone 1 &amp; Zone 2</li> <li>IP66</li> </ul>	<ul style="list-style-type: none"> <li>Ex d ib</li> </ul>	<ul style="list-style-type: none"> <li>IIC</li> <li>Cooper free aluminum</li> <li>Prevent static build up</li> </ul>	<ul style="list-style-type: none"> <li>ANZEx</li> </ul>	2.2.28
<b>EMA motor starters</b>		<ul style="list-style-type: none"> <li>Zone 1 &amp; Zone 2</li> <li>IP67</li> </ul>	<ul style="list-style-type: none"> <li>Ex d</li> </ul>	<ul style="list-style-type: none"> <li>IIB</li> <li>Cooper free aluminum</li> <li>DOL starter</li> </ul>	<ul style="list-style-type: none"> <li>ANZEx</li> </ul>	2.2.29
<b>Ex control stations GHG 41/GHG 43/GHG44</b>		<ul style="list-style-type: none"> <li>Zone 1 &amp; Zone 2</li> <li>Zone 21 &amp; Zone 22</li> <li>IP66</li> </ul>	<ul style="list-style-type: none"> <li>Ex e</li> <li>Ex eib</li> <li>Ex de</li> </ul>	<ul style="list-style-type: none"> <li>Low side walls allows optimum cable connection</li> <li>Quick fixing of all built-in components</li> <li>Wide components can meet all requirement</li> <li>Permissible temp.: -20°C ~ +40°C/ -55°C ~ +55°C (option)</li> </ul>	<ul style="list-style-type: none"> <li>ATEX</li> <li>IECEx</li> <li>CUTR</li> <li>UL</li> <li>CCC</li> </ul>	2.2.30
<b>DSEA control stations</b>		<ul style="list-style-type: none"> <li>Zone 1 &amp; Zone 2</li> <li>Zone 21 &amp; Zone 22</li> <li>IP66</li> </ul>	<ul style="list-style-type: none"> <li>Ex de</li> <li>Ex tD</li> </ul>	<ul style="list-style-type: none"> <li>IIC</li> <li>Polyamide and Stainless steel</li> <li>Motor and process control</li> </ul>	<ul style="list-style-type: none"> <li>IECEx</li> </ul>	2.2.67
<b>DSA control stations</b>		<ul style="list-style-type: none"> <li>Zone 1 &amp; Zone 2</li> <li>IP66/67</li> </ul>	<ul style="list-style-type: none"> <li>Ex d</li> </ul>	<ul style="list-style-type: none"> <li>IIB</li> <li>Cooper free aluminum</li> <li>Motor and process control</li> </ul>	<ul style="list-style-type: none"> <li>ANZEx</li> </ul>	2.2.69

# Quick product selector

Ex control and signal units	Application area & degree of protection	Type of protection	Features	Certification	Page	
<b>Pushbuttons</b>		• Zone 1 & Zone 2 • IP66	• Ex de	• Rated current: 16A • DIN rail mounting • Permissible temp.: -20°C ~ +40°C / -55°C ~ +55°C (option)	• ATEX • IECEx	2.2.42
<b>SIL signal lamps</b>		• Zone 1 & Zone 2 • IP66	• Ex de • Ex d ia	• Rated current: depends on product type • DIN rail mounting • Permissible temp.: -20°C ~ +40°C / -55°C ~ +55°C (option)	• ATEX • IECEx	2.2.54
<b>Measuring instrument AM45/AM72</b>		• Zone 1 & Zone 2 • IP66	• Ex e • Ex ib	• Movement: moving iron/moving coil • Rated voltage: AM45 420V AM72 750V • DIN rail mounting • Permissible temp.: -20°C ~ +40°C / -55°C ~ +55°C (option)	• ATEX • IECEx	2.2.55
<b>Control switches Ex 23/Ex 29</b>		• Zone 1 & Zone 2	• Ex de	• Rated current: Ex 23 10A Ex 29 16A • DIN rail mounting • Permissible temp.: Ex 23: -20°C ~ +40°C / -55°C ~ +45°C (option) Ex 29: -20°C ~ +40°C / -55°C ~ +55°C (option)	• ATEX • IECEx	2.2.57

# Quick product selector

Ex panel	Application area & degree of protection	Type of protection	Features	Certification	Page
<b>AGP17</b>	<ul style="list-style-type: none"> <li>• Zone 1 &amp; Zone 2</li> <li>• Zone 21 &amp; Zone 22</li> <li>• IP66</li> </ul>	• Ex de	<ul style="list-style-type: none"> <li>• Modular and compact design, easy to maintenance</li> <li>• Complete range of electrical components for application</li> <li>• Anti-corrosion/Anti- UV feature for both SS and GRP enclosure</li> <li>• IIC gas group</li> <li>• Permissible temp.: -20 °C up to +40 °C/-40 °C up to +55 °C (option)</li> </ul>	<ul style="list-style-type: none"> <li>• ATEX</li> <li>• IECEx</li> <li>• CCC</li> <li>• INMETRO</li> </ul>	2.3.1
<b>GHG619</b>	<ul style="list-style-type: none"> <li>• Zone 1 &amp; Zone 2</li> <li>• Zone 21 &amp; Zone 22</li> <li>• IP65/66</li> </ul>	• Ex de	<ul style="list-style-type: none"> <li>• Modular snap-on assembly</li> <li>• Snap-on components</li> <li>• Retrofitting</li> <li>• IIC gas group</li> <li>• Permissible temp.: -20 °C up to +40 °C/-55 °C up to +55 °C (option)</li> </ul>	<ul style="list-style-type: none"> <li>• ATEX</li> <li>• IECEx</li> <li>• CCC</li> </ul>	2.3.15
<b>SynergEX panelboards for hazardous rated areas</b>	<ul style="list-style-type: none"> <li>• Class I, Division 2, Groups A, B, C, D, Class II, Division 2, Groups F and G</li> <li>• IP66, NEMA 3R, 4, 4X</li> </ul>		<ul style="list-style-type: none"> <li>• Modular encapsulated breakers.</li> <li>• The EZFlex™ bus bar provides maintenance-free design and allows breaker interchangeability</li> <li>• 6 - 66 circuits with one enclosure</li> <li>• -20°C to +55°C (default), -40°C to +55°C optional</li> </ul>	• cULus listed	2.3.21
<b>GHG64</b>	<ul style="list-style-type: none"> <li>• Zone 1 &amp; Zone 2</li> <li>• Zone 21 &amp; Zone 22</li> <li>• IP65/66</li> </ul>	• Ex d	<ul style="list-style-type: none"> <li>• 11 size enclosure</li> <li>• Panel control switch</li> <li>• Anti corrosion</li> <li>• Suitable for IIB+H<sub>2</sub></li> <li>• Permissible temp.: -20 °C up to +40 °C/-55 °C up to +55 °C (option)</li> </ul>	<ul style="list-style-type: none"> <li>• ATEX</li> <li>• IECEx</li> <li>• CCC</li> </ul>	2.3.26
<b>EPBA control panel</b>	<ul style="list-style-type: none"> <li>• Zone 1 &amp; Zone 2</li> <li>• IP66</li> </ul>	• Ex d	<ul style="list-style-type: none"> <li>• IIB or IIB+H<sub>2</sub></li> <li>• Cast copper free aluminum</li> <li>• Custom built panel</li> </ul>	• ANZEx	2.3.29
<b>EJBA junction boxes</b>	<ul style="list-style-type: none"> <li>• Zone 1 &amp; Zone 2</li> <li>• IP66</li> </ul>	• Ex d	<ul style="list-style-type: none"> <li>• IIB or IIB+H<sub>2</sub></li> <li>• Cast copper free aluminum</li> <li>• Ex d terminal box</li> </ul>	• ANZEx	2.3.31
<b>CPD15 series flameproof enclosures</b>	<ul style="list-style-type: none"> <li>• Zone 1 &amp; Zone 2,</li> <li>• Zone 21 and Zone 22</li> <li>• IP65/IP66</li> </ul>	• Ex d • Ex tb	<ul style="list-style-type: none"> <li>• IIB+H<sub>2</sub></li> <li>• Cast copper free aluminum</li> <li>• Permissible temp.: -40°C to +55°C</li> </ul>	<ul style="list-style-type: none"> <li>• IECEx</li> <li>• CCC</li> </ul>	2.3.32
<b>EJB flameproof enclosures</b>	<ul style="list-style-type: none"> <li>• Zone 1 &amp; Zone 2</li> <li>• IP65</li> </ul>	• Ex d	<ul style="list-style-type: none"> <li>• IIB</li> <li>• Cast copper free aluminum</li> <li>• Permissible temp.: -40°C to +55°C</li> </ul>	<ul style="list-style-type: none"> <li>• ATEX</li> <li>• IECEx</li> <li>• CCC</li> </ul>	2.3.34

# Quick product selector

Ex plugs & receptacles	Application area	Type of protection	Features	Certification	Page
<b>GHG51 plastic Ex plugs &amp; receptacles</b> 	<ul style="list-style-type: none"> <li>• Zone 1 &amp; Zone 2</li> <li>• Zone 21 &amp; Zone 22</li> <li>• Class I, Division 2</li> <li>• IP66</li> <li>• NEMA 4X</li> </ul>	<ul style="list-style-type: none"> <li>• Ex de</li> <li>• Ex de ia</li> <li>• Ex tD</li> </ul>	<ul style="list-style-type: none"> <li>• Glass-fibre reinforced polyester housings</li> <li>• Low insertion force</li> <li>• Full AC-3 switching ability</li> <li>• Poles: 3-pole, 4-pole and 5-pole</li> <li>• Rated current: 16A-125A</li> <li>• Permissible temp.: -20°C ~ +55°C</li> </ul>	<ul style="list-style-type: none"> <li>• ATEX</li> <li>• IECEx</li> <li>• CSA</li> <li>• CU-TR</li> <li>• INMETRO</li> </ul>	2.4.1
<b>Roughneck™ Ex</b> 	<ul style="list-style-type: none"> <li>• Zone2, Division2</li> <li>• IP54</li> </ul>	<ul style="list-style-type: none"> <li>• Ex ec</li> </ul>	<ul style="list-style-type: none"> <li>• Ten colors available for easy circuit identification</li> <li>• Water-tight insulators</li> <li>• Cable size from 313 to 777 MCM</li> <li>• Electrical ratings: 1000 volts/1135 Amps continuous</li> <li>• Permissible temp.: -25°C ~ +55°C</li> </ul>	<ul style="list-style-type: none"> <li>• IECEx</li> <li>• cUL</li> </ul>	2.4.21
<b>Roughneck™ multi-pin series</b> • CEX single pole series 	<ul style="list-style-type: none"> <li>• NEMA 4X, 6P</li> <li>• IP66/IP68</li> </ul>	<ul style="list-style-type: none"> <li>• Ex d</li> </ul>	<ul style="list-style-type: none"> <li>• Multi-lam style contacts on single pole connectors deliver reliable continuity</li> <li>• Suited for use with Type P cable</li> <li>• Reversible inserts</li> <li>• Reversible 8-points diamond cord grip</li> <li>• Permissible temp.: -60°C ~ +55°C</li> </ul>	<ul style="list-style-type: none"> <li>• ATEX</li> <li>• IECEx</li> <li>• EAC</li> <li>• INMETRO</li> </ul>	2.4.33
<b>Roughneck™ multi-pin series</b> • CZ&CRIG multi-pin series • CRIG single-pin series 	<ul style="list-style-type: none"> <li>• Industrial area</li> <li>• NEMA 4X, 6P</li> <li>• IP68</li> </ul>	<ul style="list-style-type: none"> <li>• Ex d</li> </ul>	<ul style="list-style-type: none"> <li>• Multi-lam style contacts on single pole connectors deliver reliable continuity</li> <li>• Suited for use with type P cable</li> <li>• Reversible inserts</li> <li>• Reversible 8-points diamond cord grip</li> <li>• Permissible temp.: -60°C ~ +55°C</li> </ul>	<ul style="list-style-type: none"> <li>• cURus</li> </ul>	2.4.60



# Ex enclosures

## Contents

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C3 Ex d-terminal boxes	2.1.19
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# CTB stainless steel enclosures

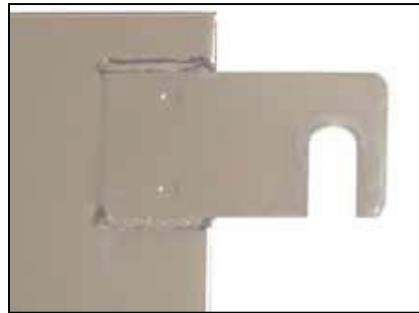
Eaton's Crouse-Hinds is premier manufacturer of high quality and robust enclosure/termination assemblies. They are specifically designed to meet the requirements of the most industrial and hazardous environmental. With over 30 years of experience in the design, engineering and manufacturing of enclosures and termination assemblies, Crouse- Hinds Series provides a proven, tried and tested solution to meet the toughest installation requirements.

The CTB range is an "ATEX" "IECEx" "CU-TR" and "GB/CCC" certified explosion proof enclosure/termination solution available in various options of materials and finishes, fully complaint with the related impact, thermal and ingress protection requirements. It is also available in wide range of sizes ensuring we can meet a multitude of applications.



The 1/4 turn lock or the retained stainless steel slotted hex bolt fastenings provide a rapid means of achieving high integrity ingress protection (IP66) for reliable & rapid environmental protection.

Gasket in EPDM or Silicone material are available for excellent ingress protection IP66 with good recovery and re-sealing properties.



A special designed flat surface integral drainage channel prevents liquids or other solids contaminates from running in or falling into the enclosure when the door is opened. This design also prevents gasket from becoming broken when the door is tight closed.

The enclosure is mounted by two or four horizontal 3mm thick heavy-duty surface welded stainless steel lugs. These provide a rapid, secure and reliable means of enclosure installation.

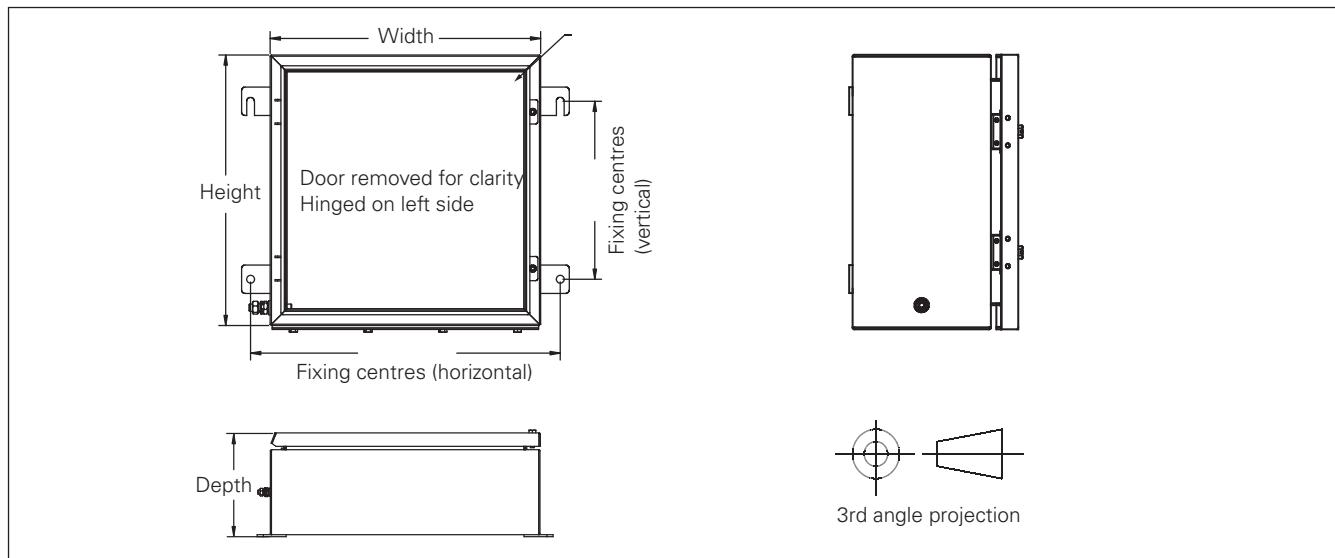
# CTB stainless steel enclosures

## Technical data

<b>EC-type examination certificate</b>	Baseefa15 ATEX 0055X (CN) / Baseefa15 ATEX 0129X (SG)
<b>IECEx-certification of conformity</b>	IECEX BAS 15.0023X (CN) / IECEX BAS 15.0090X (SG)
<b>GB-certification of conformity</b>	CCC
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex e IIC T5/T6 Gb, Ex e ia IIC T5/T6 Gb, Ex ia IIC T5/T6 Gb Ex II 2 D Ex tb IIIC T95°C/T80°C Db
<b>Marking acc. to New CCC</b>	Ex e IIC T5/T6 Gb, Ex e ia IIC T5/T6 Gb, Ex ia IIC T5/T6 Gb Ex td A21 IP66 T80°C/T95°C
<b>Marking acc. to IECEx</b>	Ex e IIC T5/T6 Gb, Ex e ia IIC T5/T6 Gb, Ex ia IIC T5/T6 Gb Ex tb IIIC T95°C/T80°C Db
<b>Material/Finish</b>	316L stainless steel (1.4404 to EN10088) 304 stainless steel (1.4301 to EN10088) Electro chemical polish or powder coating stainless steel box available to order
<b>Gasket material</b>	Standard: EPDM; optional: silicone rubber gasket
<b>Door fastening</b>	Captive stainless steel bolt or 1/4 turn lock (option) (lock material zinc alloy with chromium plated or SS316L on request) Stainless steel welding hinge
<b>Door option mounting</b>	Factory fitted padlock HASP
<b>Enclosure thickness</b>	Standard: 1.5mm; optional: 2mm
<b>Enclosure mounting</b>	4 external welded lugs
<b>Internal equipment mounting</b>	Terminal rail on welded nuts or TS20 rail inside or mounting plate – default 2mm sheet steel with zinc finish (available in stainless steel)
<b>Gland plate</b>	0-4 pieces (GP is not available for CTB121209 and CTB151510)
<b>Enclosure earth/ground</b>	M6/M10 earth stud, stainless steel/brass material
<b>Degree of protection</b>	IP66
<b>Ambient temperature range</b>	T5: -35°C~+55°C (EPDM gasket), -55°C~+55°C (silicone rubber gasket); T6: -35°C~+40°C (EPDM gasket), -55°C~+40°C (silicone rubber gasket)
<b>Operating temp range</b>	-35°C~+95°C (EPDM gasket), -55°C~+145°C (silicone rubber gasket)
<b>Impact resistance</b>	7 J (Nm) to IEC/EN 60079-0

1

## CTB range enclosure-general arrangement



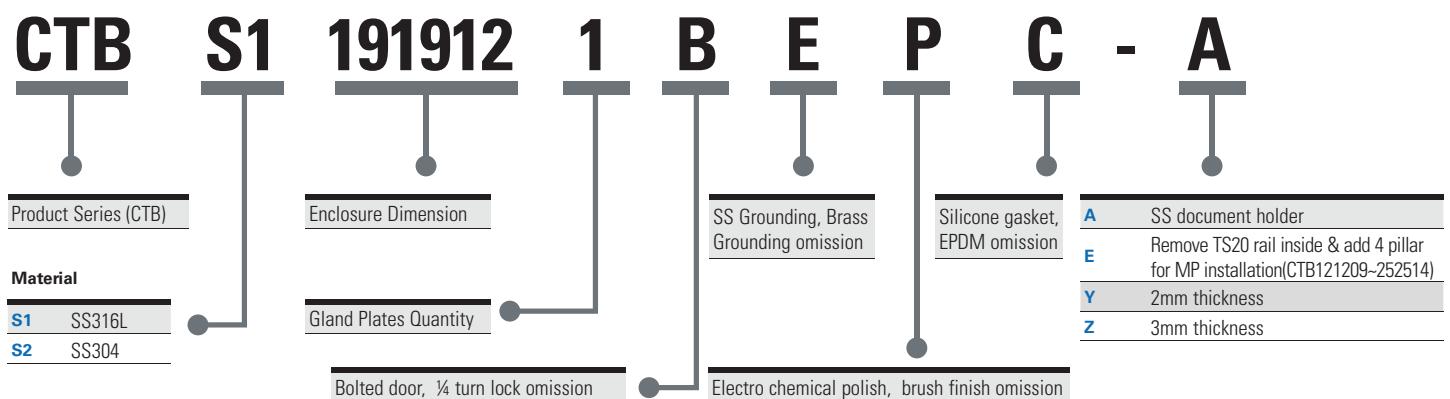
# CTB stainless steel enclosures

## CTB enclosure technical data

ECH part No.	CTB121209	CTB151510	CTB191912	CTB203015	CTB203020	CTB203814	CTB252514	CTB252520	CTB252524	CTB253515	
Enclosure dimensions, mm											
(Height x Width x Depth)	120*120*95	150*150*105	190*190*125	200*300*155	200*300*205	200*380*145	250*250*145	250*250*205	250*250*245	250*350*155	
Enclosure fixing centres, mm											
(Vertical x Horizontal)	95*145	70*175	110*215	120*325	120*325	120*405	150*275	150*275	150*275	150*375	
Number of chosen gland plates	0	0	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	
Material thickness, mm		Body	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	
Lid		1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	
Weight in kg (empty enclosure)	1.4	2.3	3.2	3.4	4.1	4	3.4	3.4	3.4	6.1	
Terminal mounting rail											
Rail fixing centres, mm vertical	60	90	130	140	140	300	170	170	170	170	
Overall rail length, mm	80	110	150	160	160	320	200	200	200	200	
Available glanding area, mm without GP											
Top & Bottom		117X63	147X73	187X93	297X123	297X123	377X113	247X113	247X173	347X123	
Left & Right		117X63	147X73	187X93	197X123	197X123	197X113	247X113	247X173	247X123	
Maximum entries with GP											
Top & Bottom		/	/	144X42	254X72	254X122	334X62	204X62	204X122	204X162	304X72
M16		/	/	12	30	50	28	16	40	56	36
M20		/	/	4	14	21	18	12	18	24	16
M25		/	/	3	12	18	8	5	15	20	14
M32		/	/	3	5	10	6	4	8	12	5
M40		/	/	2	4	4	5	3	3	6	4
M50		/	/	/	3	3	4	3	3	6	4
M63		/	/	/	3	3	/	/	2	4	3
Left & Right		/	/	67X42	77X72	77X122	/	127X62	127X122	127X162	127X72
M16		/	/	6	9	15	/	10	25	35	15
M20		/	/	2	4	6	/	6	9	12	6
M25		/	/	1	4	6	/	3	9	12	6
M32		/	/	1	1	2	/	2	4	6	2
M40		/	/	1	1	1	/	2	2	4	2
M50		/	/	/	1	1	/	1	1	2	1
M63		/	/	/	/	/	/	/	/	2	1
Terminal content											
2.5mm <sup>2</sup> (6mm width)		1*10	1*16	1*22	1*40	1*40	1*52	2*32	2*32	2*32	2*32
4mm <sup>2</sup> (6.5mm width)		1*8	1*15	1*20	1*38	1*38	1*50	2*30	2*30	2*30	2*30
6mm <sup>2</sup> (8mm width)		1*6	1*12	1*16	1*30	1*30	1*40	2*24	2*24	2*24	2*24
10mm <sup>2</sup> (10mm width)		1*6	1*10	1*12	1*24	1*24	1*32	2*18	2*18	2*18	2*18

Note: The type and the terminal quantity is just for your references, please contact engineers for more information.

## Order information for empty enclosure



# CTB stainless steel enclosures

**CTB253520 CTB254015 CTB254020 CTB254024 CTB302015 CTB302020 CTB303015 CTB303020 CTB303024 CTB352515 CTB352520 CTB383824 CTB403015**

250\*350\*205 250\*400\*155 250\*400\*205 250\*400\*245 300\*200\*155 300\*200\*205 300\*300\*155 300\*300\*205 300\*300\*245 350\*250\*155 350\*250\*205 380\*380\*245 400\*300\*155

150*375	150*425	150*425	150*425	180*225	180*225	180*325	180*325	180*325	230*275	230*275	250*435	264*356
0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4
1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2
1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2
7.1	6.8	7.3	7.9	4	4.8	5.4	6.3	7	5.3	6.1	9.7	6.3
170	170	170	170	220	220	220	220	220	270	270	300	320
200	200	200	200	250	250	250	250	250	300	300	330	350
347X173	397X123	397X173	397X213	197X123	197X173	297X123	297X173	297X213	247X123	247X173	377X213	297X123
247X173	247X123	247X173	247X213	297X123	297X173	297X123	297X173	297X213	347X123	347X173	377X213	397X123
304X122	254X72	354X122	354X162	154X72	154X122	254X72	254X122	254X162	240X72	204X122	334X162	254X72
60	45	75	105	18	30	30	50	70	24	40	98	30
24	20	30	40	8	12	14	21	28	12	18	36	14
21	16	24	32	6	9	12	18	24	10	15	32	12
10	6	12	18	3	6	5	10	15	4	8	18	5
4	5	5	10	2	2	4	4	8	3	3	10	4
4	4	4	8	2	2	3	3	6	3	3	8	3
3	4	4	8	1	2	3	3	6	2	2	6	3
127X122	127X72	127X122	127X162	154X72	154X122	154X72	154X122	154X162	204X72	204X122	204X162	254X72
25	15	25	35	18	30	18	30	35	24	40	56	30
9	6	9	12	8	12	8	12	12	12	18	24	14
9	6	9	12	6	9	6	9	12	10	15	20	12
4	2	4	6	3	6	3	6	6	4	8	12	5
2	2	2	4	2	2	2	2	4	3	3	6	4
1	1	1	2	2	2	2	2	2	3	3	6	3
1	1	1	2	1	1	1	1	2	2	2	4	3
2*32	3*32	3*32	3*32	1*40	1*40	2*40	2*40	2*40	2*48	2*48	3*52	2*56
2*30	3*30	3*30	3*30	1*38	1*38	2*38	2*38	2*37	2*44	2*45	3*50	2*52
2*24	3*24	3*24	3*24	1*30	1*30	2*30	2*30	2*30	2*36	2*36	3*40	2*42
2*18	3*18	3*18	3*18	1*24	1*24	2*24	2*24	2*24	2*28	2*28	3*32	2*34

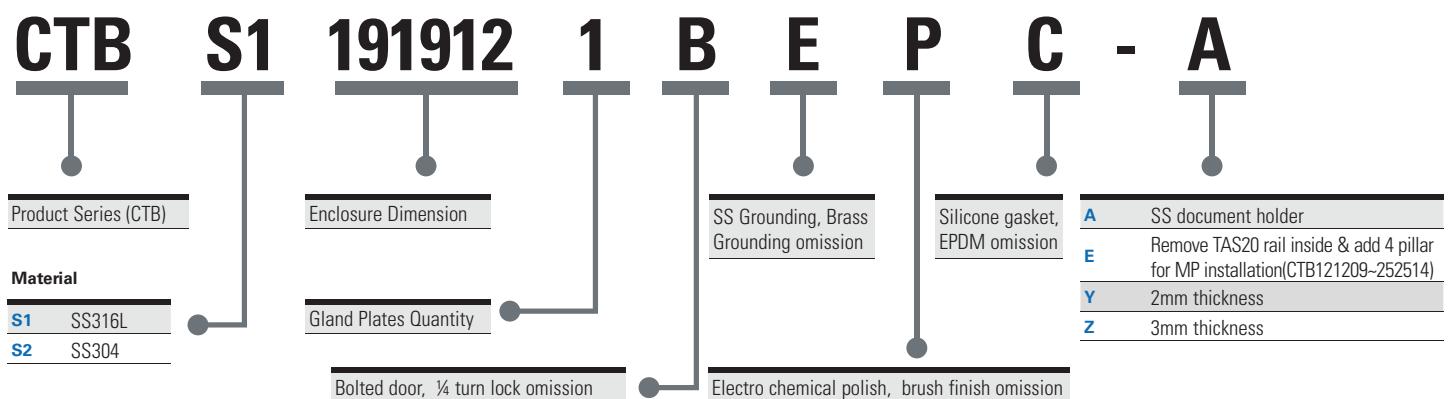
# CTB stainless steel enclosures

## CTB enclosure technical data

ECH part No.	CTB403020	CTB404015	CTB404020	CTB405015	CTB405020	CTB406015	CTB406020	CTB406024	CTB504015	CTB504020
Enclosure dimensions, mm										
(Height x Width x Depth)										
400*300*205 400*400*155 400*400*205 400*500*155 400*500*205 400*600*155 400*600*205 400*600*245 500*400*155 500*400*205										
Enclosure fixing centres, mm										
(Vertical x Horizontal)										
Number of chosen gland plates	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4
Material thickness, mm	Body	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2
	Lid	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2
Weight in kg (empty enclosure)	7.3	7.8	9	9.4	10.6	10.9	12.3	13.4	10.3	11.8
Terminal mounting rail										
Rail fixing centres, mm vertical	320	320	320	320	320	320	320	320	420	420
Overall rail length, mm	350	350	350	350	350	350	350	350	450	450
Available glanding area, mm without GP										
Top & Bottom	297X173	397X123	397X173	497X123	497X173	597X123	597X173	597X213	397X123	397X173
Left & Right	397X173	397X123	397X173	397X123	397X173	397X123	397X173	397X213	497X123	497X173
Maximum entries with GP										
Top & Bottom	254X122	354X72	354X122	454X72	454X122	554X72	554X122	554X162	354X72	354X122
M16	50	45	75	57	95	69	115	161	45	75
M20	21	20	30	26	39	32	48	64	20	30
M25	18	16	24	22	33	26	39	52	16	24
M32	10	6	12	8	16	10	20	30	6	18
M40	4	5	5	7	7	8	8	16	5	5
M50	3	4	4	6	6	7	7	14	4	4
M63	3	4	4	5	5	6	6	12	4	4
Left & Right	254X122	254X72	254X122	254X72	254X122	254X72	254X122	254X162	354X72	354X122
M16	50	30	50	30	50	30	50	56	45	75
M20	21	14	21	14	21	14	21	24	20	30
M25	18	12	18	12	18	12	18	20	16	24
M32	10	5	10	5	10	5	10	12	6	18
M40	4	4	4	4	4	4	4	6	5	5
M50	3	3	3	3	3	3	3	6	4	4
M63	3	3	3	3	3	3	3	4	4	4
Terminal content										
2.5mm <sup>2</sup> (6mm width)	2*56	3*56	3*56	3*56	3*56	3*56	3*56	3*56	3*72	3*72
4mm <sup>2</sup> (6.5mm width)	2*52	3*52	3*52	3*52	3*52	3*52	3*52	3*52	3*68	3*68
6mm <sup>2</sup> (8mm width)	2*42	3*42	3*42	3*42	3*42	3*42	3*42	3*42	3*54	3*54
10mm <sup>2</sup> (10mm width)	2*34	3*34	3*34	3*34	3*34	3*34	3*34	3*34	3*44	3*44

Note: The type and the terminal quantity is just for your references, please contact engineers for more information.

## Order information for empty enclosure



# CTB stainless steel enclosures

**CTB504027 CTB505015 CTB505020 CTB604015 CTB604020 CTB605015 CTB605020 CTB605027 CTB606015 CTB606020 CTB706027 CTB807027 CTBX08027**

500*400*275	500*500*155	500*500*205	600*400*155	600*400*205	600*500*155	600*500*205	600*500*275	600*600*155	600*600*205	700*600*275	800*700*275	1000*800*275
350*456	350*556	350*556	435*456	435*456	435*556	435*556	435*556	435*656	435*656	466*656	534*756	666*856
0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4	0, 1, 2, 3, 4
1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2
1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2	1.5, 2
13.7	10.6	11.9	10.3	11.6	12.3	13.7	15.8	15.4	17.1	22	26.3	37.6
420	420	420	520	520	520	520	520	520	620	720	920	
450	450	450	550	550	550	550	550	550	650	750	950	
397X243	497X123	497X173	397X123	397X173	497X123	497X173	497X243	597X123	597X173	597X243	697X243	797X243
497X243	497X123	497X173	597X123	597X173	597X123	597X173	597X243	597X123	597X173	697X243	797X243	997X243
354X192	454X72	454X122	354X72	354X122	454X72	454X122	454X192	554X72	554X122	502X192	602X192	754X192
120	57	95	45	75	57	95	152	69	115	184	200	248
50	26	39	20	30	26	39	65	32	48	80	85	105
32	22	33	16	24	22	33	44	26	39	52	56	72
18	8	16	6	12	8	16	24	10	20	30	33	42
15	7	7	5	5	7	7	21	8	8	24	27	36
8	6	6	4	4	6	6	12	7	7	14	16	20
8	5	5	4	4	5	5	10	6	6	12	12	16
354X192	354X72	354X122	454X72	454X122	454X72	454X122	454X192	454X72	454X122	554X192	654X192	802X192
120	45	75	57	95	57	95	152	57	95	184	216	264
50	20	30	26	39	26	39	65	26	39	80	90	115
32	16	24	22	33	22	33	44	22	33	52	60	76
18	6	18	8	16	8	16	24	8	16	30	36	45
15	5	5	7	7	7	7	21	7	7	24	30	36
8	4	4	6	6	6	6	12	6	6	14	16	20
8	4	4	5	5	5	5	10	5	5	12	14	16
3*72	3*72	3*72	3*88	3*88	3*88	3*88	3*88	3*88	3*88	3*104	3*120	4*150
3*68	3*68	3*68	3*84	3*84	3*84	3*84	3*84	3*84	3*84	3*100	3*116	4*140
3*54	3*54	3*54	3*66	3*66	3*66	3*66	3*66	3*66	3*66	3*78	3*90	4*110
3*44	3*44	3*44	3*54	3*54	3*54	3*54	3*54	3*54	3*54	3*64	3*74	4*90

# S-TB stainless steel enclosures

## Product introduction

The **S-TB** range is an "**ATEX**", "**IECEx**", certified enclosure / termination solution available in various options of materials and finishes fully compliant with the related impact, thermal and ingress requirements, and is available in a comprehensive range of sizes. A wide range of sizes ensures we can meet a multitude of applications.

With our engineering service and customization capability, we can supply fittings like cable glands, breather drains and blanking plugs upon specification request.

Components such as instrument transmitters and field-bus modules can be certified and available to be fitted for a wide range of "customized" solutions.

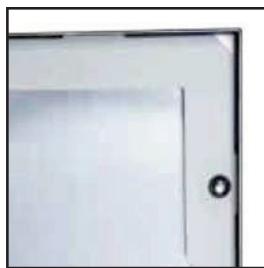
Using the highest quality materials, unique design benefits and precision manufacturing the STB range is the benchmark in its class for heavy-duty gauge enclosures.



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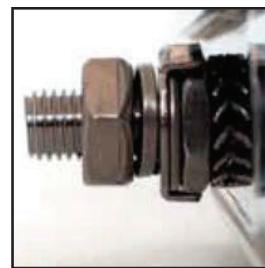
The retained stainless steel slotted hex bolt fastenings provide a rapid means of achieving high integrity ingress protection (IP 66) for reliable & rapid environmental protection.



A high integrity "single piece" sealing gasket is designed for superior ingress protection (IP 66) and excellent recovery and re-sealing properties for continuous environmental protection.



Superior ingress protection is enhanced by the wide ingress sealing path of the junction box and the use of blind nutserts that eliminate any potential ingress from the lid fixing bolt.



Welding internal/external stud enables rapid and reliable protective earth/ground connection mounted on the side of the enclosure for ease of access.

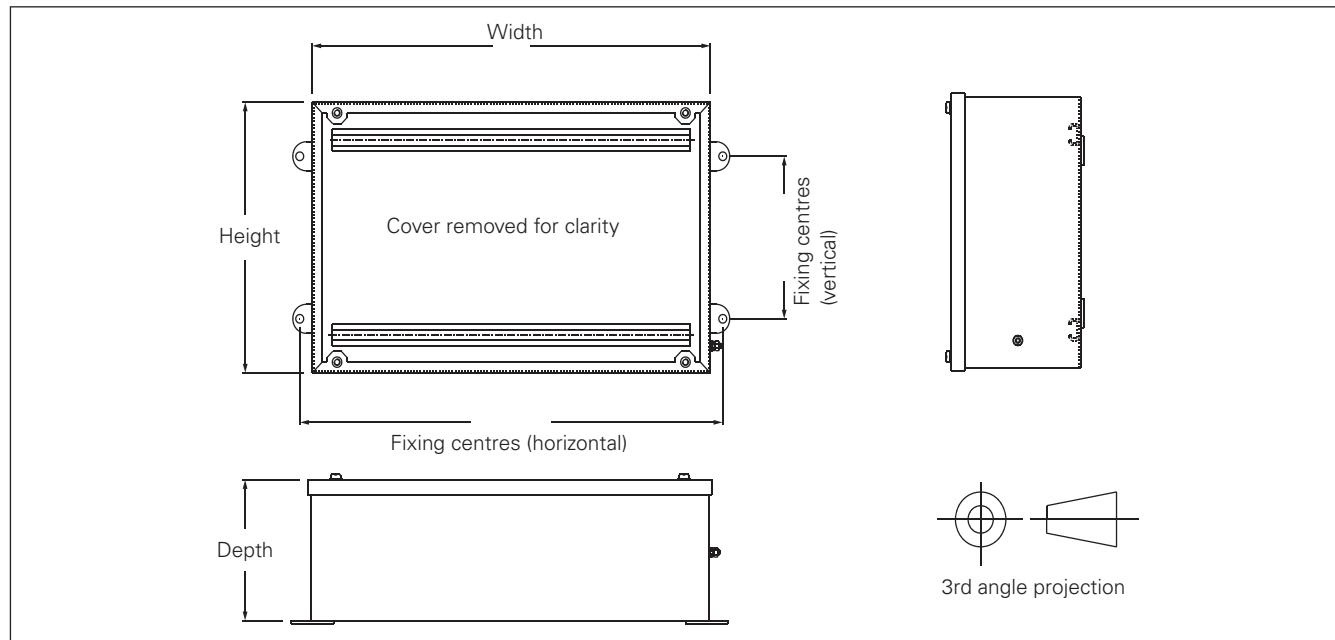
# S-TB stainless steel enclosures

## Technical data

<b>ATEX - certification of conformity</b>	BVS 16 ATEX E 096X
<b>IECEx - certification of conformity</b>	IECEX BVS 16.0062X
<b>Marking acc. to ATEX</b>	EX II 2 G Ex eb IIC T6 or T5 or T4 Gb EX II 2 D Ex tb IIIC T80 °C / T95 °C / T120 °C Db
<b>Marking acc. to IECEx</b>	Ex eb IIC T6 or T5 or T4 Gb Ex tb IIIC T80 °C / T95 °C / T120 °C Db (IECEX BVS 16.0062X)
<b>Material / Finish</b>	316L Stainless steel (1.4404 to EN 10088) brush finish or OPTIONAL electro chemical polish 304 Stainless steel (1.4301 to EN 10088), brush finished or OPTIONAL electro chemical polish
<b>Gasket material</b>	One-piece silicone gasket
<b>Lid fixing</b>	4 x M6 slotted hex head captive screws
<b>Enclosure mounting</b>	121208 - 252512 = 2 x external welded lugs Ø 8mm holes 254013 = 4 x external welded lugs Ø 8mm holes 383822 = 4 x external welded lugs Ø 11mm holes
<b>Equipment mountings</b>	STB121208 - 254013 internally welded TAS 20 rail for DIN rail terminal mounting STB383822 = 4 x stand off pillars 9mm Ø, 25mm high, tapped M6
<b>Gland plates</b>	OPTIONAL 3mm removable gland plates available on request (on size 383822 only)
<b>Enclosure earthing</b>	M6 or M10 internal / external welding earth stud (For STB383822 only M10 available)
<b>Degree of protection</b>	IP66 to EN 60529
<b>Operating temp. range</b>	-55°C to +120°C (No gland plate), -40°C to +120°C (With gland plate)
<b>Ambient temp. range</b>	-55/-40°C up to +40°C (T6 and maximum surface temperature of T80°C) -55/-40°C up to +55°C (T5 and maximum surface temperature of T95°C) -55/-40°C up to +65/70/80/100/110°C (with T class T4 and maximum surface temperature of T120°C)
<b>Impact resistance</b>	7 J (Nm) to IEC/EN 60079-0 ik 10

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## S-TB range enclosure-general arrangement



# S-TB stainless steel enclosures

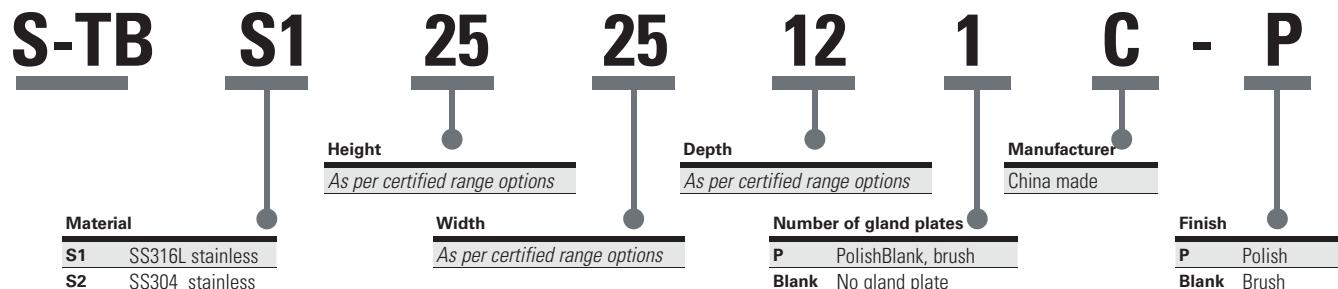
## S-TB stainless steel technical data

ECH part No.	STB121208	STB151509	STB191910	STB252512	STB254013	STB383822
Enclosure dimensions Depth, mm	(Height x Width) 80	120 x 120 90	150 x 150 100	190 x 190 120	250 x 250 130	250 x 400 220
Enclosure fixing centres, mm (Vertical x Horizontal)	145	175	215	275	150 x 425	250 x 435
Weidmuller cross reference	STB 1	STB 2	STB 3	STB 4	STB 6	STB 7
Gland plates	0 GP	0 GP	0 GP	0 GP	0 GP	0 GP (1 GP on request)
Material thickness, mm	Body Lid	1.5 1.5	1.5 1.5	1.5 1.5	1.5 1.5	1.5 1.5
Weight in Kg (Empty enclosure)	1.4	1.9	3.0	3.7	5.4	8.5
Terminal mounting rail						
Rail fixing centres, mm	Vertical	62	90	130	180	300
Overall rail length, mm	Vertical	82	110	150	200	320
Available glanding area, mm	Top & Bottom Left Right	114 x 63 114 x 63 70 x 63	144 x 73 144 x 73 100 x 73	184 x 83 184 x 83 140 x 83	244 x 103 244 x 103 200 x 103	394 x 113 244 x 113 350 x 113
Maximum entries						
M16	7	9	18	32	54	100
M20	3	6	8	18	30	57
M25	2	3	7	10	16	40
Top & Bottom	M32	2	2	3	7	13
	M40	0	2	2	3	6
	M50	0	0	2	3	5
	M63	0	0	0	2	4
	M16	7	9	18	32	100
	M20	3	6	8	18	57
	M25	2	3	7	10	40
Left	M32	2	2	3	7	24
	M40	0	2	2	3	15
	M50	0	0	2	3	8
	M63	0	0	0	2	6
	M16	4	6	14	26	48
	M20	1	4	6	14	26
	M25	1	2	5	8	14
Right	M32	1	1	2	6	11
	M40	0	1	2	3	5
	M50	0	0	1	2	4
	M63	0	0	0	2	3
Terminal content						
Terminal type (thickness)	Terminal rail orientation					
2.5mm <sup>2</sup> (6mm wide)	Vertical	1 x 8	1 x 13	1 x 21	2 x 31	3 x 31
4mm <sup>2</sup> (6.5mm wide)	Vertical	1 x 6	1 x 11	1 x 18	2 x 26	3 x 36
6mm <sup>2</sup> (8mm wide)	Vertical	1 x 5	1 x 8	1 x 13	2 x 19	3 x 19
10mm <sup>2</sup> (10mm wide)	Vertical	1 x 4	1 x 7	1 x 10	2 x 15	3 x 15
3 x 42						
3 x 39						
3 x 32						
3 x 25						

NOTES: 1.The information provided is based on the physical constraints of the enclosure. Please refer to the certificate for hazardous area applications.

2.This information is for guidance purposes only. Eaton's Crouse-hinds Business reserves the right to make any necessary changes without notice.

## Order information for empty enclosure





# Ex-cell stainless steel enclosures

## Product introduction

The "Ex-Cell" enclosure range is an "ATEX", "IECEx", certified enclosure/termination solution for application in hazardous area Zone1, 2, 21 and 22 and fully compliant with the related impact, thermal and ingress requirements with an ingress protection of IP. "Ex-Cell" is available in a comprehensive range of different sizes, each with the facility for various configuration possibilities for a multitude of applications. And Ex-cell has UL listed with marking Class 1 Division 2, Type 4X.

With our engineering service and customization capability, we can supply fittings like cable glands, breather drains and blanking plugs upon specification request. Components such as pushbuttons, switches, ammeters, etc. are available to be fitted for a wide range of "customized" solutions.

Using the highest quality materials, some unique design benefits and precision manufacturing the Ex-Cell range is the benchmark in enclosures for both instrumentation and electrical applications.



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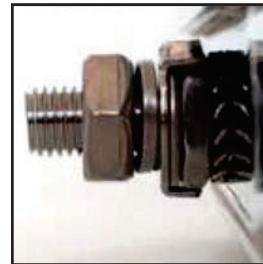
The 1/4 turn lock or the retained stainless steel slotted hex bolt fastenings provide a rapid means of achieving high integrity ingress protection (IP 66) for reliable and rapid environmental protection.



The high integrity "single piece" sealing gasket is designed for superior ingress protection (IP 66) and excellent recovery and re-sealing properties for continuous environmental protection.



An integral drainage channel prevents liquids or other solids contaminates from running in or falling into the enclosure when the door is opened, and to minimize gasket path contamination.



Welding internal/external stud enables rapid and reliable protective earth / ground connection mounted on the side of the enclosure for ease of access.



Door document holder opti.



Security padlock Hasp opti.

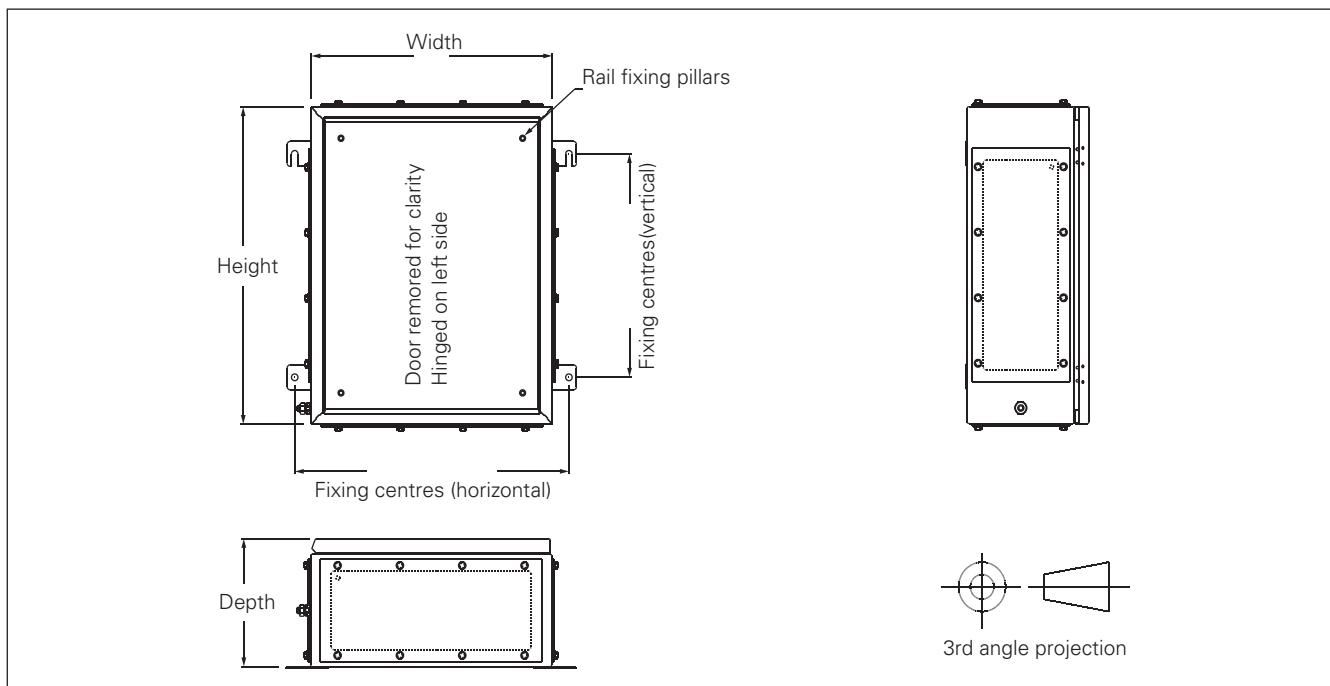
# Ex-cell stainless steel enclosures

## Technical data

<b>ATEX - certification of conformity</b>	BVS 16 ATEX E 115X
<b>IECEx - certification of conformity</b>	IECEx BVS 16.0080X
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex eb IIC T6 or T5 or T4 Gb, Ex II 2 D Ex tb IIIC T80°C / T95°C / T135°C Db
<b>Marking acc. to IECEx</b>	Ex eb IIC T6 or T5 or T4 Gb Ex tb IIIC T80 °C / T95 °C / T135 °C Db
<b>Material / Finish</b>	316L Stainless Steel (1.4404 to EN 10088), brush finish or OPTIONAL electro chemical polish 304 Stainless Steel (1.4301 to EN 10088), brush finished or OPTIONAL electro chemical polish
<b>Gasket material</b>	One-piece silicone gasket
<b>Door fastening</b>	SS316 1/4 turn lock, XLV type has slot shaped quarter turn lock; XLH type has double bit quarter turn lock. Captive stainless steel bolt door fastenings available on request, Maximum enclosure width is XLH****50 or XLV****20 for this option
<b>Enclosure mounting</b>	4 x external 3mm thick welded lugs Ø 11mm holes / slots, vertical or horizontal
<b>Equipment mountings</b>	4 x stand off pillars Ø 9mm, 25mm high, tapped M6 x10, for rail / mounting plate
<b>Gland plates</b>	3mm thickness (standard); 6mm thickness (optional), Five possible combinations of 0, 1, 2, 3 or 4 gland plates available
<b>Enclosure earthing</b>	M10 internal / external welding stainless earth stud, and M6 internal stud on lid and gland plates for earth continuity.
<b>Degree of protection</b>	IP66
<b>Enclosure size</b>	Over 100 standard sizes in stainless steel, size range from smallest 229mmH x 152mmW x 127mmD to largest 1600mmH x 1200mmW x 400mmD
<b>Certified ambient temp range</b>	-40°C to +40°C (with temperature class T6 and maximum surface temperature of T80°C), -60/-40°C to +55°C (with temperature class T5 and maximum surface temperature of T95°C) – requires suffix 'E' (extended temperature version), -60/-40°C to +65/70/80/100/120°C (with temperature class T4 and maximum surface temperature of T130°C) – requires suffix 'E' (extended temperature version).
<b>Certified impact resistance</b>	7 J (Nm) to IEC/EN 60079-0 ik 10

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## Ex-cell (XLH) range enclosure-general arrangement



# Ex-cell stainless steel enclosures

## Ex-cell enclosure technical data

ECH part number		XLH 231513	XLH 262615	XLH 302015	XLH 303015	XLH 403015
Dimensions overall, mm	(Height x Width x Depth) (Imperial conversion)	229 x 152 x 127 (9" x 6" x 5")	260 x 260 x 152 (10.2" x 10.2" x 6")	305 x 203 x 152 (12" x 8" x 6")	305 x 305 x 152 (12" x 12" x 6")	406 x 305 x 152 (16" x 12" x 6")
Fixing centres, mm	Vertical	152	157	203	203	267
	Horizontal	208	316	259	361	361
Material thickness, mm	Body	1.2	1.2	1.2	1.2	1.2
	Door	1.5	1.5	1.5	1.5	1.5
Weight (empty)	kg	2.35 kg	2.8 kg	3.4 kg	4.6 kg	5.7 kg
Terminal mounting rail						
Rail fixing centres, mm	Vert	129	160	205	205	306
	Horz	52	160	103	205	205
Rail length, mm	Vert	149	180	225	225	326
	Horz	72	180	123	225	225
Available glanding area, mm (With gland plates fitted)	Bottom	108 x 58	214 x 80	156 x 80	261 x 80	261 x 80
	Left & right	108 x 58	114 x 80	156 x 80	156 x 80	261 x 80
Maximum entry guide (Metric glands)						
	M16	6	21	15	26	26
	M20	2	10	7	13	13
	M25	2	4	3	5	5
Top & bottom	M32	1	3	2	4	4
	M40	0	3	2	3	3
	M50	0	2	2	3	3
	M63	0	0	0	0	0
	M16	6	11	15	15	26
	M20	2	5	7	7	13
Left / right	M25	2	2	3	3	5
	M32	1	2	2	2	4
	M40	0	1	2	2	3
	M50	0	1	2	2	3
	M63	0	0	0	0	0
Terminal content						
Terminal size	Orientation in enclosure					
2.5 mm <sup>2</sup>	VERT	1 x 21	2 x 27	1 x 36	2 x 36	2 x 56
4 mm <sup>2</sup>	VERT	1 x 17	2 x 23	1 x 30	2 x 30	2 x 47
6 mm <sup>2</sup>	VERT	1 x 13	1 x 17	1 x 23	2 x 23	2 x 35
10 mm <sup>2</sup>	VERT	1 x 10	1 x 13	1 x 18	2 x 18	2 x 28
16 mm <sup>2</sup>	VERT	1 x 9	1 x 11	1 x 15	2 x 15	2 x 23

# Ex-cell stainless steel enclosures

<b>XLH 404015</b>	<b>XLH 405015</b>	<b>XLH 504015</b>	<b>XLH 505015</b>	<b>XLH 604015</b>	<b>XLH 605015</b>	<b>XLH 606015</b>
406 x 406	406 x 508	508 x 406	508 x 508	610 x 406	610 x 508	610 x 610
x 152						
(16" x 16" x 6")	(16" x 20" x 6")	(20" x 16" x 6")	(20" x 20" x 6")	(24" x 16" x 6")	(24" x 20" x 6")	(24" x 24" x 6")
267	267	354	354	445	445	445
462	564	462	564	462	564	666
1.2	1.2	1.2	1.2	1.2	1.2	1.2
1.5	1.5	1.5	1.5	1.5	1.5	1.5
7.1 kg	8.5 kg	8.5 kg	10.2 kg	9.9 kg	11.8 kg	13.7 kg
306	306	408	408	510	510	510
306	408	306	408	306	408	510
326	326	428	428	530	530	530
326	428	326	428	326	428	530
337 x 80	464 x 80	337 x 80	464 x 80	337 x 80	464 x 80	562 x 80
261 x 80	261 x 80	337 x 80	337 x 80	464 x 80	464 x 80	464 x 80
35	48	35	48	35	48	59
17	24	17	24	17	24	29
7	10	7	10	7	10	12
6	8	6	8	6	8	10
5	7	5	7	5	7	8
4	6	4	6	4	6	7
0	0	0	0	0	0	0
26	26	35	35	48	48	48
13	13	17	17	24	24	24
5	5	7	7	10	10	10
4	4	6	6	8	8	8
3	3	5	5	7	7	7
3	3	4	4	6	6	6
0	0	0	0	0	0	0
3 x 56	4 x 56	3 x 77	4 x 77	3 x 97	4 x 97	6 x 97
3 x 47	4 x 47	3 x 64	4 x 64	3 x 81	4 x 81	6 x 81
3 x 35	4 x 35	3 x 48	4 x 48	3 x 61	4 x 61	6 x 61
3 x 28	4 x 28	3 x 38	4 x 38	3 x 49	4 x 49	6 x 49
3 x 23	4 x 23	3 x 32	4 x 32	3 x 40	4 x 40	6 x 40

NOTES: 1. The information provided is based on the physical constraints of the enclosure. Please refer to the certificate for hazardous area applications.  
 2. This information is for guidance purposes only. Eaton's Crouse-hinds Business reserves the right to make any necessary changes without notice.

# Ex-cell stainless steel enclosures

## Ex-cell enclosure technical data

ECH part number		XLH 303020	XLH 403020	XLH 404020	XLH 405020	XLH 504020	XLH 505020
Dimensions overall, mm	(Height x Width x Depth)	306 x 306 x 203 (12" x 12" x 8")	406 x 305 x 203 (16" x 12" x 8")	406 x 406 x 203 (16" x 16" x 8")	406 x 508 x 203 (16" x 20" x 8")	508 x 406 x 203 (20" x 16" x 8")	508 x 508 x 203 (20" x 20" x 8")
Fixing centres, mm	Vertical	203	267	267	267	354	354
	Horizontal	361	361	462	564	462	564
Material thickness, mm	Body	1.2	1.2	1.2	1.2	1.2	1.2
	Door	1.5	1.5	1.5	1.5	1.5	1.5
Weight (empty)	kg	5.8 kg	6.6 kg	8.1 kg	9.7 kg	9.7 kg	11.4 kg
Terminal mounting rail							
Rail fixing centres, mm	Vert	206	306	306	306	408	408
	Horz	206	205	306	408	306	408
Rail length, mm	Vert	226	326	326	326	428	428
	Horz	226	225	326	428	326	428
Available glanding area, mm							
(With gland plates fitted)	Bottom	261 x 124	261 x 124	334 x 124	460 x 124	334 x 124	460 x 124
	Left & right	214 x 124 (L)	261 x 124	261 x 124	261 x 124	334 x 124	334 x 124
		261 x 124 (R)					
Maximum entry guide							
(Metric glands)	M16	34	34	44	62	44	62
	M20	18	18	26	35	26	35
	M25	15	15	21	29	21	29
Top & bottom	M32	8	8	11	15	11	15
	M40	6	6	9	13	9	13
	M50	3	3	4	5	4	5
	M63	2	2	3	4	3	4
	M16	28 (L) / 34 (R)	34	34	34	44	44
	M20	15 (L) / 18 (R)	18	18	18	26	26
Left / right	M25	12 (L) / 15 (R)	15	15	15	21	21
	M32	6 (L) / 8 (R)	8	8	8	11	11
	M40	5 (L) / 6 (R)	6	6	6	9	9
	M50	2 (L) / 3 (R)	3	3	3	4	4
	M63	2 (L) / 2 (R)	2	2	2	3	3
Terminal content							
Terminal size	Orientation in enclosure						
2.5 mm <sup>2</sup>	Vert	2 x 36	2 x 56	3 x 56	4 x 56	3 x 77	4 x 77
4 mm <sup>2</sup>	Vert	2 x 30	2 x 47	3 x 47	4 x 47	3 x 64	4 x 64
6 mm <sup>2</sup>	Vert	2 x 23	2 x 35	3 x 35	4 x 35	3 x 48	4 x 48
10 mm <sup>2</sup>	Vert	2 x 18	2 x 28	3 x 28	4 x 28	3 x 38	4 x 38
16 mm <sup>2</sup>	Vert	2 x 15	2 x 23	3 x 23	4 x 23	3 x 32	4 x 32

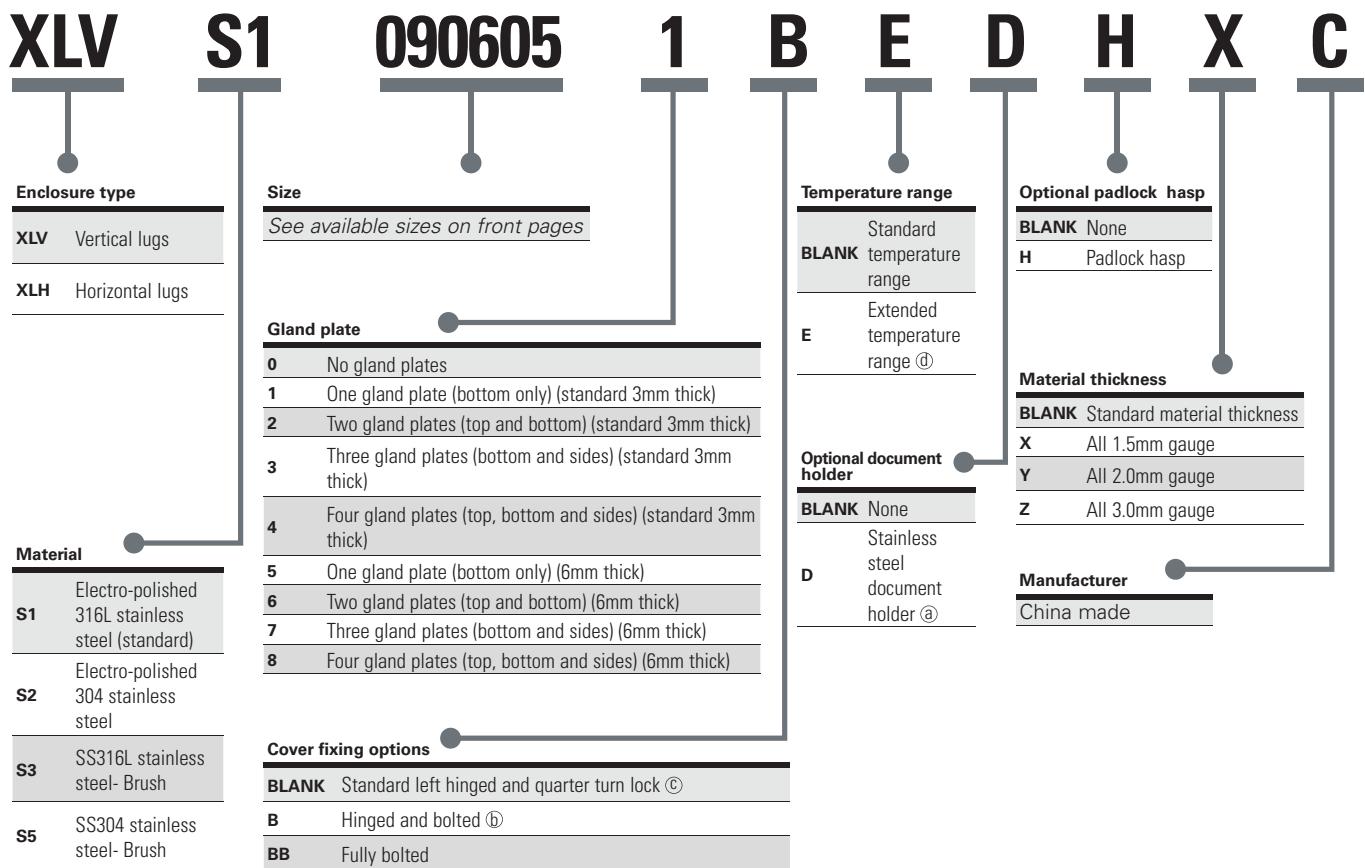
# Ex-cell stainless steel enclosures

XLH 604020	XLH 605020	XLH 606020	XLH 607620	XLH 765020	XLH 766020	XLH 767620
610 x 406	610 x 508	610 x 610	610 x 762	762 x 508	762 x 610	762 x 762
x 203						
(24" x 16" x 8")	(24" x 20" x 8")	(24" x 24" x 8")	(24" x 30" x 8")	(30" x 20" x 8")	(30" x 24" x 8")	(30" x 30" x 8")
445	445	445	445	508	508	508
462	564	666	818	564	666	818
1.2	1.2	1.2	1.2	1.2	1.2	1.2
1.5	1.5	1.5	1.5	1.5	1.5	1.5
11.2 kg	13.2 kg	15.3 kg	18.3 kg	15.9 kg	18.3 kg	21.9 kg
510	510	510	510	662	662	662
306	408	510	662	408	510	662
530	530	530	530	682	682	682
326	428	530	682	428	530	682
334 x 124	460 x 124	562 x 124	714 x 124	460 x 124	562 x 124	714 x 124
460 x 124	460 x 124	460 x 124	460 x 124	562 x 124	562 x 124	562 x 124
44	62	78	100	62	78	100
26	35	44	56	35	44	56
21	29	36	47	29	36	47
11	15	19	24	15	19	24
9	13	16	20	13	16	20
4	5	7	9	5	7	9
3	4	5	7	4	5	7
62	62	62	62	78	78	78
35	35	35	35	44	44	44
29	29	29	29	36	36	36
15	15	15	15	19	19	19
13	13	13	13	16	16	16
5	5	5	5	7	7	7
4	4	4	4	5	5	5
3 x 97	4 x 97	6 x 97	7 x 97	4 x 128	6 x 128	7 x 128
3 x 81	4 x 81	6 x 81	7 x 81	4 x 106	6 x 106	7 x 106
3 x 61	4 x 61	6 x 61	7 x 61	4 x 80	6 x 80	7 x 80
3 x 49	4 x 49	6 x 49	7 x 49	4 x 64	6 x 64	7 x 64
3 x 40	4 x 40	6 x 40	7 x 40	4 x 53	6 x 53	7 x 53

NOTES: 1. The information provided is based on the physical constraints of the enclosure. Please refer to the certificate for hazardous area applications.  
 2. This information is for guidance purposes only. Eaton's Crouse-hinds Business reserves the right to make any necessary changes without notice.

# Ex-cell stainless steel enclosures

## Order information



① Not available on enclosures where the width is equal to 203mm (8") and smaller

② Maximum enclosure width is XLH\*\*\*\*\*50 or XLV\*\*\*\*\*20 for this option.

③ XLV type has slot shaped quarter turn lock; XLH type has double bit quarter turn lock.

④ Only extended temperature enclosures available in China plant.

# C10 Ex d - terminal boxes

## Product introduction

Series C10 explosion protected terminal boxes are used to distribute and conduct electricity in area of Zone 1, 2, 21 and 22 at no risk of explosion. The enclosure has IP66 protection and WF2 anti-corrosion class. The enclosure is made in aluminium alloy and grey coating with strong corrosion resistance, which is suitable for all outdoor environment.

The cable can be introduced into the terminal boxes via gasket of the entries. Using adapters in the exits of terminal boxes to connect coiled tube or steel tube. For no connecting, the inside rubber gasket and blind gasket can meet the explosion-protection demands without mounting threaded stoppers. The light metal terminal boxes have an outside earthing connection.



C10 with four standard cable entries



C10 with three conduit outlets



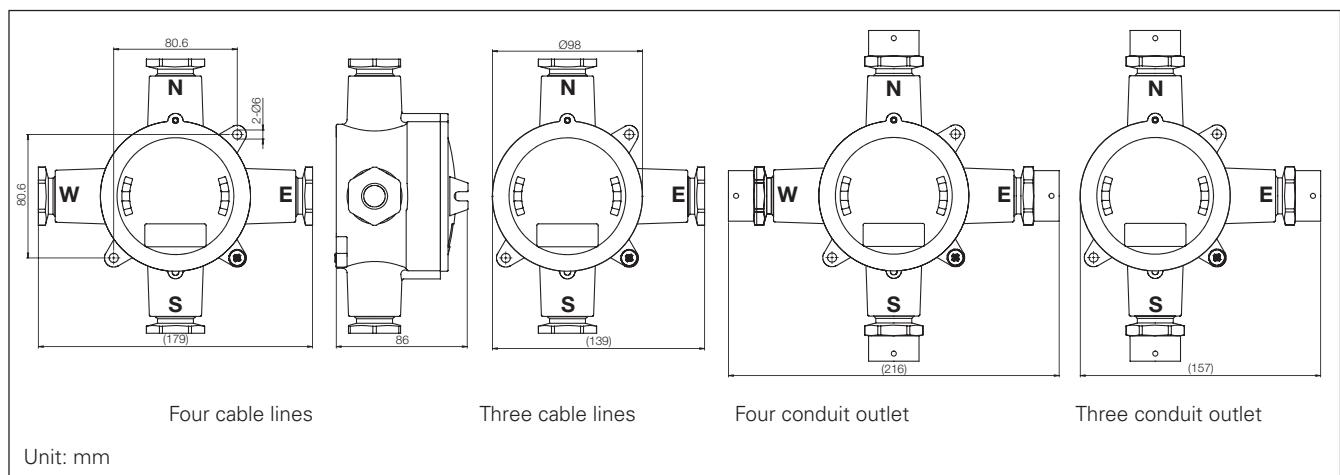
Pillar terminals

1

## Technical data

<b>GB-certification of conformity</b>	GYB20.2188X
<b>Marking acc. to GB</b>	Exd IICT6/ DIP A21 TA, T80°C IP66
<b>Degree of protection</b>	IP66
<b>Anti-corrosion degree</b>	WF2
<b>Temperature range</b>	-40°C~+50°C
<b>Enclosure material</b>	light metal, grey coating RAL7040
<b>Rated voltage</b>	up to 750V
<b>Rated current</b>	less than or equal to 39A
<b>Cable diameter</b>	8mm~13mm
<b>Weight</b>	1.5kg

## Dimension



# C3 Ex d - terminal boxes

## Product introduction

Series C30 and C31 explosion-protected terminal boxes made of light metal are used to distribute and conduct electricity in areas of Zone 1, 2, 21 and 22 at no risk of explosion.

Optionally, they are equipped with a assembly plate with pillar terminals or with terminals on an assembly plate with a terminal strip for individual equipment. The connection cross-section can vary by up to 6 mm<sup>2</sup> or up to 10 mm<sup>2</sup>.

A high "IP degree of protection" allows universal use in areas at risk of explosion.

Optionally, the cables can be introduced into the terminal boxes via conduits or explosion-proof screw connections. Drilled holes through which no cables are conducted should be closed with certified threaded stoppers.

The light metal terminal boxes have an outside earthing connection.



Type C 30



Type C 30



Type C 31

## Technical data

<b>EC-type examination certificate</b>	LOM 08 ATEX 2062
<b>GB-certification of conformity</b>	GYJ18.1005X
<b>IECEx-certification of conformity</b>	IECEx BKI 07.0026
<b>Marking acc. to ATEX</b>	Ex II2 GD Exd IIC T6 Ex tD A21 T85°C
<b>Marking acc. to GB</b>	Ex d IIC T6, DIP A21 TA, T6 IP67
<b>Marking acc. to IECEx</b>	Ex d IIC T6, Ex tD A21 IP67 T85°C
<b>Degree of protection</b>	IP67
<b>Permissible ambient temperature</b>	-20°C ≤ Ta +40°C <sup>1)</sup> , -20°C ≤ Ta ≤ + 55°C <sup>2)</sup> , -50°C ≤ Ta ≤ +40°C <sup>3)</sup>
<b>Enclosure material</b>	light alloy
<b>Enclosure treatment</b>	gray powder coated ( RAL7040)
<b>Rated voltage</b>	max. 750V
<b>Rated current</b>	according to the rated current of terminals

Note: 1)The environment temperature is 40 °C, and the internal consumed power P<sub>max</sub>≤35W;  
2)The environment temperature is 55 °C, and the internal consumed power P<sub>max</sub>≤20W;  
3) If the min. environment temperature of standard products is -20°C, it can choose the certificated one in min.-50 °C temperature, but need to be confirmed by sales for the special requirement.

## Ordering information

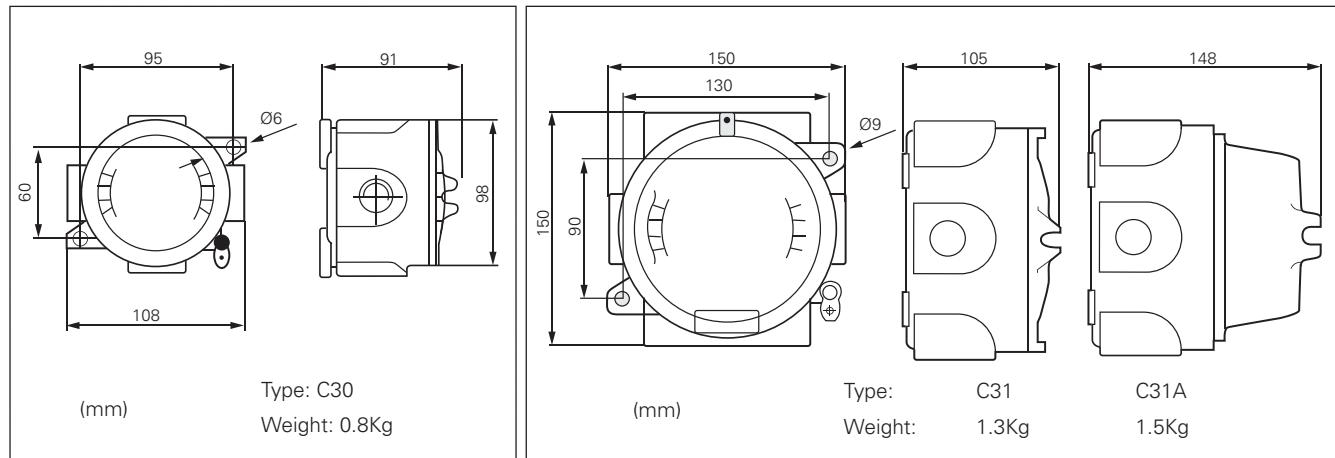
Products with the following entries are in stock for quick delivery. please contact Eaton for required entries different from these.

<b>C30</b>	With entries of 3xM20 (T/L/R)
<b>C30</b>	With entries of 4xM20(T/L/R/B)
<b>C30</b>	With entries of 4xM25(T/L/R/B)
<b>C31</b>	With entries of 4xM20(T/L/R/B)
<b>C31</b>	With entries of 4xM25(T/L/R/B)
<b>C31</b>	With entries of 4xM32 (T/L/R/B)
<b>C31</b>	With entries of 3x20(T/L/R)

T is top side, L is left hand side, R is right hand side, B is bottom side.

# C3 Ex d - terminal boxes

## Dimension



## Rail mounted terminal

The diameter of cable (mm <sup>2</sup> )	2x2.5mm <sup>2</sup>	2x4mm <sup>2</sup>	2x6mm <sup>2</sup>	2x10mm <sup>2</sup>
Rated sectional area (mm <sup>2</sup> )	2.5	4	6	10
Max. rated voltage (V)			Max. 750V	
Max. rated current (A)	20	32	45	61
Terminal mounting space on the terminal rail (mm):	C30		45	
	C31		82	
Connecting terminals:	C30	7	6	-
	C31	20	15	13
				10

Note:

1.The type and the max. mounting number is just for your references, please contact Eaton for more information.

1

## Pillar terminal

Max. number of drillings	Max. volume cable x terminal	Rated voltage (V)	Rated current (A)	Type
4	3x6mm <sup>2</sup> <sup>1)</sup>	< 750	<=39	C30/C31

<sup>1)</sup> single-core cable 3x6mm<sup>2</sup>; multi-core cable 4x4mm<sup>2</sup>



# GUA junction boxes

## Product introduction

GUA junction box made of Copper free Aluminium is used to distribute and conduct electricity in areas of Zone 1, 2, 21 and 22 at no risk of explosion, which is used as small pull through box and small junction box.



## Technical data

Certificate of conformity	IECEx CQM10.0017
Type of protection	Exd
Degree of protection	IP66
Gas group	IIC
Standard materials	Copper free Aluminium

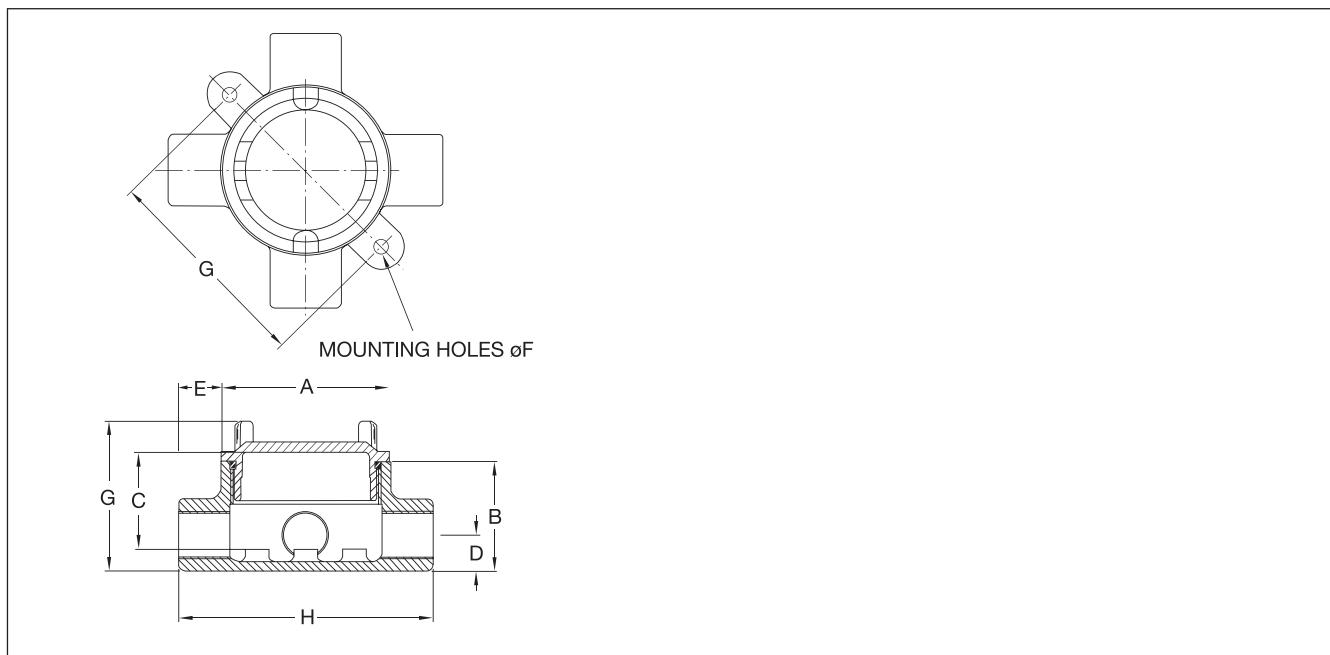
## Ordering logic

GUA	X	A	1	6	M
Product identifier	Entry configuration		Entry size	Body size opening	Thread type
GUA - Junction box Exd	<b>C</b> - 2 side @ 180° <b>L</b> - 2 side @ 90° <b>T</b> - 3 side @ 90° <b>X</b> - 4 side @ 90°		Code Metric NPT <b>1</b> - M20 1/2" <b>2</b> - M25 3/4" <b>3</b> - M32 1" <b>4</b> - M40 1 1/4"	<b>6</b> - 76mm <b>9</b> - 125mm	<b>M</b> - Metric <b>I</b> - Imperial <b>N</b> - NPT <b>B</b> - BSP

1

## Dimension

Cat No.	Dimensions							
	A	B	C	D	E	F	G	H
GUBA01	90	59	40	19	17.5	114.5	80	138.5
GUAB02	150	108	102	33	32	175	140	215



# GUA junction boxes

## Ordering information

GUALA - 2 Entries			
Entry size	Opening dia	Body size	Catalogue No.
20mm	76mm	6	GUALA16M
25mm	76mm	6	GUALA26M
25mm	125mm	9	GUALA29M
1/2" NPT	76mm	6	GUALA16N
3/4" NPT	76mm	6	GUALA26N



GUACA - 2 entries			
Entry size	Opening dia	Body size	Catalogue No.
20mm	76mm	6	GUACA16M
25mm	76mm	6	GUACA26M
25mm	125mm	9	GUACA29M
1/2" NPT	76mm	6	GUACA16N
3/4" NPT	76mm	6	GUACA26N



GUATA - 3 entries			
Entry size	Opening dia	Body size	Catalogue No.
20mm	76mm	6	GUATA16M
25mm	76mm	6	GUATA26M
25mm	125mm	9	GUATA29M
1/2" NPT	76mm	6	GUATA16N
3/4" NPT	76mm	6	GUATA26N



GUAXA - 4 entries			
Entry size	Opening dia	Body size	Catalogue No.
20mm	76mm	6	GUAXA16M
25mm	76mm	6	GUAXA26M
25mm	125mm	9	GUAXA29M
1/2" NPT	76mm	6	GUAXA16N
3/4" NPT	76mm	6	GUAXA26N



# GUB flameproof enclosures



GUB 00

GUB 20

GUB 30

**Metallic enclosures<sup>1)</sup> [Zone 1, 2, 21 and 22]**

## Technical data

<b>EC-type examination certificate</b>	LOM 04 ATEX 2018					
<b>GB-certification of conformity</b>	GYJ18.1167X / CCC					
<b>Marking acc. to ATEX / GB</b>	II2 G EExd IIC T6-T4 <sup>2)</sup> ; GB Exd IIC T6-T4, Ex tD A21, IP67 T80°C / T95°C / T130°C					
<b>Rated voltage</b>	690V					
<b>Max rated current</b>	250A / in bus-bars 150A - 10kA					
<b>Material</b>	Ligh alloy, grey coating, cover RAL7016, box RAL7032					
<b>Certified temperature range</b>	-20 °C to +55 °C					

1

Type	Dissipated power			Rated current max.	Code (ATEX)	Kg	Qty.
	T6	T5	T4				
<b>GUB 00</b>	60	85	150W	60A	<b>NOR 000 001 160 116</b>	3.20	1
<b>GUB 20</b>	100	145	255W	150A	<b>NOR 000 001 160 124</b>	6.20	1
<b>GUB 30</b>	140	200	360W	250A	<b>NOR 000 001 160 132</b>	10.20	1

## Dimension

Type	External			Internal			Mounting	
	A	B	C	A'	B'	C'	E	F
<b>GUB 00</b>	170	170	135	125	125	74	210	9
<b>GUB 20</b>	215	215	195	175	175	139	250	11
<b>GUB 30</b>	326	326	175	250	250	117	379	11

## Max. entries per face

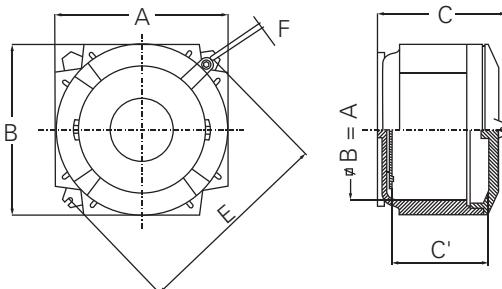
Type	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2
<b>GUB 00</b>	4	3	2	2	2	-	-
<b>GUB 20</b>	6	5	3	2	2	1	1
<b>GUB 30</b>	10	8	5	3	3	2	2

## NOTES:

<sup>1)</sup> These enclosures can provide according to LOM 04 2018 certification with the following electrical apparatus:

Bus-bars, Terminals, Low voltage transformers, Air circuit breakers, Automatic circuit breakers, Control and operations circuits, Servomotors without ventilation, Starters and ballasts for discharge lamps, Electronic apparatus, Associated SI apparatus, etc, According customer needs.

<sup>2)</sup> According to the mounted equipments.



# PBEC New GRP enclosures

## Product introduction

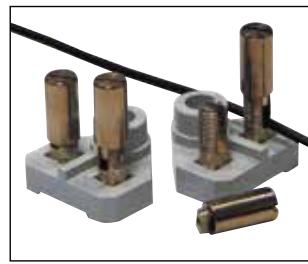
PBEC NEW terminal boxes made of glass-fiber reinforced polyester are used to distribute and conduct electricity in areas of Zone 1,2,21 and 22 with good performance at impact resistance, thermal stability and corrosion attack. The certified product includes rail and pillar terminals installation which can be used in varies application cases.



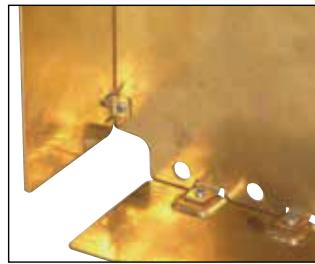
A high integrity "single piece" sealing gasket is designed for superior ingress protection (IP) of 66, excellent excellent recovery and re-sealing properties for continuous environmental protection.



The fully re-designed external mounting hole result in an easy way of adjusting enclosure position without removing the lid.



Pillar terminal, one of the most easy going and anti-vibration types of terminals is supported perfectly.



The configurable brass internal earth plate provides an economical and high reliable earthing solution with metal cable glands.

## Technical data

	PBEC121310N			PBEC122410N		
<b>EC-type examination certificate</b>	Baseefa09ATEX0179X					
<b>GB-certification of conformity</b>	GYB21.1363X					
<b>IECEx-certification of conformity</b>	IECEx BAS 09.0084X					
<b>Marking accd. to ATEX</b>	Ex II 2 G Ex e IIC T6 Gb / Ex ia IIC T6 Ga / Ex e[iia] IIC T6 Gb / Ex II 2 D Ex tb IIIC T80°C Db					
<b>Marking accd. to IECEx</b>	Ex e IIC T6 Gb Ex tb IIIC T80°C Db IP66					
<b>Marking accd. to GB</b>	Ex e IIC T6 Gb / Ex ia IIC T6 Ga / Ex e[iia] IIC T6 Gb / DIP A21 TA T80°C					
<b>Rated voltage/current</b>	Depends on mounted terminals					
<b>Dissipation capacity</b>	3.9W	2.4W		6.1W	3.8W	
<b>Ambient temperature and</b>	-50°C ~ +40°C	-50°C ~ +55°C		-50°C ~ +40°C	-50°C ~ +55°C	
<b>Degree of protection</b>	IP66					
<b>Enclosure earth</b>	Optional one-piece cruciform brass earth continuity plate or side brass earth plate Optional M6 internal/external brass stud assembly					
<b>Toxicity</b>	Halogen and Cadmium free					
<b>Impact resistance</b>	7J (Nm)					
<b>Enclosure material</b>	Glass-Fiber reinforced polyester					
<b>Terminal connection</b>	Up to 10mm <sup>2</sup>					
<b>Dimension (HxWxD)</b>	120x122x90mm			120x240x90mm		
<b>Weight</b>	Approx. 0.66 Kg			Approx. 1.12 Kg		
<b>Max. entries/cable glands</b>						
<b>Top/Bottom Enclosure</b>	M16	M20	M25	M16	M20	M25
	6	3	2	13	6	4
<b>Earth plate</b>	M16	M20	M25	M16	M20	M25
	4	2	2	13	6	4
<b>Max. entries/cable glands</b>						
<b>Left/Right Enclosure</b>	M16	M20	M25	M16	M20	M25
	4	2	1	6	3	2
<b>Earth plate</b>	M16	M20	M25	M16	M20	M25
	4	2	1	4	2	2
<b>Max. number of pillar terminal*</b>	8x10mm <sup>2</sup> (8 pcs/4 pairs)			16x10mm <sup>2</sup> (16pcs/8 pairs)		
<b>Max. number of rail terminal*</b>	2.5mm <sup>2</sup>	4mm <sup>2</sup>	6mm <sup>2</sup>	16mm <sup>2</sup>	2.5mm <sup>2</sup>	4mm <sup>2</sup>
	12	10	8	2	35	30
					22	3

\*The information provided is based on the physical constraints of the enclosure. Please contact Cooper Crouse-Hinds engineers to get accurate terminal numbers according to certificate for hazardous area applications.

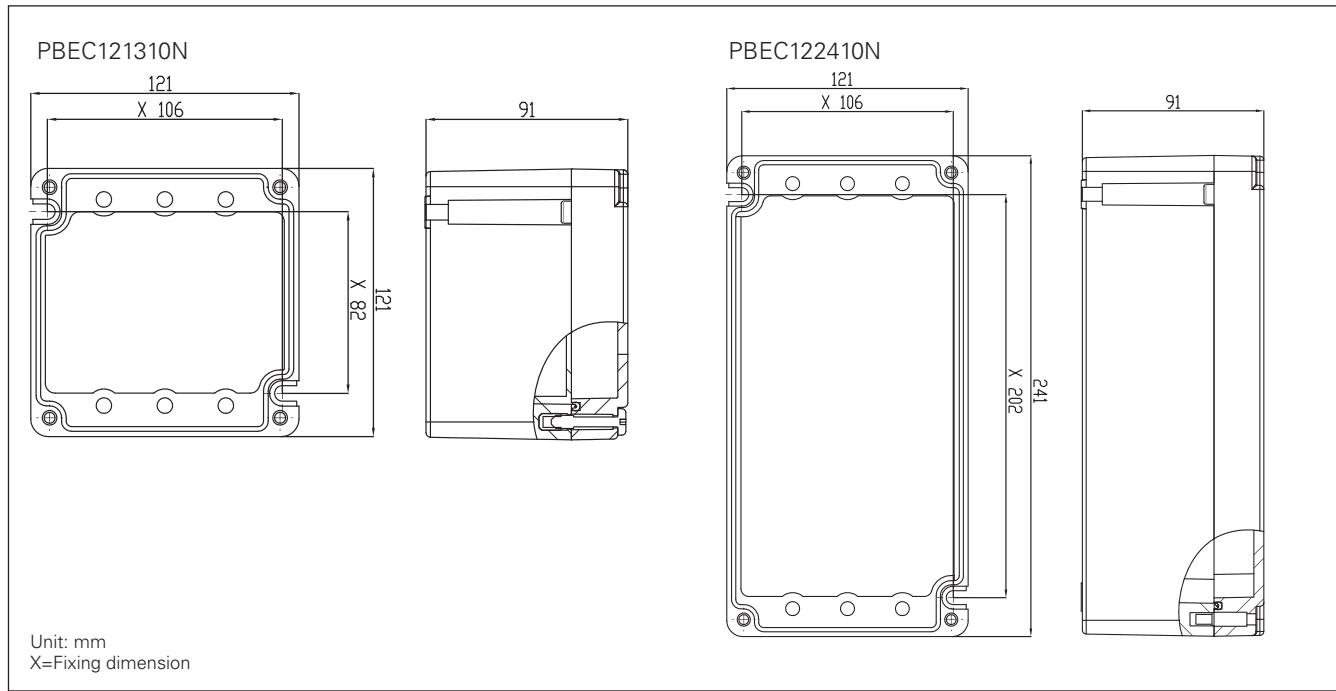
# PBEC New GRP enclosures

## Ordering information

Enclosure	Connection terminals	Bridges	Cable entries	Order No.
PBEC121310N	4x4mm <sup>2</sup> + 2x4mm <sup>2</sup> PE	2x2 pole	Bottom: 2xD21 Left: 1xD21 Right:1xD21	CDN1600529
PBEC121310N	4x6mm <sup>2</sup> + 2x6mm <sup>2</sup> PE	2x2 pole	Bottom: 2xD21 Left: 1xD21 Right:1xD21	CDN1600530
PBEC121310N	8x4mm <sup>2</sup> + 2x4mm <sup>2</sup> PE	4x2 pole	Bottom: 2xD21 Left: 1xD21 Right:1xD21	CDN1600531
PBEC121310N	8x2.5mm <sup>2</sup> + 4x2.5mm <sup>2</sup> PE		Bottom: 2xD21 Left: 1xD21 Right:1xD21	CDN1600534
PBEC121310N	8x2.5mm <sup>2</sup> +2.5mm <sup>2</sup> PE		Bottom: 1xD21 Left: 1xD21 Right:1xD21	CDN1700998

## Dimension

1



# Universal terminal boxes

## Product introduction

### Ex-e/Ex-i technology

#### plastic version measuring and controlling for Zone 1 and Zone 21

The terminal boxes were designed for measuring and controlling utilization in the Ex-e and Ex-i technology. They are used as a link between the main cable to the control room and the branch cables into the field. In addition to this, they may also be used for the direct connection of actuators and sensors.

The new terminal boxes for instrumentation installations are available in 5 sizes, ranging from 6 to max. 60 connection terminals. The optional interior coating protects your data cable connections against external radiation fields. The choice between screw and tension spring (screwless) terminals for single and multi-wire conductors makes it possible for engineers to select the type of connection most suitable for the particular application.

Eaton's Crouse-Hinds installation system provides an economical way of mounting the terminal boxes on walls, trellis work and pipes. The terminal boxes are suited for the use of single or multiple cable glands.

With Eaton's Crouse-Hinds terminal boxes it is possible to apply separate potentials such as screen-grid leads or PE/PA conductors to the plug-in PE rails.

The snap-out terminal rails allow a problem-free feeding-in of cables. The well-proven clip-in flanges in moulded plastic or metal design allowing multiple application possibilities. As a result of the optimized design, a large drilling surface was created. This can be fitted with a sufficient number of moulded plastic glands or an equal number of metal glands.

## International approvals



- Decisive cost saving with the Crouse-Hinds installation system
- Safety standard IP66
- Freely accessible connection terminals
- Clip-in flange technique
- Snap-out terminal rails
- Internal coating
- For EMC-protection on request

# Overview terminal boxes / Plastic version for Zone 1

To make it easier for you to be able to choose a terminal or junction box, you will find in table-form all the basic data that is required below. Using the table below you can choose and configure your terminal boxes.

The maximum number of terminals derives from the rated current of the terminal. If the load per terminal lies below the rated current, then the maximum number of terminals for the terminal rail can be used.

## Plastic version for Zone 1

Type	Terminal cross section in mm <sup>2</sup>						
	2.5	4	6	10	16	25	35
GHC 731 11	16	14	10	8	8	-	-
GHC 731 12	24	24	18	18	14	-	-
GHC 721 00	26	22	17	13	11	-	-
GHC 721 10	48	40	30	24	20	-	-
GHC 744 01	40	33	25	20	17	17	-
GHC 745 02	2x41	2x34	2x26	2x20	17	17	14
GHC 746 03	2x94	2x78	2x59	2x47	40	40	32
GHC 749 04	2x148	2x124	2x94	2x75	63	63	51

1

Terminal rails	
Type	Rail length
GHC 731 11	107mm
GHC 731 12	169mm
GHC 721 00	140mm
GHC 721 10	262mm
GHC 744 01	230mm
GHC 745 02	2x235mm
GHC 746 03	2x510mm
GHC 749 04	2x795mm

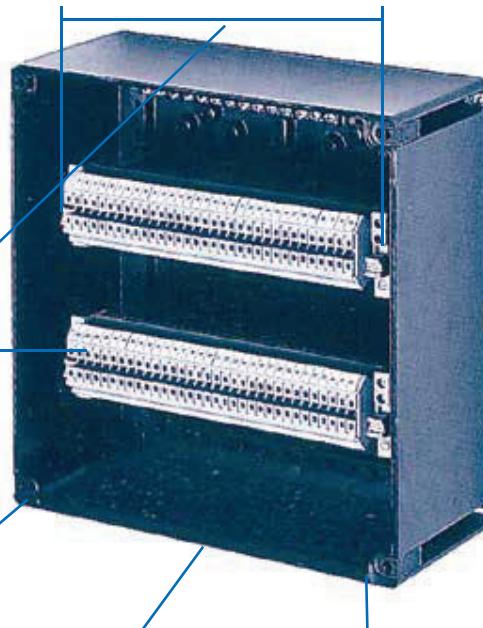
Dimensions			
Type	Width	x	Length x Height
GHC 731 11	120mm	x	140mm x 95mm
GHC 731 12	182mm	x	140mm x 95mm
GHC 721 00	165mm	x	165mm x 131mm
GHC 721 10	285mm	x	165mm x 143mm
GHC 744 01	271mm	x	134mm x 136mm
GHC 745 02	271mm	x	271mm x 136mm
GHC 746 03	544mm	x	271mm x 136mm
GHC 749 04	817mm	x	271mm x 136mm

Space required for wire and cable entries		
Type	Interference Plastic	Diameter Metal
M12	Ø19mm	Ø21mm
M16	Ø25mm	Ø21mm
M20	Ø31mm	Ø26.5mm
M25	Ø37mm	Ø33mm
M32	Ø46mm	Ø45.1mm
M40	Ø56mm	Ø53mm
M50	Ø68mm	Ø60.5mm
M63	Ø84mm	Ø80mm

max. drill surface			
Type	Width	x	Heigh
GHC 731 11	95mm	x	75mm
GHC 731 12	144mm	x	75mm
GHC 721 00	132mm	x	91mm
GHC 721 10	252mm	x	95mm
GHC 744 01	238mm	x	134mm
GHC 745 02	238mm	x	134mm
GHC 746 03	(2x)238mm	x	134mm
GHC 749 04	(3x)238mm	x	134mm

Using the maximum drill surface and the interference diameter of the wire and cable entries tables plus the number of terminals you require, you can choose the right terminal box for your application.

The terminal boxes can also be equipped with (when requested) brass flanges and external earthing connectors.



# GHC731 11, GHC731 12 Series

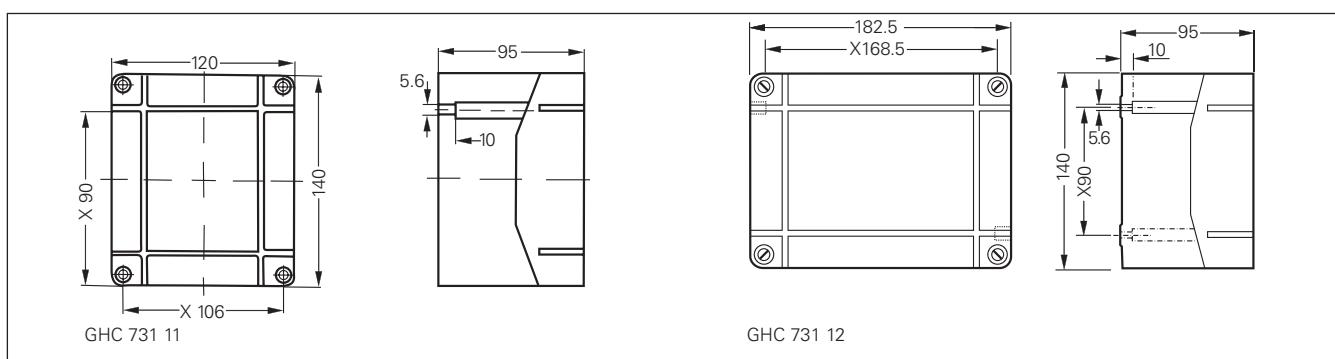


## Technical data

Item	Value
<b>GHC 731 11 up to 16 terminals   GHC 731 12 up to 24 terminals</b>	
<b>EC-type examination certificate</b>	Baseefa16ATEX0048X
<b>GB-certification of conformity</b>	GYB18.1097 / GYB18.1098 / GYB18.1099, CCC
<b>IECEx-certification of conformity</b>	IECEx QCM 13.0009X
<b>Marking accd. to IECEx</b>	Ex e IICT6/T5 Gb / Ex ia IICT6/T5 Gb / Ex e ia IICT6/T5 Gb Ex tb IICT80°C / T95°C Db
<b>Marking accd. to GB</b>	Ex e IICT6/T5 Gb / Ex ia IICT6/T5 Gb / Ex e ia IICT6/T5 Gb DIP A21 TA T80°C / T95°C
<b>Permissible ambient temperature</b>	-20°C to +40°C / -55°C to +55°C (option)
<b>Rated voltage</b>	690 V
<b>Rated current</b>	Depends on terminal mounting
<b>Insulation class</b>	I
<b>Degree of protection</b>	IP66 accd. to EN 60529
<b>Enclosure material</b>	Glass-fibre reinforced polyester
<b>GHC 731 11 up to 16 terminals</b>	
<b>Connecting terminals</b>	Up to 16 mm <sup>2</sup>
<b>Dimensions (L x W x H)</b>	140 x 120 x 95 mm
<b>Weight</b>	Approx. 0.8 kg
<b>Drillings/cable glands</b>	M12 M16 M20 M25 M32 M40 M50
<b>Max. number up/down</b>	15 8 6 4 2 2 1
<b>Terminal mounting space on the terminal rail</b>	107 mm
<b>Max. number of terminals acc. to certification</b>	2.5 mm <sup>2</sup> 4 mm <sup>2</sup> 6 mm <sup>2</sup> 10 mm <sup>2</sup> 16 mm <sup>2</sup> 16 14 10 8 8
<b>GHC 731 12 up to 24 terminals</b>	
<b>Connecting terminals</b>	Up to 16 mm <sup>2</sup>
<b>Dimensions (L x W x H)</b>	140 x 182.5 x 95 mm
<b>Weight</b>	Approx. 1.1 kg
<b>Drillings/cable glands</b>	M12 M16 M20 M25 M32 M40 M50
<b>Max. number up/down</b>	24 17 10 6 3 3 2
<b>Length of assembling of the terminal rail</b>	169 mm
<b>Max. number of terminals acc. to certification</b>	2.5 mm <sup>2</sup> 4 mm <sup>2</sup> 6 mm <sup>2</sup> 10 mm <sup>2</sup> 16 mm <sup>2</sup> 24 24 18 18 14

1

## Dimension



# GHC721 0, GHC721 1 series

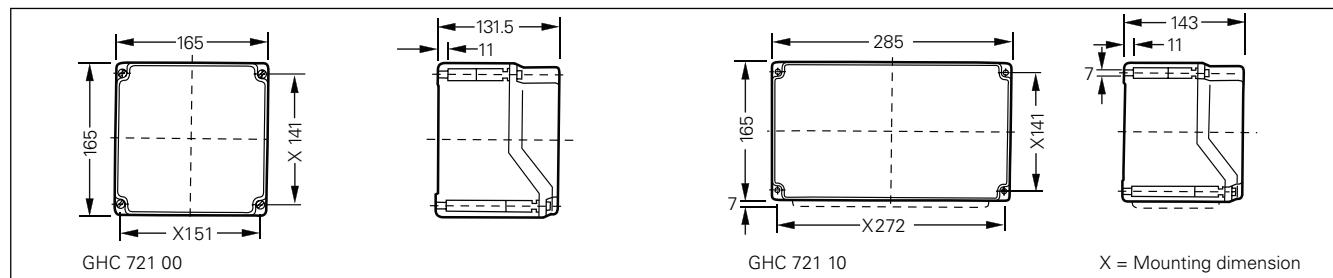


## Technical data

Item	Value
<b>GHC 721 00 up to 26 terminals   GHC 721 10 up to 48 terminals</b>	
EC-type examination certificate	Baseefa16ATEX0048X
GB-certification of conformity	GYB18.1097 / GYB18.1098 / GYB18.1099
IECEx-certification of conformity	IECEx CQM 13.0009X
Marking accd. to IECEx	Ex e IIC T6/T5 Gb / Ex ia IICT6/T5 Gb / Ex e ia IICT6/T5 Gb Ex tb IIIC T80°C Db
Marking accd. to GB	Ex e IIC T6/T5 Gb / Ex ia IICT6/T5 Gb / Ex e ia IICT6/T5 Gb DIP A21 TA T80°C / T95°C
Permissible ambient temperature	-20 °C to +40 °C / -55 °C to +55 °C (option)
Rated voltage	690 V
Rated current	Depends on terminal mounting
Insulation class	I
Degree of protection	IP66 accd. to EN 60529
Enclosure material	Glass-fibre reinforced polyester
<b>GHG 721 00 up to 26 terminals</b>	
Connecting terminals	Up to 16 mm <sup>2</sup>
Dimensions (L x W x H)	165 x 165 x 131.5 mm
Weight	Approx. 1.1 kg
Drillings/cable glands	M12    M16    M20    M25    M32    M40    M50    M63
Max. number down	35    20    12    11    6    4    2    2
Terminal mounting space on the terminal rail	140 mm
Max. number of terminals acc. to certification	2.5 mm <sup>2</sup> 4 mm <sup>2</sup> 6 mm <sup>2</sup> 10 mm <sup>2</sup> 16 mm <sup>2</sup> 26    22    17    13    11
<b>GHC 721 10 up to 48 terminals</b>	
Connecting terminals	Up to 16 mm <sup>2</sup>
Dimensions (L x W x H)	165 x 285 x 143 mm
Weight	Approx. 1.7 kg
Drillings/cable glands	M12    M16    M20    M25    M32    M40    M50    M63
Max. number down	75    42    32    21    11    8    4    3
Max. number flange plastic	46    25    20    11    8    4    3    2
Max. number flange metal	—    —    12    9    5    3    3    2
Terminal mounting space on the terminal rail	262 mm
Max. number of terminals acc. to certification	2.5 mm <sup>2</sup> 4 mm <sup>2</sup> 6 mm <sup>2</sup> 10 mm <sup>2</sup> 16 mm <sup>2</sup> 48    40    30    24    20

1

## Dimension



# GHC744 01, GHC745 02 series

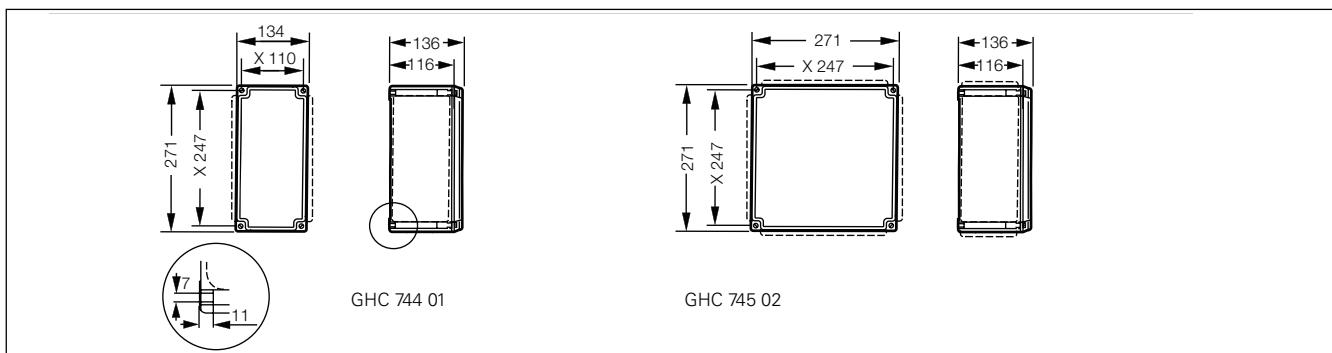


## Technical data

Item	Value							
<b>GHC 744 01 up to 40 terminals   GHC 745 02 up to 82 terminals</b>								
<b>EC-type examination certificate</b>	Baseefa16ATEX0048X							
<b>GB-certification of conformity</b>	GYB18.1097 / GYB18.1098 / GYB18.1099							
<b>IECEx-certification of conformity</b>	IECEx CQM 13.0009X							
<b>Marking accd. to IECEx</b>	Ex e IIC T6/T5 Gb / Ex ia IIC T6/T5 Gb / Ex e ia IIC T6/T5 Gb Ex tb IIIC T80°C Db							
<b>Marking accd. to GB</b>	Ex e IIC T6/T5 Gb / Ex ia IIC T6/T5 Gb / Ex e ia IIC T6/T5 Gb DIP A21 TA T80°C / T95°C							
<b>Permissible ambient temperature</b>	-20 °C to +40 °C / -55 °C to +55 °C (option)							
<b>Rated voltage</b>	690 V							
<b>Rated current</b>	Depends on terminal mounting							
<b>Insulation class</b>	I							
<b>Degree of protection</b>	IP66 accd. to EN 60529							
<b>Enclosure material</b>	Glass-fibre reinforced polyester							
<b>GHC 744 01 up to 40 terminals</b>								
<b>Connecting terminals</b>	Up to 16 mm <sup>2</sup>							
<b>Dimensions (L x W x H)</b>	271 x 134 x 136 mm							
<b>Weight</b>	Approx. 1.5 kg							
<b>Drillings/cable glands</b>	M12	M16	M20	M25	M32	M40	M50	M63
<b>Max. number down</b>	60	36	26	18	10	7	4	3
<b>Terminal mounting space on the terminal rail</b>	230 mm 2.5 mm <sup>2</sup> 4 mm <sup>2</sup> 6 mm <sup>2</sup> 10 mm <sup>2</sup> 16 mm <sup>2</sup> 25 mm <sup>2</sup> 35 mm <sup>2</sup>							
<b>Max. number of terminals acc. to certification</b>	40	33	25	20	17	15	-	
<b>GHC 745 02 up to 82 terminals</b>								
<b>Connecting terminals</b>	Up to 16 mm <sup>2</sup>							
<b>Dimensions (L x W x H)</b>	271 x 271 x 136 mm							
<b>Weight</b>	Approx. 2.5 kg							
<b>Drillings/cable glands</b>	M12	M16	M20	M25	M32	M40	M50	M63
<b>Max. number down</b>	60	36	26	18	10	7	4	3
<b>Max. number flange plastic</b>	46	25	20	11	8	4	3	2
<b>Max. number flange metal</b>	-	-	11	9	5	3	3	2
<b>Terminal mounting space on the terminal rail</b>	262 mm 2.5 mm <sup>2</sup> 4 mm <sup>2</sup> 6 mm <sup>2</sup> 10 mm <sup>2</sup> 16 mm <sup>2</sup> 25 mm <sup>2</sup> 35 mm <sup>2</sup>							
<b>Max. number of terminals acc. to certification</b>	2.5 mm <sup>2</sup> 2 x 41	4 mm <sup>2</sup> 2 x 34	6 mm <sup>2</sup> 2 x 26	10 mm <sup>2</sup> 2 x 20	16 mm <sup>2</sup> 17	25 mm <sup>2</sup> 17	35 mm <sup>2</sup> 14	

1

## Dimension



# GHC746 03, GHC749 04 series

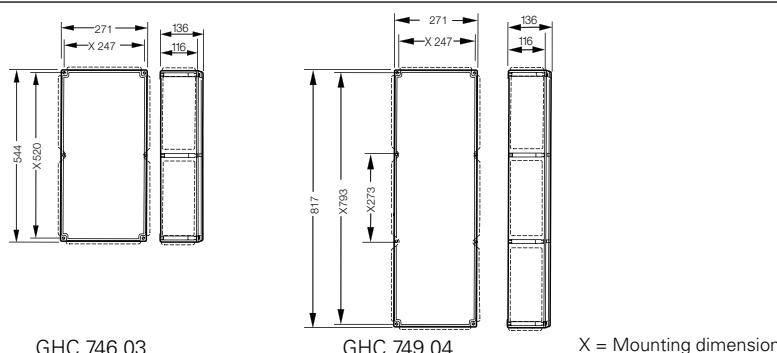


## Technical data

Item	Value
<b>GHC 746 03 up to 188 terminals   GHC 749 04 up to 296 terminals</b>	
EC-type examination certificate	Baseefa16ATEX0048X
GB-certification of conformity	GYB18.1097 / GYB18.1098 / GYB18.1099
IECEx-certification of conformity	IECEx CQM 13.0009X
Marking accd. to IECEx	Ex II2 GExe IIC T6/T5 Gb/Ex ia IIC T6/T5 Gb Ex II2 DEx tb IIIC T80°C Db
Marking accd. to GB	Ex e IIC T6/T5 Gb / Ex ia IIC T6/T5 Gb / Ex e ia IIC T6/T5 Gb DIP A21 TA T80°C / T95°C
Permissible ambient temperature	-20 °C to +40 °C / -55 °C to +55 °C (option)
Rated voltage	690 V
Rated current	Depends on terminal mounting
Insulation class	I
Degree of protection	IP66 accd. to EN 60529
Enclosure material	Glass-fibre reinforced polyester
<b>GHC 746 03 up to 188 terminals</b>	
Connecting terminals	240 mm <sup>2</sup>
Dimensions (L x W x H)	544 x 271 x 136 mm
Weight	Approx. 4.2 kg
Drillings/cable glands	M12 M16 M20 M25 M32 M40 M50 M63
Max. number down	120 72 52 36 20 14 8 6
Terminal mounting space on the terminal rail horiz.	2 x 510 mm / vert. 4 x 230 mm 2.5 mm <sup>2</sup> 4 mm <sup>2</sup> 6 mm <sup>2</sup> 10 mm <sup>2</sup> 16 mm <sup>2</sup> 25 mm <sup>2</sup> 35 mm <sup>2</sup> 2 x 94 2 x 78 2 x 59 2 x 47 40 40 32
Max. number of terminals acc. to certification	
<b>GHC 749 04 up to 296 terminals</b>	
Connecting terminals	Up to 240 mm <sup>2</sup>
Dimensions (L x W x H)	817 x 271 x 136 mm
Weight	Approx. 5.8 kg
Drillings/cable glands	M12 M16 M20 M25 M32 M40 M50 M63
Max. number down	180 108 78 54 30 21 12 9
Max. number flange plastic	46 25 20 11 8 4 3 2
Max. number flange metal	— — 11 9 5 3 3 2
Terminal mounting space on the terminal rail horiz.	2 x 795 mm / vert. 6 x 230 mm 2.5 mm <sup>2</sup> 4 mm <sup>2</sup> 6 mm <sup>2</sup> 10 mm <sup>2</sup> 16 mm <sup>2</sup> 25 mm <sup>2</sup> 35 mm <sup>2</sup> 2 x 148 2 x 124 2 x 94 2 x 75 63 63 51

1

## Dimension



# Accessories



## Mounting plate

Type	Application	Order No.	For enclosure type
1	Wall mounting	GHG 610 1953 R0101	
1	Trellis mounting	GHG 610 1953 R0103	
1	Pipe mounting	GHG 610 1953 R0102	
2	Wall mounting	GHG 610 1953 R0104	73111
2	Trellis mounting	GHG 610 1953 R0106	73111
2	Pipe mounting	GHG 610 1953 R0105	73111
2A	Wall mounting	GHG 610 1953 R0107	73112/72100
2A	Trellis mounting	GHG 610 1953 R0109	73112/72100
2A	Pipe mounting	GHG 610 1953 R0108	73112/72100
3	Wall mounting	GHG 610 1953 R0118	72100/74401/74502
3	Trellis mounting	GHG 610 1953 R0118	72100/74401/74502
3	Pipe mounting	GHG 610 1953 R0110	72100/74401/74502
4	Wall mounting	GHG 610 1953 R0126	74603
4	Trellis mounting	GHG 610 1953 R0126	74603
4	Pipe mounting	GHG 610 1953 R0130	74603
5	Wall mounting	GHG 610 1953 R0128	74904
5	Trellis mounting	GHG 610 1953 R0128	74904
5	Pipe mounting	GHG 610 1953 R0132	74904

# Accessories



## For mounting plate

Type	OU	Order No.
Label holder with type label (blank) for mounting plates size 1, 2, 2A and 3	10	GHG 610 1953 R0057
Type label for label holder and mounting plates size 4 and size 5	10	GHG 610 1953 R0011
Blind plug for unused fixing points of mounting plates size 4 and size 5	10	GHG 610 1953 R0134
Plug-in fastener for CEAG modules with 5.5 mm and 11 mm fixing elements	10	GHG 610 1953 R0041
Mounting set for pipes 1" ( $\varnothing$ 27-30mm) for mounting plates with pipe fixing	10	GHG 610 1953 R0020

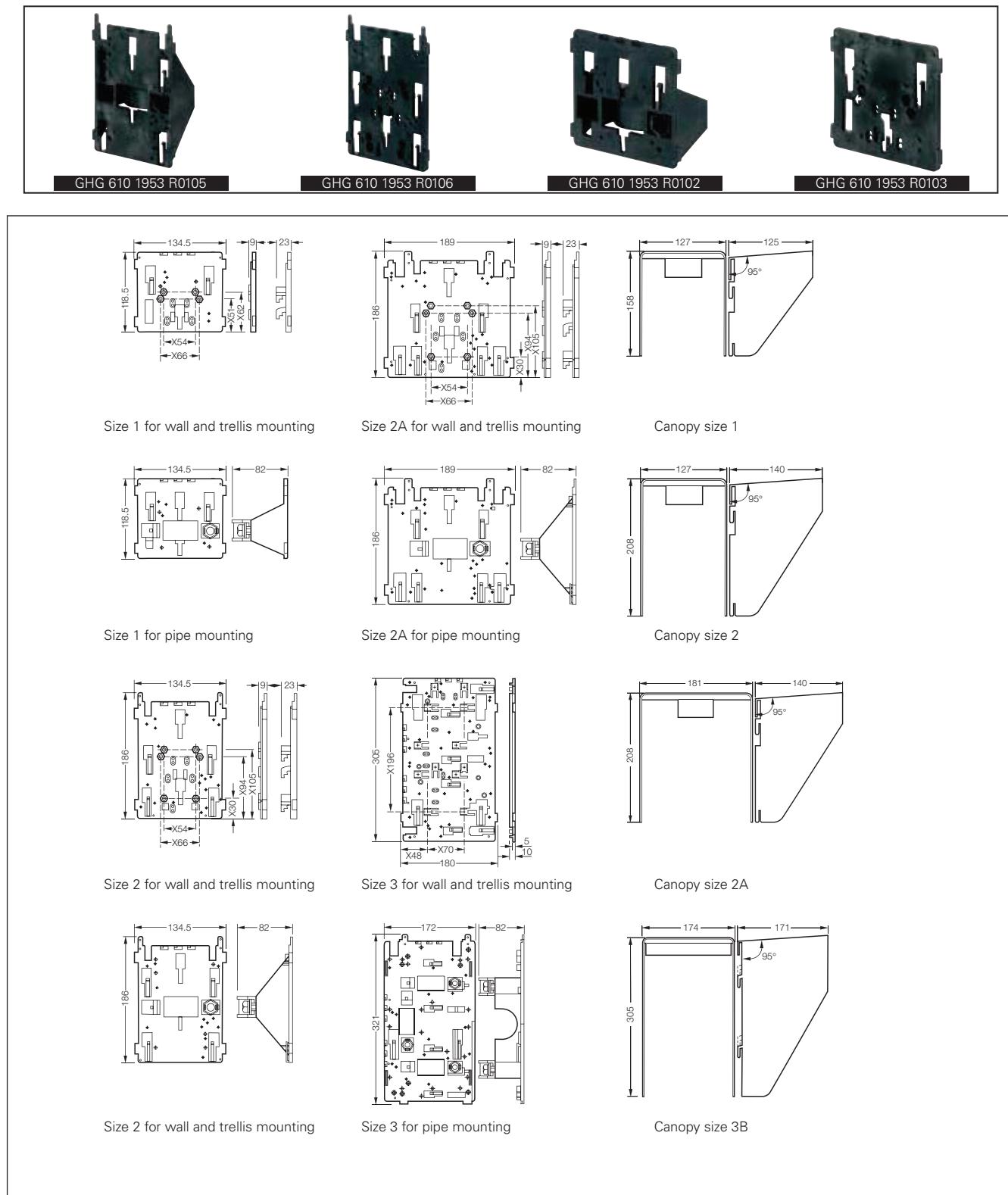
The order No. will show 1 pcs.

Please note that only pack quantities (OU) can be ordered.

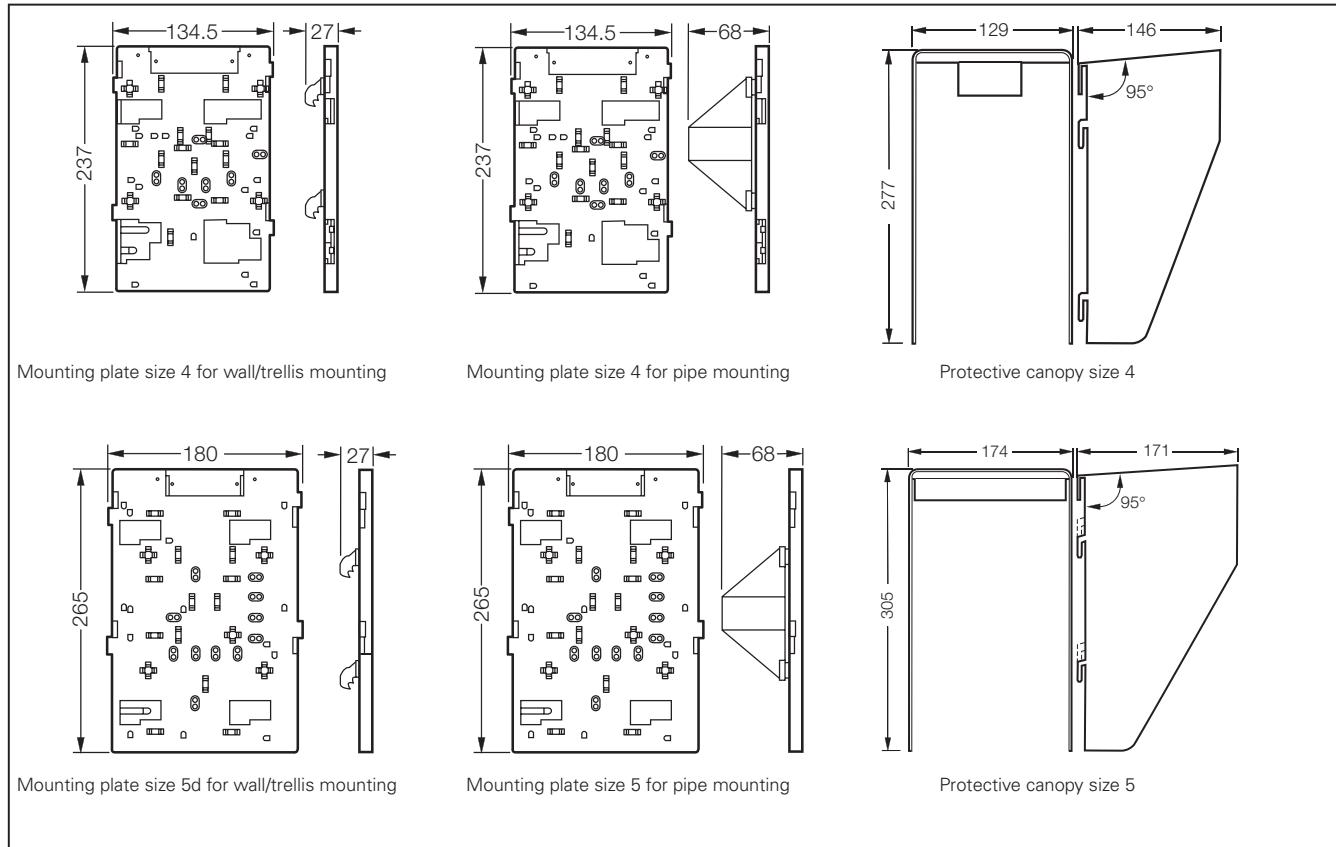
## Protective canopy for mounting plate

Type	Application	Order No.
1	for mounting plate size 1	GHG 610 1955 R0101
2	for mounting plate size 2	GHG 610 1955 R0102
2A	for mounting plate size 2A	GHG 610 1955 R0103
3	for mounting plates pipe fixing size 3 vertically	GHG 610 1955 R0104
3A	for mounting plates wall/trellis fixing size 3 vertically	GHG 610 1955 R0105
3B	for mounting plates pipe fixing size 3 horizontal	GHG 610 1955 R0106
4	for mounting plate size 4	GHG 610 1955 R0107
5	for mounting plate size 5	GHG 610 1955 R0108

# Mounting Plate Dimensions



# Mounting plate dimentions



# Control stations

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# Ex-Installation switches GHG273 16A

## Application area

The explosion-protected installation switches are for use in the Zones 1, 2, 21 and 22.

## Product features

- The robust housings are made of a modified polyamide material.
- The switches are safe and reliable for both indoor and outdoor installations, e.g. chemical factory or offshore etc.
- The large actuator surface of the installation switches allows perfect operation, even when wearing working gloves.
- A protective collar prevents inadvertent operation.
- The toggle has a luminescent label which is free from radioactive additives.
- The switch can be installed easily while the cover is closed.



## Technical data

<b>EC-type examination certificate</b>	PTB 98 ATEX 3121
<b>GB-certification of conformity</b>	CCC
<b>IECEx certificate of conformity</b>	IECEx BKI 07.0036
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de IIC T6 / Ex II 2 DT 80°C
<b>Marking acc. to IECEx</b>	Ex de IIC T6 Ex tD A21 IP66 T67°C
<b>Permissible ambient temperature</b>	-20°C ~ +40°C -55°C ~ +55°C (option)
<b>Rated voltage</b>	250V, 50 ~ 60Hz
<b>Rated current</b>	16A
<b>Connecting terminals</b>	Switch terminals: 2x2.5mm <sup>2</sup> / PE-terminals:4x2.5mm <sup>2</sup>
<b>Degree of protection</b>	IP66
<b>Cable gland</b>	Ex cable gland, the diameter M25 is from 8-17mm
<b>Weight</b>	0.32kg
<b>Materials</b>	Polyamide

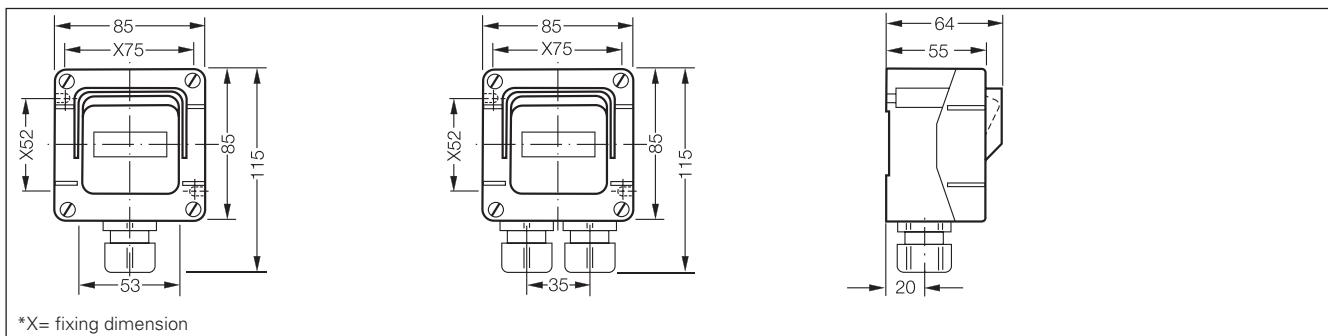
2

## Ordering information

Type	Contact arrangement	Cable glands	Order No.
ON-OFF switch 2-pole	 L(N)	1xM25 2xM25 2xM20 metal	GHG 273 2000 R0017 GHG 273 2000 R0018 GHG 273 2000 R0010
Change-over switch	tL  t L	1 x M25 2 x M25 2xM20 metal	GHG 273 6000 R0011 GHG 273 6000 R0014 GHG 273 6000 R9003

\* Provide copper base plate for metal gland connecting with 2xM20 poles. Please ask the ordering information for sales.

## Dimension



# Ex-safety switches

## Application area

The explosion-protected installation switches are for use in the Zones 1, 2, 21 and 22.

## Product features

- Full AC-3 switching capacity.
- Isolating properties according to EN 60947-4-1 with compulsory opening of the main current contacts.
- EMERGENCY STOP version is also available.
- Installation-friendly design and easily accessible connection terminals.
- Protected against inadvertent switching on by the integrated locking facility.

GHG 26 switches (10-180 A) and are now confirmed to comply with the new standard IEC 62626-1, requirements Class 1.

The standard divides products into two classifications: Class 0 for general use and Class 1 for harsh and rough/heavy duty conditions.

All products installed in ATEX/IECEx hazardous areas should be rated for Class 1. Class 1 requirements include minimum ratings for mechanical strength, IP protection, tamper resistance, heat/vibration/corrosion resistance, switching capacity, and locking capability



# Ex-safety switch 10 A



3-pole EMERGENCY STOP



3 pole

## Technical data

<b>EC-type examination certificate</b>	BVS 16 ATEX E 079
<b>GB-certification of conformity</b>	CCC
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de IIC T6 / Ex II 2 D IP66 T 80°C
<b>Marking acc. to IECEx</b>	Ex eb db IIC T6 Gb Ex tb IIIC T80°C Db IECEx BVS 16.0045
<b>Application temperature</b>	-20°C ~ +40°C <sup>1)</sup>
<b>Rated voltage</b>	Up to max. 500V
<b>Rated current</b>	Max.10A
<b>Frequency</b>	50/60Hz
<b>Rated making-/breaking capacity AC-3</b>	
U <sub>e</sub> 230V	10A
U <sub>e</sub> 400V	10A
U <sub>e</sub> 500V	10A
<b>Back-up fuse</b>	
up to 400V	Up to 20A gL
up to 500V	Up to 16A gL
<b>Main contact</b>	2x1.5-2.5mm <sup>2</sup>
<b>Auxiliary-/signal contact</b>	2x0.5-2.5mm <sup>2</sup>
<b>Degree of protection</b>	IP66 acc. to EN 60529
<b>Insulation class</b>	I
<b>Cable glands/enclosure drilling</b>	M20(d=5-13mm) M25(d=8-17mm)
<b>Weight</b>	Approx. 0.55kg
<b>Enclosure material</b>	Polyamide
<b>Enclosure colour</b>	Black
<b>Auxiliary contact</b>	1 x NO, making - lagging; breaking - leading
<b>Padlocking</b>	Can be locked in OFF position with 3 commercially available padlocks

<sup>1)</sup> Other ambient temperature on request

# Ex-safety switch 10 A

## Ordering information

Version	Cable entry	Order No.
3-pole	2xM25/1xM20	GHG 261 0005 R0009
3-pole	2xM20	GHG 261 0005 R0005
3-pole EMERGENCY STOP	2xm25/1xM20	GHG 261 0005 R0010
3-pole	2xM20 metal entries	GHG 261 0005 R9026

\* Customized version on request, auxiliary contact in Ex ia available

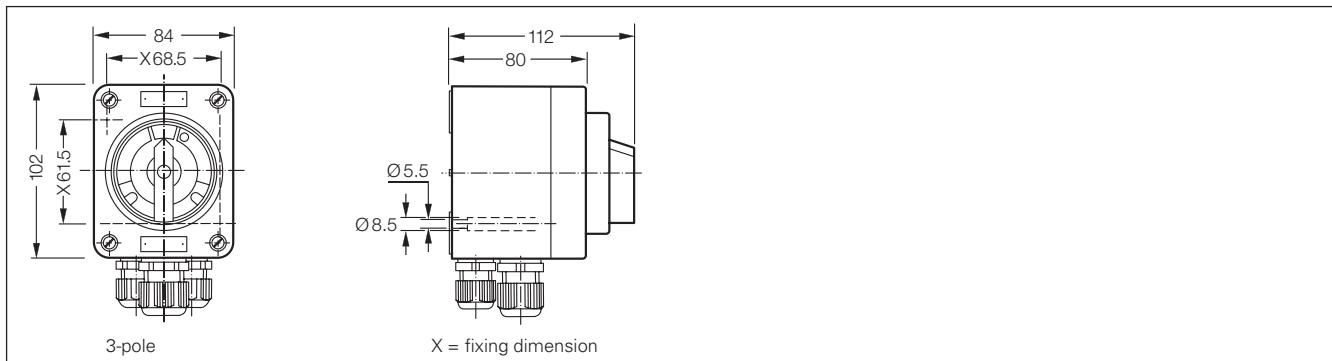
## Accessories

### Mounting plate for Ex-safety switch 10 A 3-pole

Type	Application	Fixing method	Order No.
1	wall mounting	screw-on	GHG 610 1953 R0101
1	pipe mounting	screw-on	GHG 610 1953 R0102
1	trellis mounting	screw-on	GHG 610 1953 R0103

Please refer to 2.1.32-2.1.35 for the detailed information of mounting plates.

## Dimension



# Ex-safety switch 20 A



## Technical data

<b>EC-type examination certificate</b>	BVS19 ATEX E 048X
<b>GB-certification of conformity</b>	CCC
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex db eb ia IIB/IIC T6/T5 Gb / Ex II 2 D Ex tb IIIC T80°C Db
<b>Marking acc. to IECEx</b>	Ex eb db ia IIB/IIC T6 / T5 Gb Ex tb IIIC T80°C Db IECEx BVS 19.0042X
<b>Application temperature</b>	-20°C ~ +40°C <sup>1)</sup>
<b>Rated voltage</b>	Up to 690V
<b>Rated current</b>	Up to 20A
<b>Frequency</b>	50/60Hz
<b>Rated making-/breaking capacity AC-3</b>	
U <sub>e</sub> 230V	20A
U <sub>e</sub> 400V	20A
U <sub>e</sub> 500V	10A
U <sub>e</sub> 690V	10A
<b>Back-up fuse</b>	
up to 400V AC	Up to 35A gL
up to 500V AC	Up to 35A gL
up to 690V AC	Up to 25A gL
<b>Main contact</b>	2x4mm <sup>2</sup>
<b>Auxiliary-/signal contact</b>	2x0.5-2.5mm <sup>2</sup>
<b>Degree of protection</b>	IP66 acc. to EN 60529
<b>Insulation class</b>	I
<b>Cable glands/enclosure drilling</b>	M20(d=5-13mm) M25(d=8-17mm) M32(d=12-21mm) Option: metal flange with thread
<b>Weight</b>	
<b>3-pole</b>	Approx. 1.48kg
<b>6-pole</b>	Approx. 2.43kg
<b>Enclosure material</b>	Glass-fibre reinforced polyester
<b>Enclosure colour</b>	Black
<b>Auxiliary contact</b>	1 x NO making - lagging; breaking - leading 1 x NC (only 6-pole version) making - leading; breaking - lagging
<b>Padlocking</b>	Can be locked in OFF position with 3 commercially available padlocks

<sup>1)</sup> Other ambient temperature on request

# Ex-safety switch 20 A

## Ordering information

### Safety switch 20 A 3-pole with 1 auxiliary contact (NO)

Version	Cable entry	Order No.
3-pole	2xM32/1xM25	GHG 262 2301 R0001
3-pole EMERGENCY STOP	2xM32/1xM25	GHG 262 2301 R0002
3-pole	2xM20 metal entries	GHG262 2301 R9179

### Safety switch 20 A 4-pole with 2 auxiliary contacts (1 x NO; 1 x NC)

Version	Cable entry	Order No.
4-pole	2xM20	GHG 262 2301 R0007
4-pole EMERGENCY STOP	2xM32/1xM25	GHG 262 2301 R0010
4-pole	2xM20 metal entries	GHG262 2301 R9228

### Safety switch 20 A 6-pole with 2 auxiliary contacts (1 x NO, 1 x NC)

Version	Cable entry	Order No.
6-pole	4xM32/1xM25	GHG 262 2601 R0001
6-pole	4xM25	GHG 262 2601 R0005
6-pole EMERGENCY STOP	4xM32/1xM25	GHG 262 2601 R0002

\* Customized version on request, auxiliary contacts in Ex ia available

## Accessories

### Mounting plate for Ex-safety switch 20 A 3-pole

Type	Application	Fixing method	Order No.
2	wall mounting	snap-on	GHG 610 1953 R0104
2	pipe mounting	snap-on	GHG 610 1953 R0105
2	trellis mounting	snap-on	GHG 610 1953 R0106

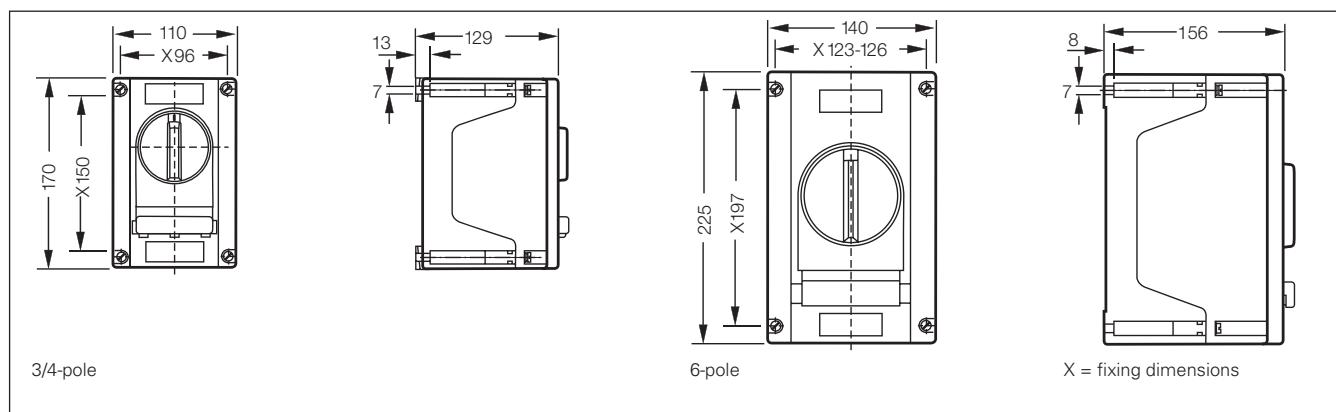
### Mounting plate for Ex-safety switch 20 A 6-pole

Type	Application	Fixing method	Order No.
3	wall mounting	snap-on	GHG 610 1953 R0118
3	pipe mounting	snap-on	GHG 610 1953 R0110
3	trellis mounting	snap-on	GHG 610 1953 R0118

Please refer to 2.1.32-2.1.35 for the detailed information of mounting plates.

2

## Dimension



# Ex-safety switch 40 A



## Technical data

<b>EC-type examination certificate</b>	BVS19 ATEX E 059X
<b>GB-certification of conformity</b>	CCC
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex db eb ia IIC/IIB T6 / T5 Gb / Ex II 2 D Ex tb IIIC T80°C Db
<b>Marking acc. to IECEx</b>	Ex eb db ia IIB/IIC T6 / T5 Gb Ex tb IIIC T80°C Db IECEx BVS 19.0054X -20°C ~ +40°C <sup>1)</sup>
<b>Application temperature</b>	-20°C ~ +40°C <sup>1)</sup>
<b>Rated voltage</b>	Up to 690V
<b>Rated current</b>	Up to 40A
<b>Frequency</b>	50/60Hz
<b>Rated making-/breaking capacity AC-3</b>	
U <sub>e</sub> 230V	40A
U <sub>e</sub> 400V	40A
U <sub>e</sub> 500V	40A
U <sub>e</sub> 690V	32A
<b>Back-up fuse</b>	
up to 400V AC	Up to 80A gL
up to 500V AC	Up to 80A gL
up to 690V AC	Up to 63A gL
<b>Main contact</b>	2x16mm <sup>2</sup>
<b>Auxiliary-/signal contact</b>	2x4mm <sup>2</sup>
<b>Degree of protection</b>	IP66 acc. to EN 60529
<b>Insulation class</b>	I
<b>Cable glands/enclosure drilling</b>	M25(d=8-17mm) M40(d=16-28mm) Option: metal flange with thread
<b>Weight</b>	
<b>3-pole</b>	Approx. 2.3kg
<b>4-pole</b>	Approx. 2.75kg
<b>6-pole</b>	Approx. 6.50kg
<b>Enclosure material</b>	Glass-fibre reinforced polyester
<b>Enclosure colour</b>	Black
<b>Auxiliary contact</b>	1 x NO making - lagging; breaking - leading 1 x NC (only 6-pole version) making - leading; breaking - lagging
<b>Padlocking</b>	Can be locked in OFF position with 3 commercially available padlocks

<sup>1)</sup> Other ambient temperature on request

# Ex-safety switch 40 A

## Ordering information

### Safety switch 40 A 3-pole with 1 auxiliary contact (NO)

Version	Cable entry	Order No.
3-pole	2xM40/1xM25	GHG 263 2301 R0001
3-pole EMERGENCY STOP	2xM40/1xM25	GHG 263 2301 R0002
3-pole	1xM20 + 2xM25 metal entries	GHG263 2301 R9051

### Safety switch 40 A 4-pole with 2 auxiliary contacts (1 x NO; 1 x NC)

Version	Cable entry	Order No.
4-pole	2xM25	GHG 263 2301 R0007

### Safety switch 40 A 6-pole with 2 auxiliary contacts (1 x NO, 1 x NC)

Version	Cable entry	Order No.
6-pole	4xM40/1xM25	GHG 263 0050 R0001
6-pole	4xM25	GHG 263 0050 R0006
6-pole EMERGENCY STOP	4xM40/1xM25	GHG 263 0050 R0002

\* Customized version on request, auxiliary contacts in Ex ia available

## Accessories

### Mounting plate for Ex-safety switch 40 A 3-pole

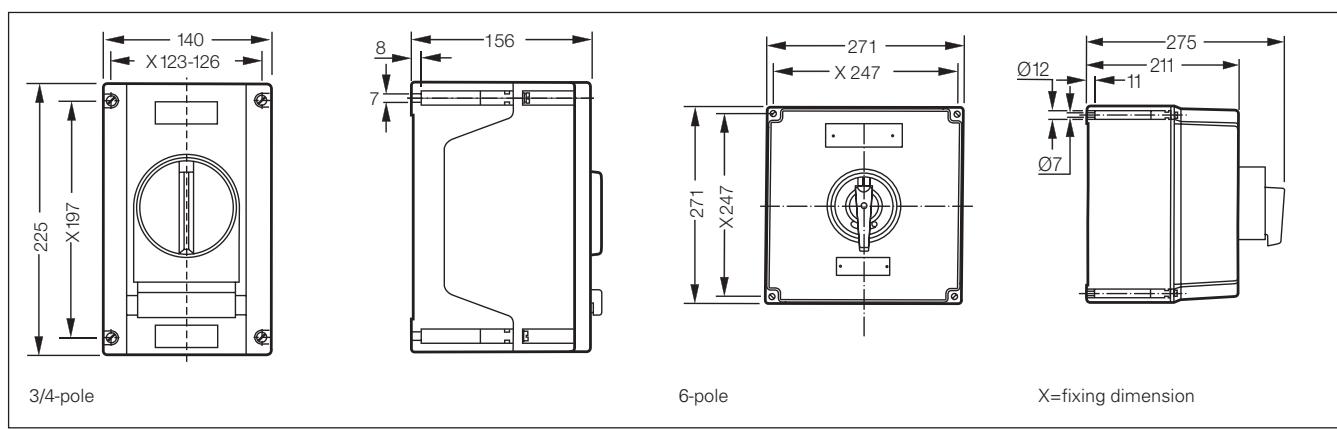
Type	Application	Fixing method	Order No.
3	wall mounting	snap-on	GHG 610 1953 R0118
3	pipe mounting	snap-on	GHG 610 1953 R0110
3	trellis mounting	snap-on	GHG 610 1953 R0118

### Mounting plate for Ex-safety switch 40 A 6-pole

Type	Application	Fixing method	Order No.
3	2 x pipe mounting	screw-on	GHG 610 1953 R0110

Please refer to 2.1.32-2.1.35 for the detailed information of mounting plates.

## Dimension



# Ex-safety switch 80 A



## Technical Data

<b>EC-type examination certificate</b>	BVS 15 ATEX E125X
<b>GB-certification of conformity</b>	CCC
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex db e IIB/IIC T5/T6 Gb / Ex II 2 D Ex tb IIIC T80°C Db
<b>Marking acc. to IECEx</b>	Ex db e IIB/IIC T5/T6 Gb Ex tb IIIC T80°C Db IECEx BVS 15.0103X
<b>Application temperature</b>	-20°C ~ +40°C <sup>1)</sup>
<b>Rated voltage</b>	Up to 690V
<b>Rated current</b>	Up to 80A
<b>Frequency</b>	50/60Hz
<b>Rated making-/breaking capacity AC-3</b>	
U <sub>e</sub> 230V	80A
U <sub>e</sub> 400V	80A
U <sub>e</sub> 500V	80A
U <sub>e</sub> 690V	63A
<b>Back-up fuse</b>	
up to 400V AC	Up to 160A gL
up to 500V AC	Up to 160A gL
up to 690V AC	Up to 125A gL
<b>Main contact</b>	2x25mm <sup>2</sup>
<b>Auxiliary-/signal contact</b>	2x4mm <sup>2</sup>
<b>Degree of protection</b>	IP66 acc. to EN 60529
<b>Insulation class</b>	I
<b>Cable glands/enclosure drilling</b>	M25(d=8-17mm) M32(d=12-21mm) M40(d=21-35mm) Option: metal flange with thread
<b>Weight</b>	
3-pole	Approx. 6.5kg
6-pole	Approx. 9.0kg
<b>Enclosure material</b>	Glass-fibre reinforced polyester
<b>Enclosure colour</b>	Black
<b>Auxiliary contact</b>	1 x NO making - lagging; breaking - leading 1 x NC making - lagging; breaking - leading
<b>Padlocking</b>	Can be locked in OFF position with 3 commercially available padlocks

<sup>1)</sup> Other ambient temperature on request

# Ex-safety switch 80 A

## Ordering information

### Safety switch 80 A 3-pole with 1 auxiliary contact (NO)

Version	Cable entry	Order No.
3-pole	2xM50/1xM25	GHG 264 0020 R0001
3-pole EMERGENCY STOP	2xM50/1xM25	GHG 264 0020 R0002
3-pole	2xM32 metal entries	GHG264 0020 R9105

### Safety switch 80 A 6-pole with 2 auxiliary contacts (1 x NO, 1 x NC)

Version	Cable entry	Order No.
6-pole	4xM50/1xM25	GHG 264 0021 R0001
6-pole EMERGENCY STOP	4xM50/1xM25	GHG 264 0021 R0002

\* Customized version on request, auxiliary contacts in Ex ia available

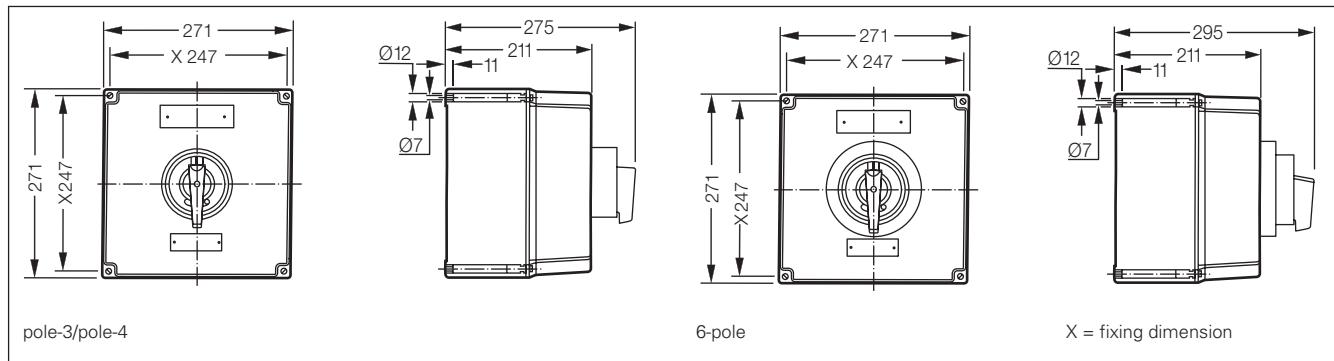
## Accessories

### Mounting plate for Ex-safety switch 80 A 3-pole and 6-pole

Type	Application	Fixing method	Order No.
3	2 x pipe mounting	screw-on	GHG 610 1953 R0110

Please refer to 2.1.32-2.1.35 for the detailed information of mounting plates.

## Dimension



# Ex-safety switch 125 A



## Technical data

<b>EC-type examination certificate</b>	BVS15 ATEX E125X
<b>GB-certification of conformity</b>	CCC
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex db eb ia IIC/IIB/IIB+H2 T6/T5 Gb / Ex II 2 D Ex tb IIIC T80°C Db
<b>Marking acc. to IECEx</b>	Ex db eb ia IIC/IIB/IIB+H2 T6/T5 Gb Ex tb IIIC T80°C Db IECEx BVS 22.0019X
<b>Application temperature</b>	-20°C ~ +40°C <sup>1)</sup>
<b>Rated voltage</b>	Up to 690V
<b>Frequency</b>	50/60Hz
<b>Rated making-/breaking capacity AC-3</b>	
U <sub>e</sub> 230V	125A
U <sub>e</sub> 400V	125A
U <sub>e</sub> 500V	125A
U <sub>e</sub> 690V	110A
<b>Back-up fuse</b>	
up to 400V AC	Up to 200A gL
up to 500V AC	Up to 200A gL
up to 690V AC	Up to 160A gL
<b>Main contact</b>	
<b>3-pole</b>	1x50/70mm <sup>2</sup>
<b>6-pole</b>	6x95mm <sup>2</sup> /2x95mm <sup>2</sup>
<b>Auxiliary-/signal contact</b>	2x4mm <sup>2</sup>
<b>Degree of protection</b>	IP66 acc. to EN 60529
<b>Insulation class</b>	I
<b>Cable glands/enclosure drilling</b>	M25(d=8-17mm) M40(d=16-28mm) M63(d=27-48mm) Option: metal flange with 2 x thread
<b>Weight</b>	
<b>3-pole</b>	Approx. 16kg
<b>6-pole</b>	Approx. 31kg
<b>Enclosure material</b>	
<b>3-pole</b>	Glass-fibre reinforced polyester
<b>6-pole</b>	Steel, powder-coated
<b>Enclosure colour</b>	
<b>3-pole</b>	Black
<b>6-pole</b>	White
<b>Auxiliary contact</b>	1 x NO making - lagging; breaking - leading 1 x NC making - lagging; breaking - leading
<b>Padlocking</b>	Can be locked in OFF position with 3 commercially available padlocks

<sup>1)</sup> Other ambient temperature on request

# Ex-safety switch 125 A

## Ordering information

Safety switch 125 A with 2 auxiliary contacts (1 x NO, 1 x NC)

Version	Cable entry	Order No.
3-pole	2xM63/1xM25	GHG 265 0010 R0001
3-pole	2xM50 metal entries	GHG265 0010 R9193
4-pole	2xM40	GHG 265 0010 R0005
3-pole EMERGENCY STOP	2xM63/1xM25	GHG 265 0010 R0002
6-pole	4xM63/1xM25	EXKO 224716 K 0000
6-pole EMERGENCY STOP	4xM63/1xM25	EXKO 224726 K 0000

\* Customized version on request, auxiliary contacts in Ex ia available

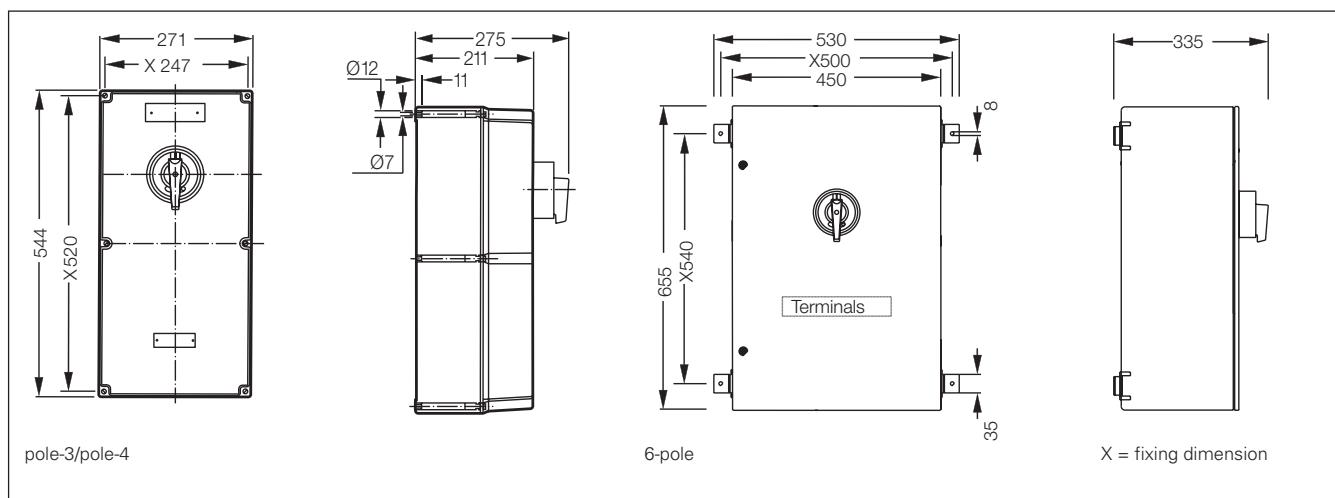
## Accessories

Mounting plate for Ex-safety switch 125 A 3-pole

Type	Application	Fixing method	Order No.
3	2 x pipe mounting	screw-on	GHG 610 1953 R0110

Please refer to 2.1.32-2.1.35 for the detailed information of mounting plates.

## Dimension



# Ex-safety switch 180A



## Technical data

<b>EC-type examination certificate</b>	BVS 15 ATEX E125X
<b>GB-certification of conformity</b>	CCC
<b>Marking acc. to ATEX</b>	$\text{Ex}$ II 2 G Ex db eb ia IIC/IIB/IIB+H2 T6/T5 Gb / $\text{Ex}$ II 2 D Ex tb IIIC T80°C
<b>Marking acc. to IECEx</b>	Ex db eb ia IIC/IIB/IIB+H2 T6/T5 Gb Ex tb IIIC T80°C Db IECEx BVS 22.0019X
<b>Application temperature</b>	-20°C ~ +40°C <sup>1)</sup>
<b>Rated voltage</b>	Up to 690V
<b>Frequency</b>	50/60Hz
<b>Rated making-/breaking capacity AC-3</b>	
U <sub>e</sub> 230V	180A
U <sub>e</sub> 400V	180A
U <sub>e</sub> 500V	180A
U <sub>e</sub> 690V	125A
<b>Back-up fuse</b>	
up to 400V AC	Up to 250A gL
up to 500V AC	Up to 250A gL
up to 690V AC	Up to 200A gL
<b>Main contact</b>	
3-pole	1x120mm <sup>2</sup>
6-pole	6x150mm <sup>2</sup> /2x95mm <sup>2</sup>
<b>Auxiliary-/signal contact</b>	2x4mm <sup>2</sup>
<b>Degree of protection</b>	IP66 acc. to EN 60529
<b>Insulation class</b>	I
<b>Cable glands/enclosure drilling</b>	M25(d=8-17mm) M40(d=16-28mm) M63(d=27-48mm) Option: metal flange with 2 x thread
<b>Weight</b>	
3-pole	Approx. 16.5kg
6-pole	Approx. 31.5kg
<b>Enclosure material</b>	
3-pole	Glass-fibre reinforced polyester
6-pole	Steel, powder-coated
<b>Enclosure colour</b>	
3-pole	Black
6-pole	White
<b>Auxiliary contact</b>	1 x NO making - lagging; breaking - leading 1 x NC making - lagging; breaking - leading
<b>Padlocking</b>	Can be locked in OFF position with 3 commercially available padlock

<sup>1)</sup> Other ambient temperature or request

# Ex-safety switch 180A

## Ordering information

Safety switch 180 A with 2 auxiliary contacts (1 x NO, 1 x NC)

Version	Cable entry	Order No.
3-pole	2xM63/1xM25	GHG 266 0006 R0001
3-pole EMERGENCY STOP	2xM63/1xM25	GHG 266 0006 R0002
6-pole	4xM63/1xM25	EXKO 224716 L 0000
6-pole EMERGENCY STOP	4xM63/1xM25	EXKO 224726 L 0000

\* Customized version on request, auxiliary contacts in Ex ia available

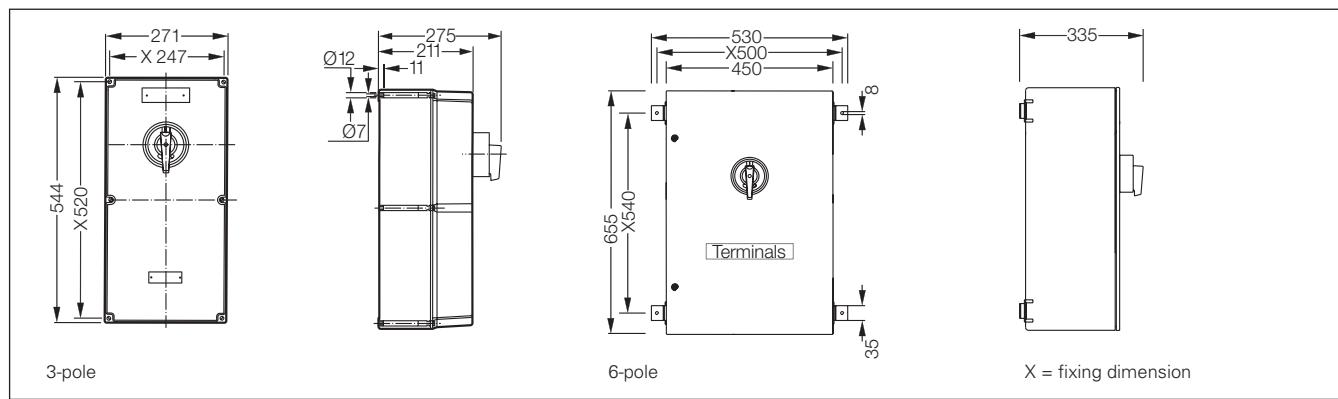
## Accessories

Mounting plate for Ex-safety switch 180 A 3-pole

Type	Application	Fixing method	Order No.
3	2 x pipe mounting	screw-on	GHG 610 1953 R0110

Please refer to 2.1.32-2.1.35 for the detailed information of mounting plates.

## Dimension



# CEAG GHG25 safety switches and switch disconnectors

## Applications

- Provides motor control and disconnect protection for Zone 1, 2, 21 and 22 hazardous areas
- Isolates the power supply on electrical installations and apparatus during maintenance, cleaning and repair work
- Can be protected against inadvertent switching on by our integrated locking design with up to three padlocks in the OFF position
- High isolating and switching capacities for safer operations
- Designed for high-reliability in industrial areas: chemical plants, paint manufacturing plants and oil and gas refineries



## Standards

- IEC 60079-0 / EN IEC 60079-0 general requirements
- IEC 60079-1 / EN IEC 60079-1 flameproof requirements "d"
- IEC 60079-7 / EN IEC 60079-7 increased safety requirements "e"
- IEC 60079-31 / EN 60079 protection by enclosure "t"

## Certificates and markings

- BVS 20 ATEX E 094 X; IECEEx BVS 20.0076 X
- ATEX marking:  
II 2G Ex db eb IIC/IIB T6/T5/T4 Gb  
II 2D Ex tb IIIC T80 °C Db
- IECEEx marking:  
Ex db eb IIC/IIB T6/T5/T4 Gb  
Ex tb IIIC T80 °C Db

2

## Standard materials and finishes

- Enclosure – GRP black (Glass-Fibre Reinforced Polyester) or Stainless Steel (AISI 316L)
- Gasket – Silicone, foamed
- Lid screws – M4 / M6 captive screws (304 stainless steel)
- Mounting plates and protective canopies - Glass-Fibre Reinforced Polyester

## Technical specifications

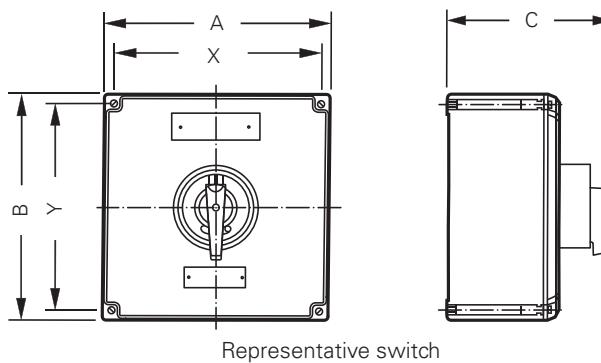
- Ambient temperature range: -55°C up to +55°C
- 30,000 switching cycles electrical and mechanical lifetime
- Connecting terminals:  
Main contact: 1 x 2.5 - 16 mm<sup>2</sup>, 2 x 1.5 - 10 mm<sup>2</sup>  
Auxiliary contact 1NO: 1 x 0.5 - 2.5 mm<sup>2</sup> (pin cable lug),  
1 x 2.5 - 16 mm<sup>2</sup>  
Auxiliary contact: 1 x 0.5 - 2.5 mm<sup>2</sup>, 2 x 0.5 - 1.5 mm<sup>2</sup>
- Environmental degree of protection: IP66
- High impact resistance: IK 09
- Enclosure mounting – 4 holes for M4 to M6 screws
- Retrofittable auxiliary contacts

## Electrical ratings

- Rated operating voltage (Ue): 690V - 50/60Hz; 60/120V DC
- Rated operating current (Ie): max 32A
- Back-up fuse 50A gG short circuit current limitation
- Isolating functions (IEC/EN 60947-3), AC-3, DC-23 switching capacity

## Dimensions and weights:

Enclosure type	A (mm)	B (mm)	C (mm)	X (mm)	Y (mm)	Weight (kg)
GRP Size 1	110	170	129	96	150	1.54
GRP Size 2	140	225	156	123 - 126	197	2.00
GRP Size 3	271	271	200	247	247	3.15
Stainless Steel Size 2	175	392.5	216	109.5	362.5	4.55
Stainless Steel Size 3	312.5	392.5	216	247	362.5	6.44



# CEAG GHG25 safety switches and switch disconnectors

## Ordering details - Switch Disconnector:



Enclosure type	Cross section	Load			Auxiliary contact 1No <sup>2)</sup>	Enclosure material		Cable entries	Order No.
		20 A	25 A	32 A		GRP	GRP + internal earth plate + stud		
<b>Switch-disconnector 3-pole</b>									
<b>Size 1</b>	2.5 mm <sup>2</sup>	X			X	X		2x M32, 1x M25	GHG2521311R0303
<b>Size 1</b>	4.0 mm <sup>2</sup>	X	X	X	X	X			
<b>Size 2</b>	6.0 mm <sup>2</sup>	X	X	X	X	X		2x M32, 1x M25	GHG2521312R0303
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X	X	X		2x M40, 1x M25	GHG2521313R0309
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X	X	X			
<b>Size 1</b>	2.5 mm <sup>2</sup>	X			X		X	2x M25, 1x M20	GHG2521311R0322
<b>Size 1</b>	4.0 mm <sup>2</sup>	X	X	X	X		X		
<b>Size 2</b>	6.0 mm <sup>2</sup>	X	X	X	X		X	2x M25, 1x M20	GHG2521312R0322
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X	X		X	2x M32, 1x M20	GHG2521313R0328
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X	X		X		
<b>Size 2</b>	2.5 mm <sup>2</sup>	X	X		X		X	2x M25, 1x M20	GHG2521322R0341
<b>Size 2</b>	4.0 mm <sup>2</sup>	X	X	X	X		X		
<b>Size 2</b>	6.0 mm <sup>2</sup>	X	X	X	X		X		
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X	X		X	2x M32, 1x M20	GHG2521323R0345
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X	X		X		
<b>Switch-disconnector 4-pole</b>									
<b>Size 1</b>	2.5 mm <sup>2</sup>	X				X		2x M32, 1x M25	GHG2521411R0003
<b>Size 1</b>	4.0 mm <sup>2</sup>	X	X	X		X			
<b>Size 2</b>	6.0 mm <sup>2</sup>	X	X	X		X		2x M32, 1x M25	GHG2521412R0003
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X		X		2x M40, 1x M25	GHG2521413R0009
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X		X			
<b>Size 1</b>	2.5 mm <sup>2</sup>	X					X	2x M25, 1x M20	GHG2521411R0022
<b>Size 1</b>	4.0 mm <sup>2</sup>	X	X	X			X		
<b>Size 2</b>	6.0 mm <sup>2</sup>	X	X	X			X	2x M25, 1x M20	GHG2521412R0022
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X			X	2x M32, 1x M20	GHG2521413R0028
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X			X		
<b>Size 2</b>	2.5 mm <sup>2</sup>	X	X				X	2x M25, 1x M20	GHG2521422R0041
<b>Size 2</b>	4.0 mm <sup>2</sup>	X	X	X			X		
<b>Size 2</b>	6.0 mm <sup>2</sup>	X	X	X			X		
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X			X	2x M32, 1x M20	GHG2521423R0045
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X			X		

<sup>2)</sup> Auxiliary contact in main switch as NO

# CEAG GHG25 safety switches and switch disconnectors

## Ordering details - Switch Disconnector:



Enclosure type	Cross section	Load			Auxiliary contact 1No <sup>2</sup>	Enclosure material		Cable entries	Order No.
		20 A	25 A	32 A		GRP	GRP + internal earth plate + stud		
<b>Switch-disconnector 6-pole</b>									
<b>Size 3</b>	2.5 mm <sup>2</sup>	X	X			X			
<b>Size 3</b>	4.0 mm <sup>2</sup>	X	X	X		X			
<b>Size 3</b>	6.0 mm <sup>2</sup>	X	X	X		X			
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X		X			
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X		X			
<b>Size 3</b>	2.5 mm <sup>2</sup>	X	X				X		
<b>Size 3</b>	4.0 mm <sup>2</sup>	X	X	X			X		
<b>Size 3</b>	6.0 mm <sup>2</sup>	X	X	X			X		
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X			X		
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X			X		
<b>Size 3</b>	2.5 mm <sup>2</sup>	X	X					X	
<b>Size 3</b>	4.0 mm <sup>2</sup>	X	X	X				X	
<b>Size 3</b>	6.0 mm <sup>2</sup>	X	X	X				X	
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X				X	
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X				X	
<b>Size 3</b>	2.5 mm <sup>2</sup>	X	X		X	X			
<b>Size 3</b>	4.0 mm <sup>2</sup>	X	X	X	X	X			
<b>Size 3</b>	6.0 mm <sup>2</sup>	X	X	X	X	X			
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X	X	X			
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X	X	X			
<b>Size 3</b>	2.5 mm <sup>2</sup>	X	X		X		X		
<b>Size 3</b>	4.0 mm <sup>2</sup>	X	X	X	X		X		
<b>Size 3</b>	6.0 mm <sup>2</sup>	X	X	X	X		X		
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X	X		X		
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X	X		X		
<b>Size 3</b>	2.5 mm <sup>2</sup>	X	X		X			X	
<b>Size 3</b>	4.0 mm <sup>2</sup>	X	X	X	X			X	
<b>Size 3</b>	6.0 mm <sup>2</sup>	X	X	X	X			X	
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X	X			X	
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X	X			X	

<sup>2</sup> Auxiliary contact in main switch as NO

# CEAG GHG25 safety switches and switch disconnectors

## Ordering details - Safety Switches:



Enclosure type	Cross section	Load			Auxiliary contact 1No <sup>2</sup>	Enclosure material		Cable entries	Order No.
		20 A	25 A	32 A		GRP	GRP + internal earth plate + stud		
<b>Safety switch 3-pole</b>									
<b>Size 1</b>	2.5 mm <sup>2</sup>	X			X	X			
<b>Size 1</b>	4.0 mm <sup>2</sup>	X	X	X	X	X		2x M32, 1x M25	GHG2522311R0303
<b>Size 2</b>	6.0 mm <sup>2</sup>	X	X	X	X	X		2x M32, 1x M25	GHG2522312R0303
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X	X	X			
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X	X	X		2x M40, 1x M25	GHG2522313R0309
<b>Size 1</b>	2.5 mm <sup>2</sup>	X			X		X		
<b>Size 1</b>	4.0 mm <sup>2</sup>	X	X	X	X		X	2x M25, 1x M20	GHG2522311R0322
<b>Size 2</b>	6.0 mm <sup>2</sup>	X	X	X	X		X	2x M25, 1x M20	GHG2522312R0322
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X	X		X		
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X	X		X	2x M32, 1x M20	GHG2522313R0328
<b>Size 2</b>	2.5 mm <sup>2</sup>	X	X		X		X		
<b>Size 2</b>	4.0 mm <sup>2</sup>	X	X	X	X		X	2x M25, 1x M20	GHG2522322R0341
<b>Size 2</b>	6.0 mm <sup>2</sup>	X	X	X	X		X		
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X	X		X		
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X	X		X	2x M32, 1x M20	GHG2522323R0345
<b>EMERGENCY STOP 3-pole</b>									
<b>Size 1</b>	2.5 mm <sup>2</sup>	X			X	X			
<b>Size 1</b>	4.0 mm <sup>2</sup>	X	X	X	X	X		2x M32, 1x M25	GHG2524311R0303
<b>Size 2</b>	6.0 mm <sup>2</sup>	X	X	X	X	X		2x M32, 1x M25	GHG2524312R0303
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X	X	X			
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X	X	X		2x M40, 1x M25	GHG2524313R0309
<b>Size 1</b>	2.5 mm <sup>2</sup>	X			X		X		
<b>Size 1</b>	4.0 mm <sup>2</sup>	X	X	X	X		X	2x M25, 1x M20	GHG2524311R0322
<b>Size 2</b>	6.0 mm <sup>2</sup>	X	X	X	X		X	2x M25, 1x M20	GHG2524312R0322
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X	X		X		
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X	X		X	2x M32, 1x M20	GHG2524313R0328
<b>Size 2</b>	2.5 mm <sup>2</sup>	X	X		X		X		
<b>Size 2</b>	4.0 mm <sup>2</sup>	X	X	X	X		X		
<b>Size 2</b>	6.0 mm <sup>2</sup>	X	X	X	X		X	2x M25, 1x M20	GHG2524322R0341
<b>Size 3</b>	10.0 mm <sup>2</sup>	X	X	X	X		X		
<b>Size 3</b>	16.0 mm <sup>2</sup>	X	X	X	X		X	2x M32, 1x M20	GHG2524323R0345

<sup>2</sup> Auxiliary contact in main switch as NO

# CEAG GHG25 safety switches and switch disconnectors

## Ordering details - Safety Switches:



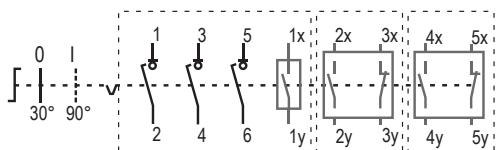
Enclosure type	Cross section	Load			Auxiliary contact 1No <sup>2</sup>	GRP	Enclosure material		Cable entries	Order No.
		20A	25 A	32 A			GRP + internal earth plate + stud	Stainless Steel + ext. earth stud		
<b>EMERGENCY STOP 6-pole</b>										
Size 3	2.5 mm <sup>2</sup>	X	X		X	X			4x M32, 1x M25	GHG2522613R0302
Size 3	4.0 mm <sup>2</sup>	X	X	X	X	X				
Size 3	6.0 mm <sup>2</sup>	X	X	X	X	X				
Size 3	10.0 mm <sup>2</sup>	X	X	X	X	X				
Size 3	16.0 mm <sup>2</sup>	X	X	X	X	X				
Size 3	2.5 mm <sup>2</sup>	X	X		X		X		4x M25, 1x M20	GHG2522613R0322
Size 3	4.0 mm <sup>2</sup>	X	X	X	X		X			
Size 3	6.0 mm <sup>2</sup>	X	X	X	X		X			
Size 3	10.0 mm <sup>2</sup>	X	X	X	X		X			
Size 3	16.0 mm <sup>2</sup>	X	X	X	X		X			
Size 3	2.5 mm <sup>2</sup>	X	X		X			X	4x M25, 1x M20	GHG2522623R0341
Size 3	4.0 mm <sup>2</sup>	X	X	X	X			X		
Size 3	6.0 mm <sup>2</sup>	X	X	X	X			X		
Size 3	10.0 mm <sup>2</sup>	X	X	X	X			X		
Size 3	16.0 mm <sup>2</sup>	X	X	X	X			X		

2

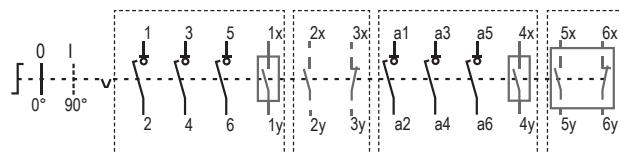
## Ordering details: Accessories:

Type	Description	Order No.
<b>Auxiliary switches, coupling set and pin cable lugs</b>		
Ex - d Aux switch	1 NC	GHG2593251R0001
Ex - d Aux switch	1 NO	GHG2593241R0001
Ex - d Aux switch	1 NO + 1 NC	GHG2593211R0001
Ex-i Upgrading kit		GHG2501903R0001
Coupling set for 2x switch blocks		GHG2501901R0001
Set of pin cable lugs for Aux	(2x 0.5 - 1mm <sup>2</sup> , 2x 1.5 – 2.5mm <sup>2</sup> )	GHG2501904R0001
Set of pin cable lugs for Aux	(10x 0.5 - 1mm <sup>2</sup> , 10x 1.5 – 2.5mm <sup>2</sup> )	GHG2501904R0002

## Circuit diagrams



3pol. Main Switch c/w aux NO / optional aux / optional aux



3pol. Main Switch c/w aux NO / optional aux / 3pol.  
Main Switch c/w aux NO / optional aux

# CEAG GHG25 safety switches and switch disconnectors

## Ordering details: Accessories:

Type	Fixing method	Order No.
<b>Mounting plate for Size 1 safety switches and switch disconnectors</b>		
Wall mounting	snap on	GHG6101953R0104
Pipe clamp	snap on	GHG6101953R0105
Trellis-work mounting	snap on	GHG6101953R0106
<b>Mounting plate for Size 2 safety switches and switch disconnectors</b>		
Wall mounting	snap on	GHG6101953R0118
Pipe clamp	snap on	GHG6101953R0110
Trellis-work mounting	snap on	GHG6101953R0118
<b>Mounting plate for Size 3 safety switches and switch disconnectors</b>		
Pipe clamp (2X)	screw-on	GHG6101953R0110



Type	OU	Order No.
<b>Mounting plate accessories</b>		
Label holder with type label (blank) for mounting plate size 2 and 3	10	GHG6101953R0057
Mounting hardware for pipes 1" ( $\varnothing$ 27 - 30 mm) for pipe clamp mounting plates	10	GHG6101953R0020

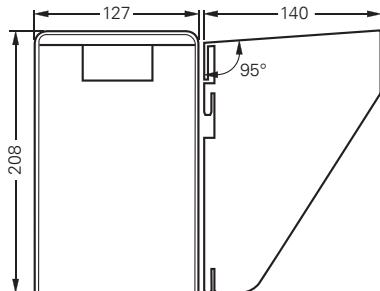
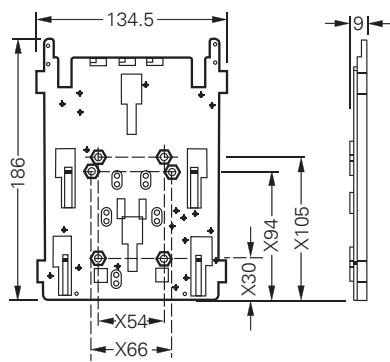


Protective canopy  
(Requires mounting plate for installation)

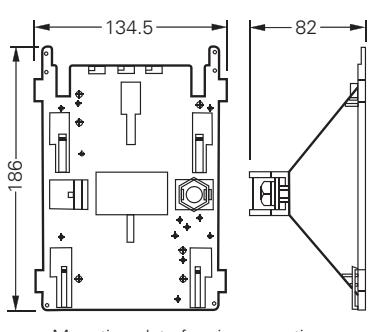
Type	Application notes	Order No.
<b>Protective canopy - requires mounting plate for installation</b>		
Canopy for size 1 safety switches and switch disconnectors		GHG6101955R0102
Canopy for size 2 safety switches and switch disconnectors	installs on pipe clamp mounting plates only	GHG6101955R0104
Canopy for size 3 safety switches and switch disconnectors		GHG6101955R0106

## Dimensions: Mounting plates and canopies

For size 1 safety switches and switch disconnectors



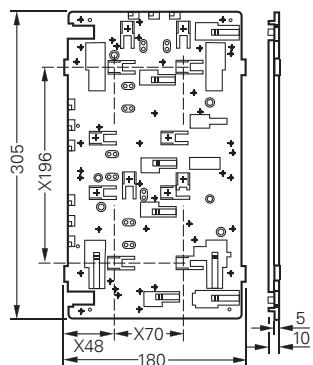
Protective canopy for wall, trellis  
and pipe clamp mounting plates



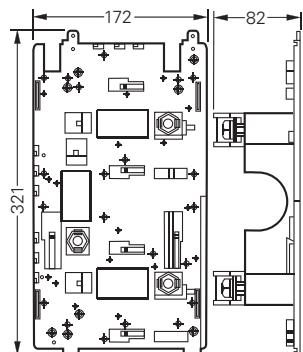
# CEAG GHG25 safety switches and switch disconnectors

## Dimensions: Mounting plates and canopies

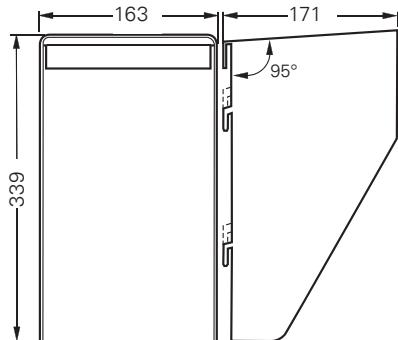
For size 2 safety switches and switch disconnectors



Mounting plate for wall/trellis mounting



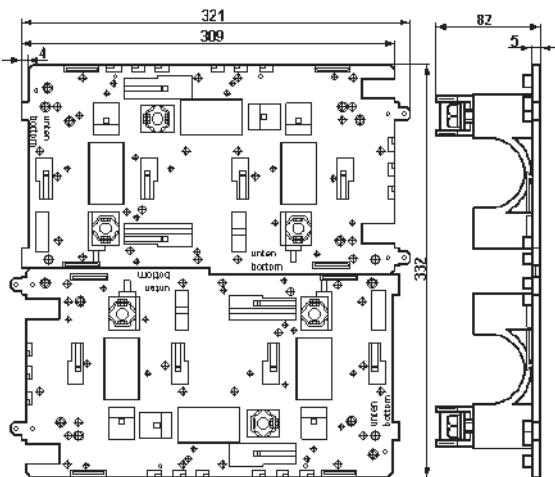
Mounting plate for pipe clamp mounting



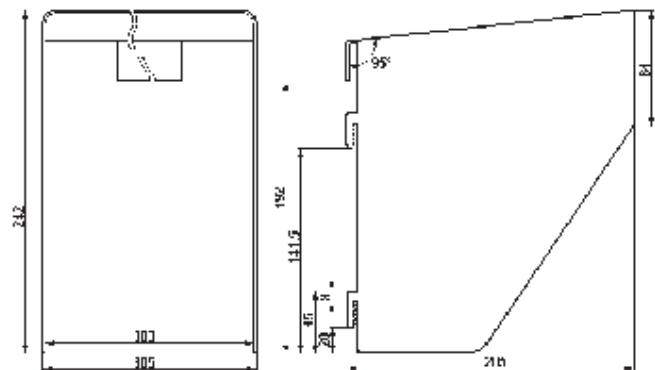
Protective canopy for pipe clamp mounting plates

2

For size 3 safety switches and switch disconnectors



Mounting plate for pipe clamp mounting  
(2 plates installed horizontally)



Protective canopy for pipe mounting plates

# Ex-control switches GHG292 and GHG293

## Product introduction

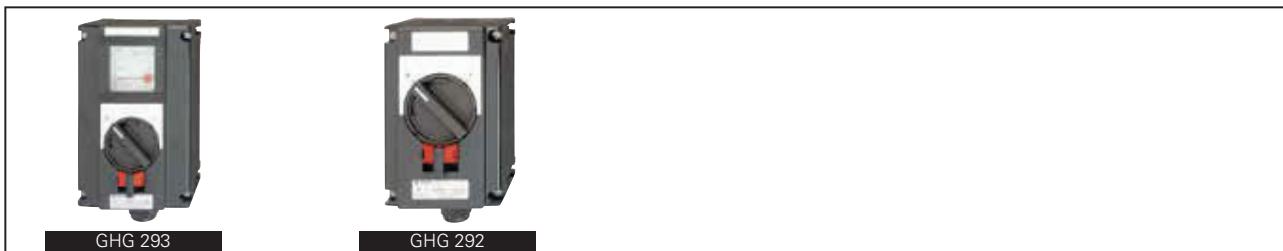
The explosion-protected control switches are for use in the Zones 1, 2, 21 and 22. The series features are easy-to-install and easy-to-connect design. This control switch can be implemented with up to 6 contacts and for 2 to 5 switch positions. Thus, almost all applications in modern control engineering can be covered.

## Product features

- Original packaging from Germany is in high quality.
- The impact-resistant, glass-fibre-reinforced polyester enclosure material is a prerequisite for withstanding even the most rugged industrial operating conditions.
- A labyrinth seal in the cover guarantees the degree of protection IP66. It is suitable for all indoor or outdoor environment with safety and reliability.
- Easily accessible connection terminals.
- Have a terminal cross section up to 6mm<sup>2</sup>.
- Integrated locking facility.
- Significant cost saving with the CEAG mounting system.



# Ex-control switches (GHG292/GHG293)



Ex-control switch type 292 without and type 293 with measuring instrument

## Technical data

	With GHG29 Switch	With GHG28 Switch
<b>EC-type examination certificate</b>	PTB 99 ATEX 1163	PTB 99 ATEX 1163
<b>GB-certification of conformity</b>	CCC	CCC
<b>IECEx-certification of conformity</b>	IECEx BKI 07.0011	IECEx BKI 07.0011
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de ia IIC T5 /T6 / Ex II 2 D IP66 T 80°C	Ex II 2 G Ex de ia IIC T5 /T6 / Ex II 2 D IP66 T 80°C
<b>Marking acc. to IECEx</b>	Ex de ia IIC T5 or T6 Ex tD A21 IP66 T49°C	Ex de ia IIC T5 or T6 Ex tD A21 IP66 T49°C
<b>Application temperature</b>	-20°C ~ 40°C -55°C ~ +47°C (T6)...+55°C (T5) (option)	-20°C ~ 40°C -55°C ~ +47°C (T6)...+55°C (T5) (option)
<b>Rated voltage</b>	up to 500 V	up to 690V
<b>Rated current</b>	16A	20A
<b>Rated current gold contacts</b>	0.4A	0.4A
<b>Overload range (Type GHG293 only)</b>	10 fold - 25 sec. 25 fold - 4 sec. 50 fold - 1 sec. Indicated 1:1.5	10 fold - 25 sec. 25 fold - 4 sec. 50 fold - 1 sec. Indicated 1:1.5
<b>Measuring range (Type GHG293 only)</b>	Max. 0-25 A direct/n/1A	Max. 0-25 A direct/n/1A
<b>Accuracy (Type GHG293 only)</b>	Class 2.5	Class 2.5
<b>Circuit (Type GHG293 only)</b>	Moving iron	Moving iron
<b>Rated marking - /</b>	230V/6A	230V/8A
<b>Rated breaking capacity AC15</b>	400V/4A	400V/6A
<b>Rated marking - /</b>	24V/2A	24V/6A
<b>Rated breaking capacity DC3</b>	230V/0.3A	230V/0.4A
<b>Connecting terminals</b>	2x0.5-2.5mm <sup>2</sup> or 1x1.0-6.0mm <sup>2</sup>	2x0.5-2.5mm <sup>2</sup> or 1x1.0-6.0mm <sup>2</sup>
<b>Degree of protection</b>	IP66	IP66
<b>Cable gland/gland plates/</b>	1xM25 (Ø8-17mm) <sup>1)</sup>	1xM25 (Ø8-17mm) <sup>1)(2)</sup>
<b>Enclosure drilling</b>		
<b>Dimension (L x W x H)</b>	170x110x129mm	225x110x129mm
<b>Weight</b>	Approx. 1.1kg (1 level) Approx. 1.25kg (2 level) Approx. 1.40kg (3 level)	Approx. 1.9kg (1 level) Approx. 2.05kg (2 level) Approx. 2.20kg (3 level)
<b>Enclosure materia</b>	Polyamide	Polyamide
<b>Enclosure colour</b>	Black	Black

<sup>1)</sup> A brass base-plate for mounting metal cable gland is available.

<sup>2)</sup> Brass flange for metal entries available on request (except for II D at date of publication).

# Ex-control switches (GHG292/GHG293)

## Ordering logic

A	B1	B2	C	D	E	E2	F
<b>GHG 29</b>							

Code	Component	Code
A	Control switch	GHG 292
	Control switch with measuring instrument	GHG 293

Code	Switch mechanism	Code
B1	spring - engaging - spring	4
	engaging - engaging - engaging	5
	engaging - engaging	6
	spring - engaging - engaging	7
	engaging - engaging - spring	8

Code	Silver contact points	Code	Silver contact points	Code
B2		060		034
		062		037
		065		049
		061		023
		063		019
		067		033
		011		024

Gold contact products on request

2

Code	Label	Content	Code	Content	Code
C	O	I	001	O	I
	I	II	002	AUS	AUTO
	STOP	START	003	AUS	HAND
	HAND	AUTO	004	ÖRTLICH	AUS
	SENKEN	HEBEN	005	START	NORMAL
	REMOTE	LOCAL	006	OFF	O
	I	O	007	HAND	OFF
	AUS	BETRIEB	008	O	IN
	AUS	O	009	MAN	AUTO
	AUF	O	010	START	STOP
	Entriegelt	O	011	HEBEN	SENKEN
	OUT	OF	012	OFF	ON
	LOCAL	REMOTE	013	AUS	EIN
	STOP	O	014	HAND	AUTO
	HAND	O	015	ON	OFF
	AUF	AUS	016	I	II
	HAND	AUS	017		III

# Ex-control switches (GHG292/GHG293)

<b>Code</b>	<b>Locking facility</b>	<b>Code</b>
D	None <input type="checkbox"/>	0
	Centre <input checked="" type="checkbox"/>	1
	Left <input checked="" type="checkbox"/>	2
	Right <input checked="" type="checkbox"/>	3

<b>Code</b>	<b>Movement</b>	<b>Code</b>
	Direct connection	01
	Ct connection 1 / A	02
	Connecting 0 - 20/24 mA (scale 0 - 100% / 120%)	05
	Connecting 4 - 20/24 mA (scale 0 - 100% / 120%)	06
	Moving-coil connection 0 - 20/24 mA (scale 0 - 100% / 120%)	07
	Moving-coil connection 4 - 20/24 mA (scale 0 - 100% / 120%)	08

<b>Code</b>	<b>Measuring range/scale</b>	<b>Code</b>	<b>Measuring range/scale</b>	<b>Code</b>
E2	0-1	002	0-75/112.5A	013
	0-2.5/3.75A2)	003	0-100/150A	014
	0-5/7.5A2)	004	0-150/225A	015
	0-10/15A2)	005	0-200/300A	016
	0-15/22.5A	006	0-250/375A	017
	0-20/30A2)	008	0-300/450A	018
	0-30/45A	009	0-400/600A	019
	0-40/60A	010	0-500/750A	020
	0-50/75A	011	0-600/900A	021
	0-60/90A	012	0-100%/150%	031

<b>Code</b>	<b>Cable entry</b>	<b>Inscription</b>	<b>Code</b>
F1	Entry type	Entry direct in enclosure	GEH
		Entry via plastic flange	FLK
		Entry via metal flange	FLM
F2	Entry element	Only threaded entry	BO
		Cable entry moulded plastic	GK
		Cable entry metal	GM*
F3	Size	Cable entry with plug	GV
		M12, M16, M20, M25, M32, M40	M...
		Ø21, Ø26	Ø...
F4	Number	No. of entries	...

\* The code will represent only a selected part of configuration.

2

## Example for ordering code

GHG 293 with silver contact points, switch mechanism "5", contact arrangement "063"

Label "HAND-0-AUTO", CAN BE LOCKED AT "0"

Measuring instrument AM72 for Ct connection "n/1A", scale "0-50/75A"

Cable entry 1 x threaded entry M25 on bottom direct entry

<b>Code A</b>	<b>B1</b>	<b>B2</b>	<b>C</b>	<b>D</b>	<b>E1</b>	<b>E2</b>	<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>
GHG293/	5/	063/	015/	1/	2/	011/	GEH/	BO/	M25/	1

# Ex-control switches (GHG292/GHG293)

## Accessories

### Mounting plate for type 292

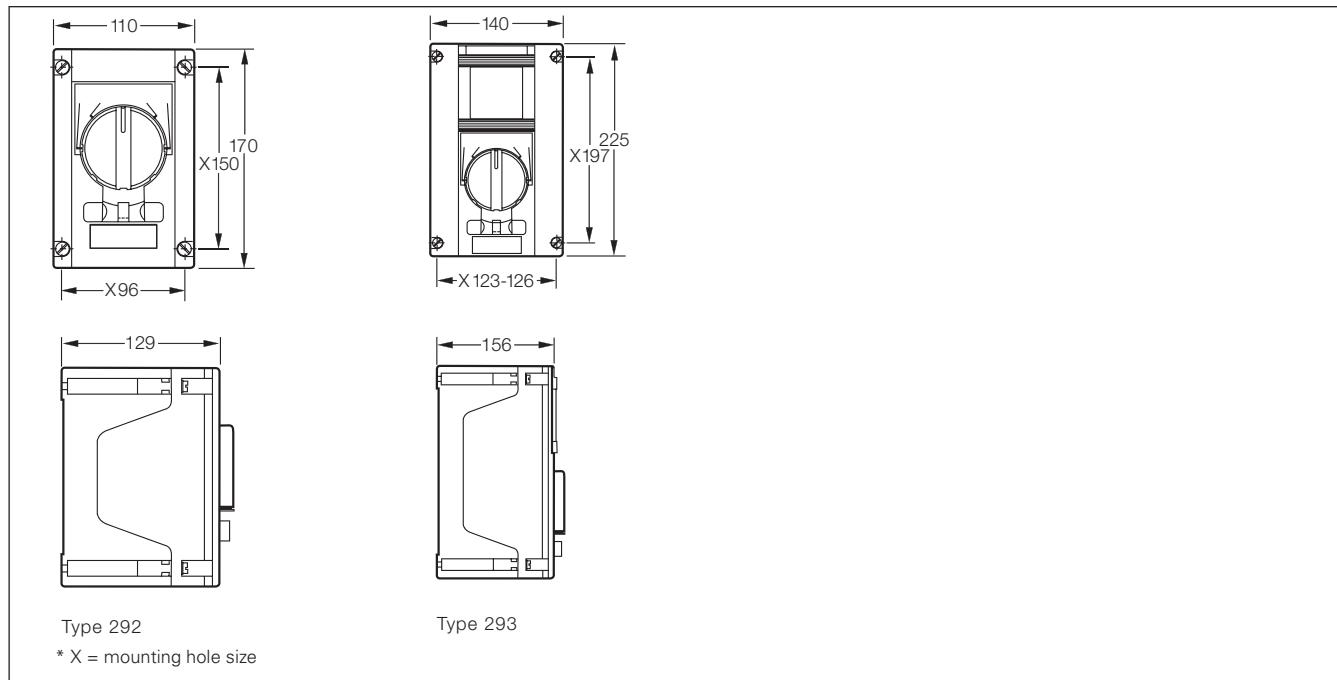
Type	Application	Mounting technique	OU	Order No.
2	wall mounting	snap-on	1	GHG 610 1953 R0104
2	pipe mounting	snap-on	1	GHG 610 1953 R0105
2	trellis-work mounting	snap-on	1	GHG 610 1953 R0106
4	wall mounting	snap-on	1	GHG 610 1953 R0128
4	trellis-work mounting	snap-on	1	GHG 610 1953 R0128
4	pipe mounting	snap-on	1	GHG 610 1953 R0132

### Mounting plate for type 293

Type	Application	Mounting technique	OU	Order No.
3	wall mounting	snap-on	1	GHG 610 1953 R0118
3	pipe mounting	snap-on	1	GHG 610 1953 R0110
3	trellis-work mounting	snap-on	1	GHG 610 1953 R0118
5	wall mounting	snap-on	1	GHG 610 1953 R0128
5	trellis-work mounting	snap-on	1	GHG 610 1953 R0128
5	pipe mounting	snap-on	1	GHG 610 1953 R0132
Snap-on mounting accessories			10	GHG 610 1953 R0041

Snap-on mounting for apparatus with 5.5 mm and min. package

## Dimension



# ESA control switch

## Product introduction

ESA isolating control switch is for use in the Gas-Ex-Areas of Zone 1/Zone 2 classification, which can be used as motor isolators and for MCB to 63A.



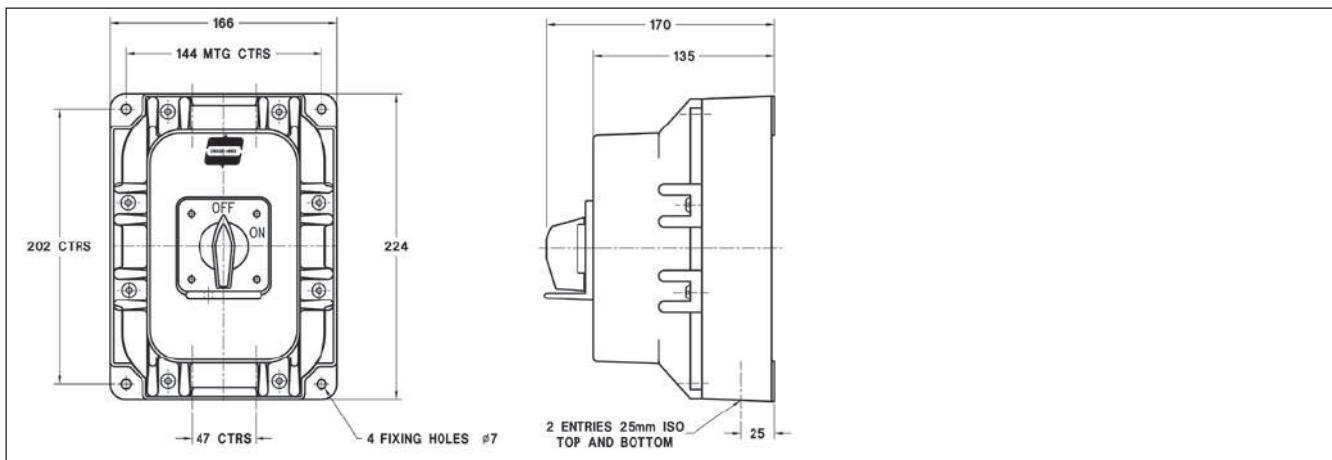
## Technical data

Certificate of conformity	ANZEx04.3023
Type of protection	Exd
Degree of protection	IP66/67
Gas group	IIB
Standard materials	Enclosure - cast aluminium Operating handle, shaft & bush - stainless steel Cover screws - stainless steel

## Dimension

Catalogue No.	ACI current rating	No. of poles	AC3 max KW rating
<b>Isolating switches</b>			
ESA 203-C26	32 Amps	4	11 KW
ESA 203-C32	40 Amps	4	15 KW
ESA 203-C42	63 Amps	4	18.5 KW
ESA K400 KG32	32 Amps	4	11KW
ESA K400 KG41	40 Amps	4	15KW
ESA K400 KG64	63 Amps	4	18.5KW
<b>Change over switches (with centre off)</b>			
ESA 212-C26	32 Amps	3	11KW
ESA 211-C32	40 Amps	2	15 KW
ESA 211-C42	63 Amps	2	18.5 KW
<b>Change over switches (without centre off)</b>			
ESA 222-C26	32 Amps	3	11KW
ESA 221-C32	40 Amps	2	15 KW
ESA 221-C42	63 Amps	2	18.5 KW
<b>Reversing switches</b>			
ESA 401E-C26	32 Amps	3	11 KW
ESA 622E-C26	32 Amps	1	11 KW

2



# EMD control station

## Product introduction

EMD explosion-protected control station is for use in the Gas-Ex-Areas of Zone 1/Zone 2 classification, which can be used where earthing is required to:

- Provide earth connection to prevent static build up
- Monitor earth continuity
- Activate alarms & shut down process when earth connection is interrupted.

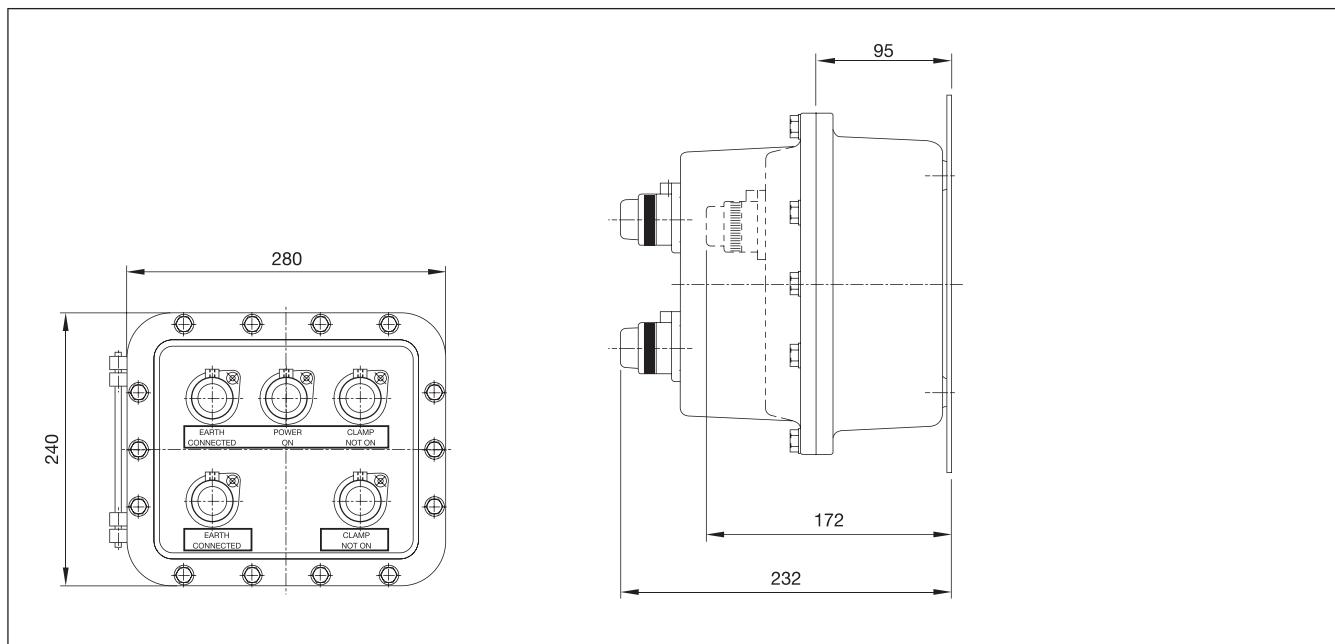


## Technical data

Certificate of conformity	ANZ Ex07.3049X
Type of protection	Exd ib
Degree of protection	IP66
Gas group	IIC (H2)
Standard materials	Body & cover - copper free Aluminium Gasket - neoprene Cover screws - stainless steel Grey polyurethane finish

## Ordering information

Description	Part No.	Weight
Single unit c/w earth clamp	EJBA783-EMD1	14kg
Double unit c/w earth clamp	EJBA786-EMD2	19kg
Single unit c/w earth clamp & by-pass switch	EJBA786-EMD1-BP	20kg



# EMA motor starter

## Product introduction

EMA direct-on-line motor starter is for use in the Gas-Ex-Areas of Zone 1/Zone 2 classification, which can be used for DOL starting of polyphase and single phase AC induction motors.



## Technical data

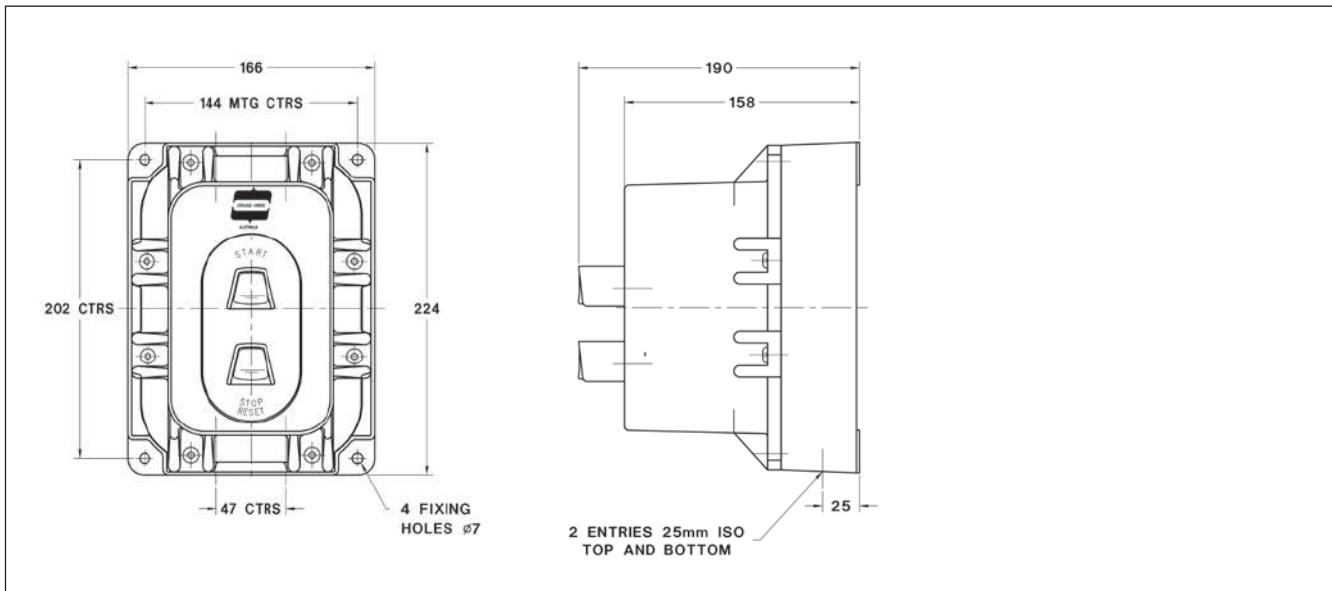
Certificate of conformity	ANZEx04.3000
Type of protection	Exd
Degree of protection	IP67
Gas group	IIB
Standard materials	Enclosure - copper free Aluminium Push button shafts & cover screws & bushes - Stainless steel Push buttons & guards - type 6/6 nylon

## Technical data

Catalogue No.	Rating (KW)	Current overload range (A)
EMA11SS.25KW	0.25	0.63 - 1.0
EMA11SS.55KW	0.55	1.0 - 1.7
EMA11SS1.5KW	1.1/1.5	2.5 - 4.0
EMA11SS2.2KW	2.2	4.0 - 6.8
EMA11SS5.5KW	4.1/5.5	9.0 - 13.0
EMA11SS7.5KW	7.5	12.0 - 18.0
EMA11SS11KW	11	16.0 - 23.0
EMA11SS15KW	15	23.0 - 32.0
EMAB11SS22KW	22	40.0 - 52.0
EMAB11SS37KW	37	58 - 72

2

## Dimension



# Ex-control station

## Product introduction

The explosion-protected control stations are for use in the Zones 1, 2, 21 and 22. To provide remote means of motor control closing or disconnecting control circuit via send out orders or control program.



## Product features

- The enclosures consist of low-temperature impact-resistant thermoplastic which provides a high resistance to chemicals.
- Wide components which can meet all requirement.
- Original package from germany with Independent certificated Exed components.
- Easily able to mount control and signal components with accuracy position.
- The well through-out design with low side walls allows optimum cable connection.

## The ordering logic for GHG411, GHG 413, GHG 414, GHG432, GHG434control stations (customize):

The order code is consisted of enclosure, components, label / accessory and cable entry/flange.

### Part I: Enclosure

<input type="checkbox"/>				
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

2

### Part II: Components (Max. 4)

A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	C <input type="checkbox"/> <input type="checkbox"/>	D1 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	D2 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	E <input type="checkbox"/> <input type="checkbox"/>	F <input type="checkbox"/>
--	---	---	---	---	----------------------------

### Part III: Label and accessory

A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
---	----------------------------	---

### Part IV: Cable entry and flange

A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/> <input type="checkbox"/>	D <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	E <input type="checkbox"/>
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# Ex-control station

## Quick selection

### Enclosure of GHG 411.8 (compact)

Dimension (W x L x H, mm)

85x85x77.5    85x125x77.5    85x165x77.5    122x120x81    220x120x81    166x140x76    286x140x76    100x156x90    100x245x90



GHG41181



GHG41182



GHG41183



GHG41384



GHG41385

### Enclosure of GHG42. (standard)

166x140x76

286x140x76

100x156x90

100x245x90



GHG41481



GHG41482



GHG432



GHG434

### Internal components

DRT	DDT
Pushbutton (0, STOP=white/red)(1, START=white/black)	Double pushbutton

SGTE
Mushroom-head emergency stop pushbutton Red, lockable

SGT
Mushroom-head pushbutton Yellow non-lockable

SLT
Key-operated pushbutton, two positions Key removable

SLS "I-0-II"
Key-operated pushbutton, three positions Key removable

Blind plug

KLM
Terminal 6x2x4mm <sup>2</sup> +1xPE

SIL
Signal lamp Yellow, green, red, white

Position No.	2NC	2NO	INC/1NO	2NC	2NO	INC/1NO
4						
3						
2						
1						

2NC	2NO	INC/1NO

2NC	2NO	INC/1NO

2NC	2NO	INC/1NO

2NO



20-250V AC/DC

Only one component for each position.

### SCT mini-control switch



Please refer to the detailed products information in catalog or contact the sales.

### Cable gland is mounted in the bottom of enclosure which is up to two (choose the number)



M20 with plug  
M25 with plug



M20 with plug  
M25 with plug



M20 metal cable gland  
6-12mm, 8-16mm



M20 metal cable gland  
8.5mm-16mm, 12-21mm  
M25 metal cable gland  
12-21mm, 16-27.5mm

M20	M25

M20	M25

M20	M25

M20	M25



# Part I: enclosure GHG 411/432/434

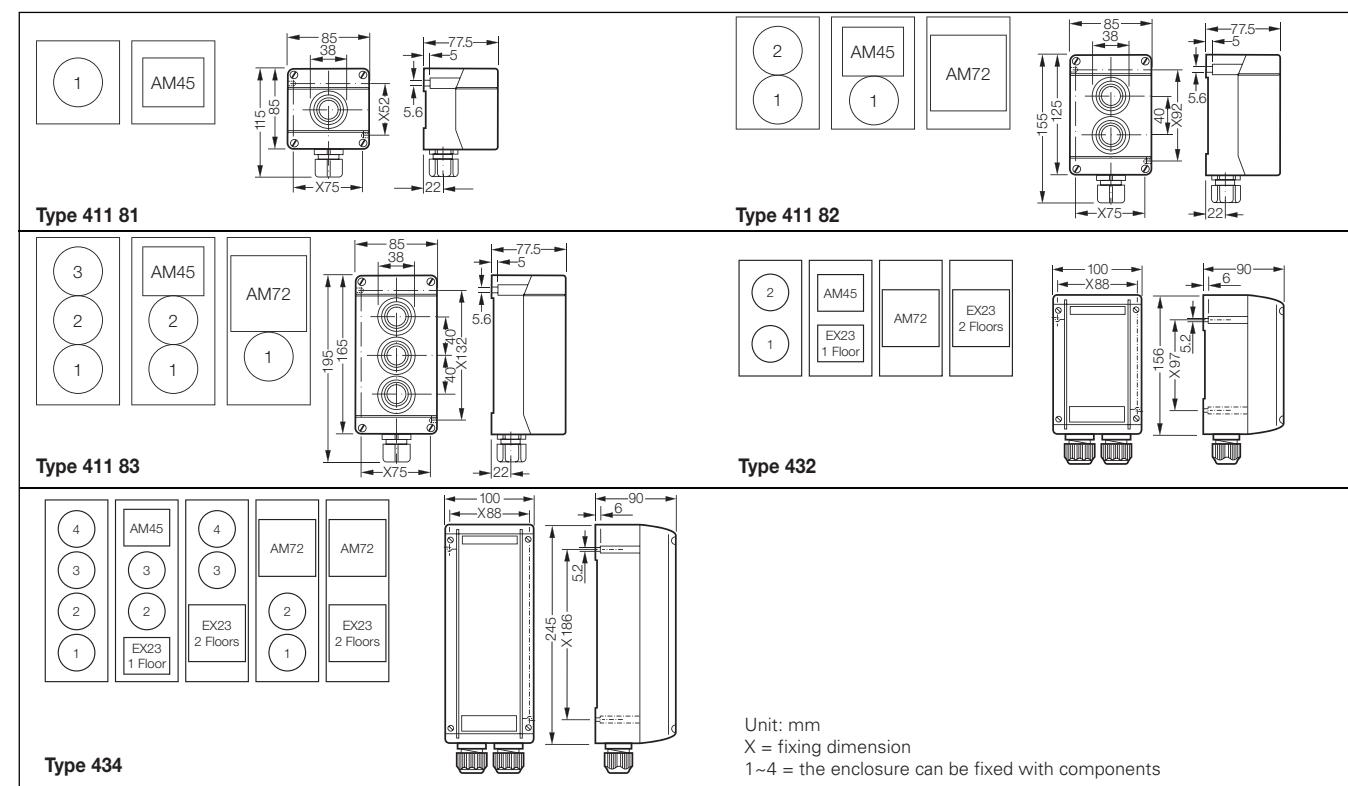


## GHG41181, GHG41182, GHG41183, GHG432, GHG434

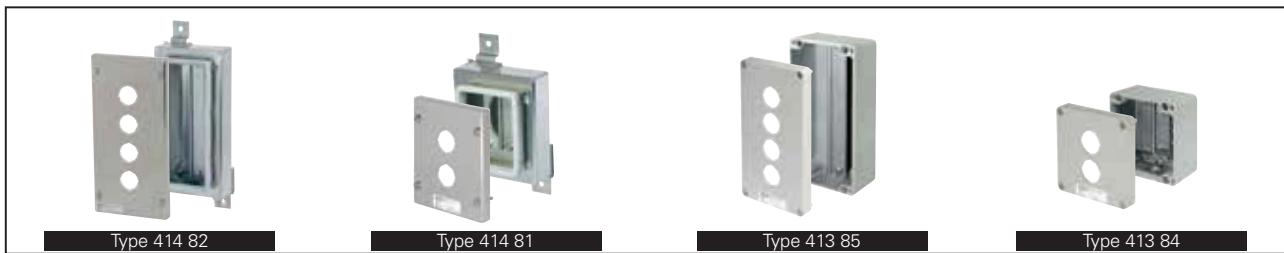
### Technical data

<b>EC-type examination certificate</b>	PTB 00 ATEX 3117/PTB 99 ATEX 1044
<b>GB-certification of conformity</b>	CCC
<b>IECEx-certification of conformity</b>	IECEx BKI 04.0003/IECEx BKI 07.0023
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex e II T6 / Ex e ib IIC T6/Ex de ib IIC T6 Ex II 2 D IP66 T80°C
<b>Marking acc. to IECEx</b>	Ex e II T6, Ex e ib IIC T6, Ex de IIC T6, Ex de ib IIC T6
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C(option)
<b>Rated voltage</b>	690V
<b>Rated current</b>	16A
<b>Connecting terminals</b>	2x4mm <sup>2</sup>
<b>Degree of protection</b>	IP66 acc. to EN 60529
<b>Insulation class</b>	I
<b>Enclosure material</b>	Polyamide
<b>Enclosure colour</b>	Black

### Dimension



# Enclosure GHG 413/414

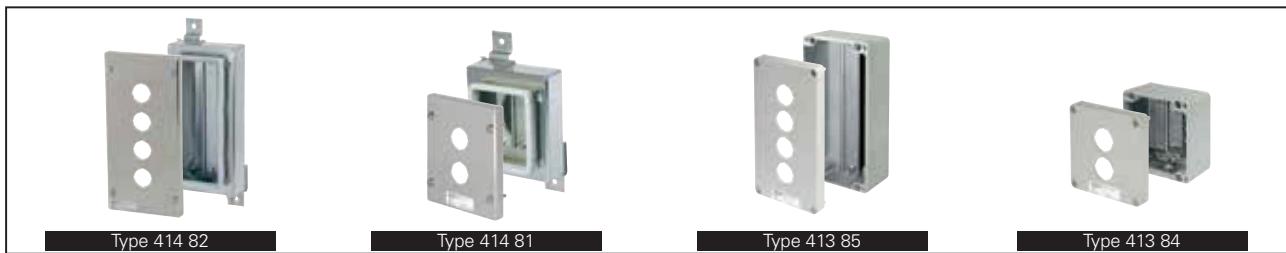


## Technical data

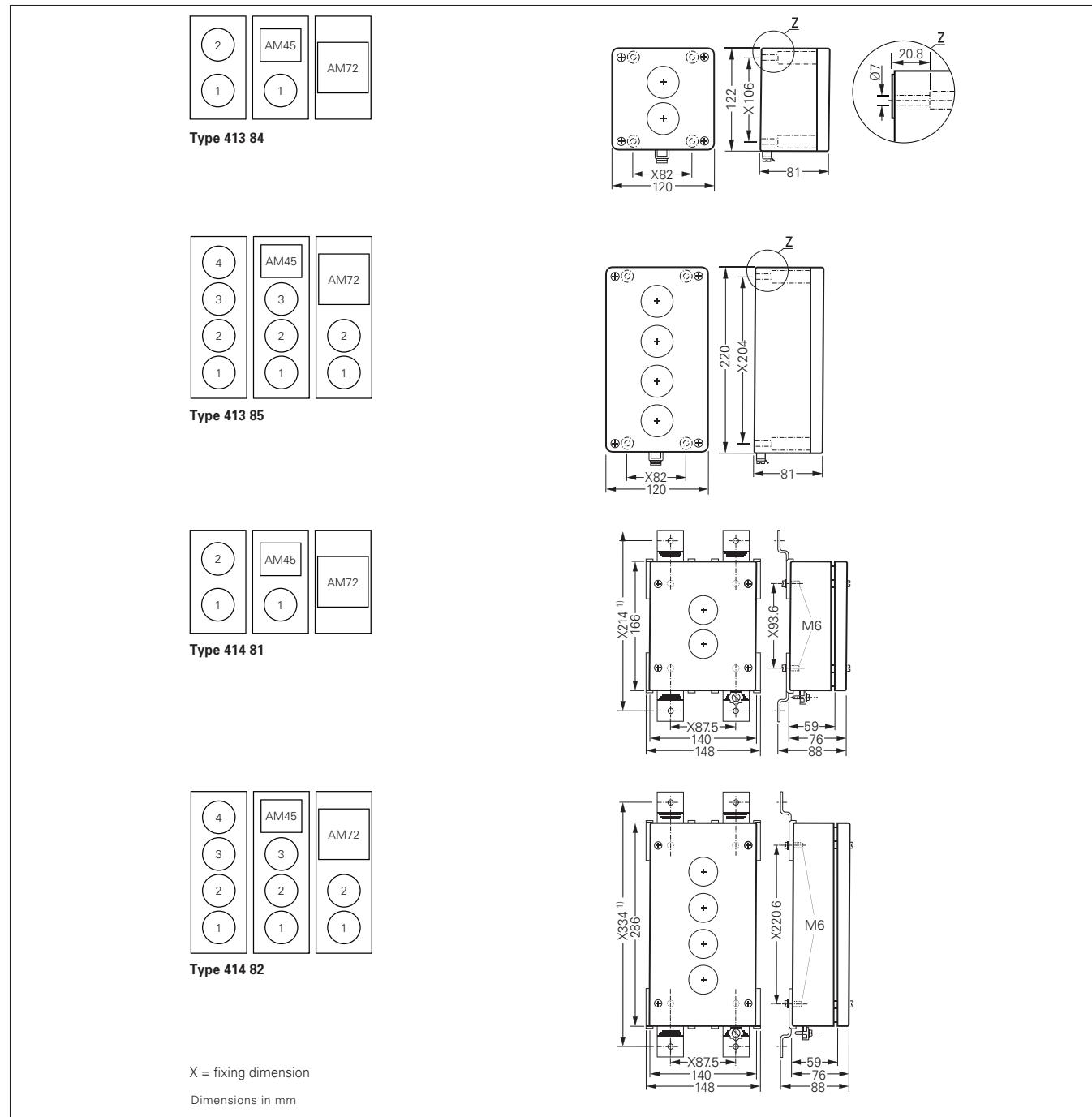
Ex-control stations type 413. and 414. for individual configuration		
<b>EC-type examination certificate</b>	PTB 00 ATEX 3117 <sup>1)</sup>	
<b>IECEx certificate of conformity</b>	IECEx BKI 04.0003 <sup>1)</sup>	
<b>GB-certification of conformity</b>	CCC	
<b>Marking accd. to 2014/34/EU</b>	Ex II 2 G Ex ed ib m IIC T6 <sup>1)</sup> Ex II 2 D Ex tD A21 IP66 T80 °C	
<b>Marking accd. to IECEx</b>	Ex e II T6, Ex e ib IIC T6, Ex ed IIC T6 or Ex ed ib IIC T6 <sup>1)</sup>	
<b>Permissible ambient temperature</b>	-20 °C up to +40 °C <sup>1)</sup> -55 °C up to +55 °C (option)	
<b>Rated voltage</b>	690 V AC	
<b>Rated current</b>	16 A	
<b>Connecting terminals</b>	see technical data for built-in components	
<b>PE-connecting terminals</b>	2 x 4 mm <sup>2</sup>	
<b>Protection class</b>	I	
<b>Degree of protection accd. to EN 60529</b>	IP66 (standard)	
<b>Type 413 84</b>	<b>Type 413 85</b>	
Cable glands/Gland plates/Enclosure drilling	max. 2 x M25; 2 x M20	max. 2 x M25; 2 x M20
Dimensions (L x W x H)	122 x 120 x 81 mm	220 x 120 x 81 mm
Weight (empty)	0.85 kg	1.45 kg
Enclosure material	cast aluminium-silicon (AISI)	cast aluminium-silicon (AISI)
Enclosure colour	grey RAL 7031	grey RAL 7031
Components arrangement	2 mounting areas	4 mounting areas
<b>Type 414 81</b>	<b>Type 414 82</b>	
Cable glands/Gland plates/Enclosure drilling	max. 3 x Ø 21 for cable gland M20 max. 2 x Ø 25.5 for cable gland M25	max. 4 x Ø 21 for cable gland M20 max. 2 x Ø 25.5 for cable gland M25
Dimensions (L x W x H)	166 x 140 x 76 mm	286 x 140 x 76 mm
Weight (empty)	1.40 kg	2.10 kg
Enclosure material	stainless steel AISI 316 L	stainless steel AISI 316 L
Enclosure colour	polished	polished
Components arrangement	2 mounting areas	4 mounting areas

<sup>1)</sup> Data for ready configurated product

# Enclosure GHG 413/414



## Mounting areas I Dimension drawing



# Enclosure GHG 44\* 23



Type 444 23



Type 448 23



Type 449 23



Type 447 23

## GHG44423, GHG44823, GHG44923, GHG44723 series

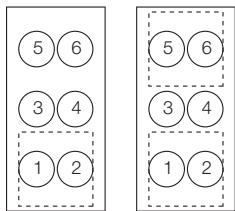
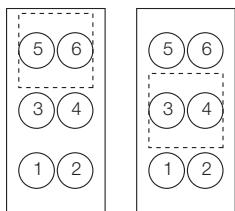
### Technical data

<b>EC-type examination certificate</b>	BVS22ATEX-E-0066/PTB 99 ATEX 1044
<b>GB-certification of conformity</b>	CCC
<b>IECEx-certification of conformity</b>	IECEx-BVS22.0008/IECEx BKI 07.0023
<b>Marking acc. to ATEX</b>	II 2 G Ex e II T6 / Ex e ib IIC T6/Ex de ib IIC T6 II 2 D IP66 T80°C/95°C
<b>Marking acc. to IECEx</b>	Ex de ia/b m [ia/b] IIC T4-T6, Ex tD A21 IP66 T80°C
<b>Marking acc. to GB</b>	Ex de e ia/b [ia/b] mb IIC T4~T6 Gb DIP A21 TA 80°C/95°C IP66
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C(option)
<b>Rated voltage</b>	690V
<b>Rated current</b>	40A
<b>Connecting terminals</b>	See technical data for components
<b>PE-connection terminals</b>	2x4mm <sup>2</sup>
<b>Degree of protection</b>	IP66 acc.to EN 60529
<b>Insulation class</b>	I
<b>Enclosure material</b>	Glass-fibre reinforced polyester
<b>Enclosure colour</b>	Black

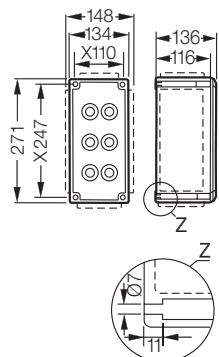
# Enclosure GHG 44\* 23

**GHG44423, GHG44823, GHG44923, GHG44723 series**

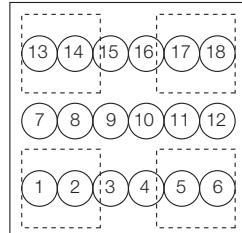
## Dimension



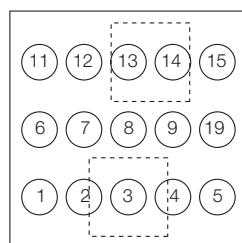
Distance between centres 40,  
50 and 60mm for positioning  
of built-in components.



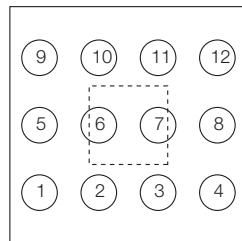
GHG44423



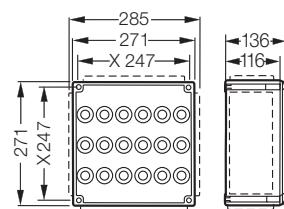
Distance between centre 40 mm



Distance between centres 50mm



Distance between centres 60mm



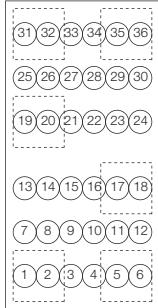
GHG44823

X = fixing dimension

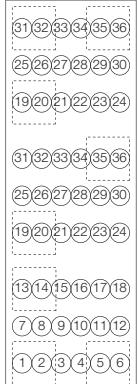
# Enclosure GHG 44\* 23

**GHG44423, GHG44823, GHG44923, GHG44723 series**

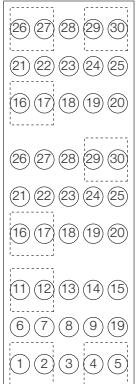
## Dimension



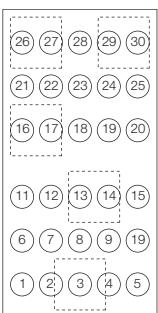
Distance between centres 40mm



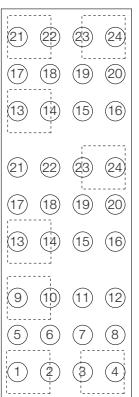
Distance between centres 40mm



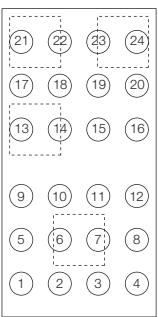
Distance between centres 50mm



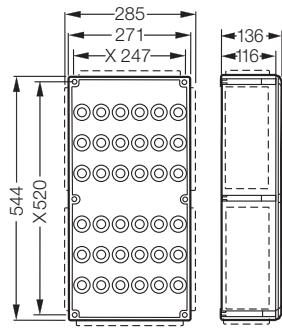
Distance between centres 50mm



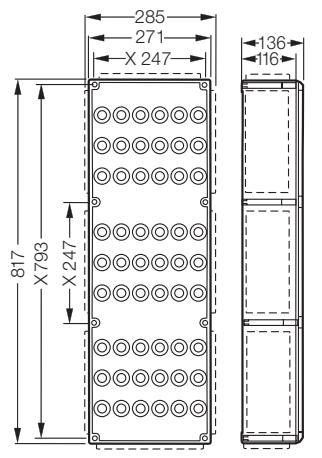
Distance between centres 60mm



Distance between centres 60mm



GHG44923



GHG44723

X = fixing dimension

# Enclosure GHG 44\* 33



## Technical data

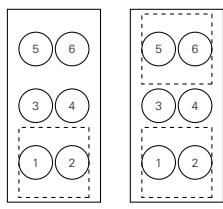
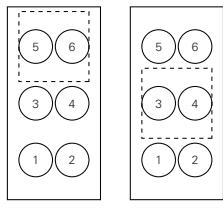
Ex-control stations Typ 444, 448, 449, and 447 stainless steel for individual configuration	
<b>EC-type examination certificate</b>	PTB 99 ATEX 1044 <sup>1)</sup> /BVS22ATEX-E-006
<b>IECEx certificate of conformity</b>	IECEx BKI 07.0023 <sup>1)</sup> /IECEx-BVS22.0008
<b>GB-certification of conformity</b>	CCC
<b>Marking accd. to 2014/34/EU</b>	☎ II 2 G Ex de ia/b m [ia/b] IIC T6 <sup>1)</sup> ☎ II 2 D Ex tD A21 IP66/IP65 T80 °C Ex de ia/b m [ia/b] IIC T4 .. T6 <sup>1)</sup> Ex tD A21 IP66 T80 °C
<b>Marking accd. to IECEx</b>	
<b>Permissible ambient temperature</b>	-20 °C up to +40 °C <sup>1)</sup> / -55 °C up to +55 °C (option)
<b>Rated voltage</b>	690 V AC
<b>Rated current</b>	40 A
<b>Connecting terminals</b>	see technical data for built-in components
<b>PE-Connecting terminals</b>	2 x 4 mm <sup>2</sup>
<b>Protection class</b>	I
<b>Degree of protection accd. to EN 60529</b>	IP66 (standard)
<b>Cable glands/Gland plates/Enclosure drilling</b>	as ordered accd. to manufacturer's specification
<b>Enclosure material</b>	Stainless steel AISI 316 L
<b>Enclosure colour</b>	polished
<b>Type 444 33</b>	
<b>Connecting terminals</b>	max. 20 terminals UT 4
<b>Dimensions (L x W x H)</b>	312.5 x 175 x 135 mm
<b>Weight (empty)</b>	3.5 kg with mounting framework
<b>Components arrangement</b>	6 mounting areas
<b>Type 448 33</b>	
<b>Connecting terminals</b>	max. 30 terminals UT 4
<b>Dimensions (L x W x H)</b>	312.5 x 312.5 x 135 mm
<b>Weight (empty)</b>	7.5 kg with mounting framework
<b>Components arrangement</b>	distance 40 mm max. 18 mounting areas distance 50 mm max. 15 mounting areas distance 60 mm max. 12 mounting areas
<b>Type 449 33</b>	
<b>Connecting terminals</b>	max. 60 terminals UT 4
<b>Dimensions (L x W x H)</b>	627 x 312.5 x 135 mm
<b>Weight (empty)</b>	11.5 kg with mounting framework
<b>Components arrangement</b>	distance 40 mm max. 36 mounting areas distance 50 mm max. 30 mounting areas distance 60 mm max. 24 mounting areas
<b>Type 447 33</b>	
<b>Connecting terminals</b>	max. 90 terminals UT 4
<b>Dimensions (L x W x H)</b>	941.5 x 312.5 x 135 mm
<b>Weight (empty)</b>	16.5 kg with mounting framework
<b>Components arrangement</b>	distance 40 mm max. 54 mounting areas distance 50 mm max. 45 mounting areas distance 60 mm max. 36 mounting areas

<sup>1)</sup> Data for ready configurated product

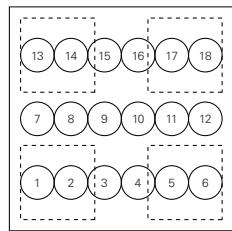
# Enclosure GHG 44\* 33



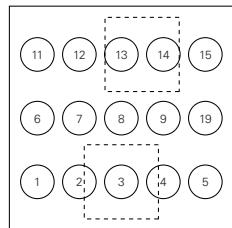
## Mounting areas | Dimension drawing



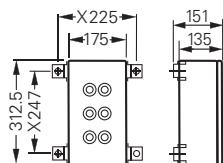
Distance between centres  
40, 50 and 60 mm



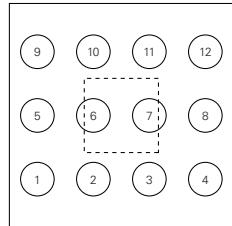
Distance between centres 40 mm



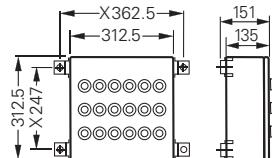
Distance between centres 50 mm



2



Distance between centres 60 mm



Type 444 33

Type 448 33

X = fixing dimension



= mounting space for switch, pushbutton (2-pole) or signal lamp



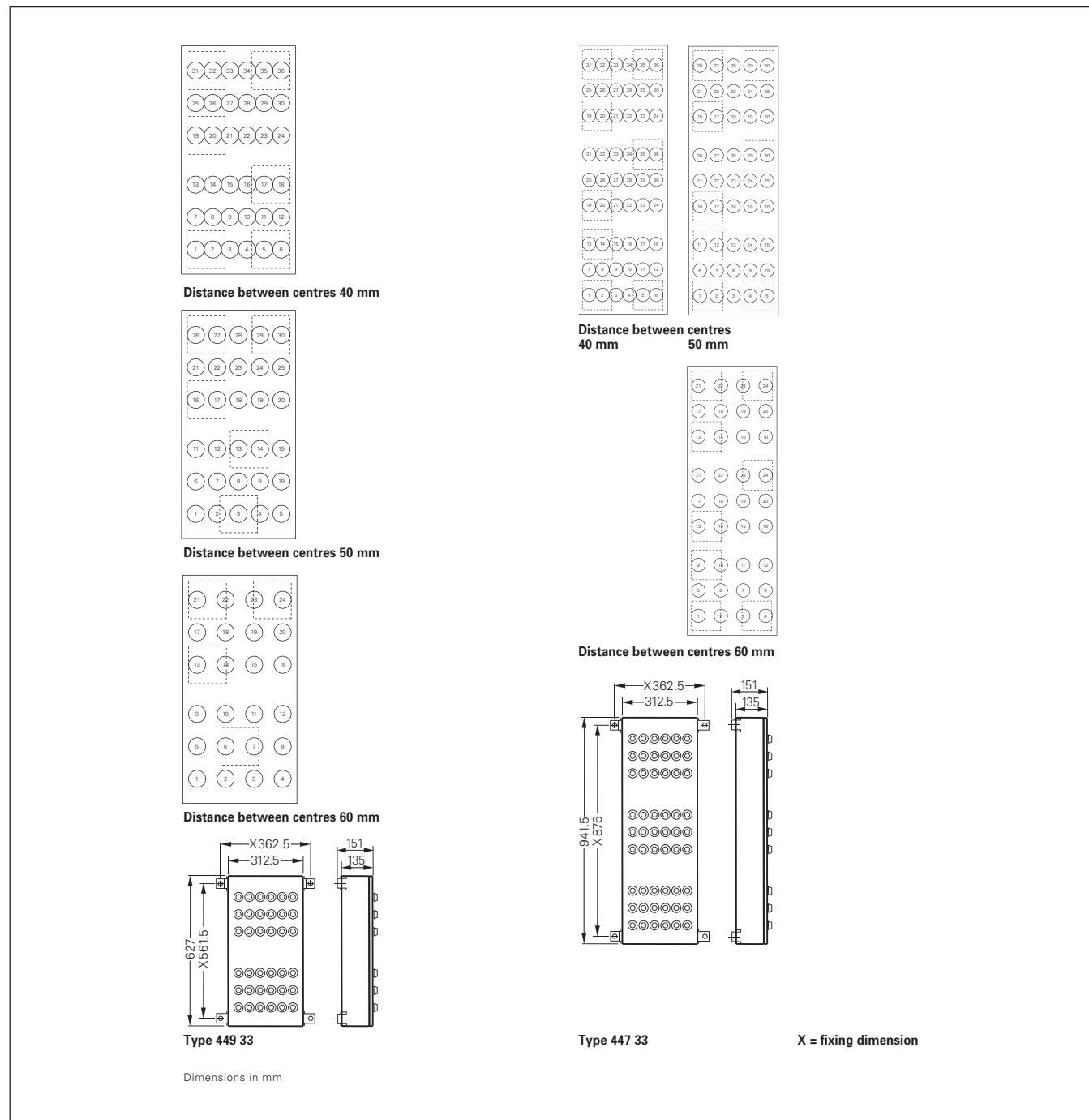
= mounting space for switch, pushbutton (4-pole) ampere- or voltmeter

Dimensions in mm

# Enclosure GHG 44\* 33



## Mounting areas I Dimension drawing



## Part II: component

2

Double pushbutton DDT



Pushbutton DRT



Signal lamp SIL



Measuring instrument AM72



Mushroom-head pushbutton SGT



Control switch SCT

Key-operated pushbutton SLT and key-operated switch SLS



Control switch GHG 23

Terminal block KLM



Potentiometer POT



# DRT pushbutton and DDT double pushbutton



## Technical data

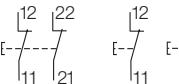
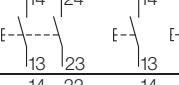
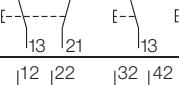
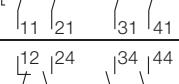
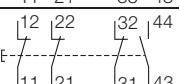
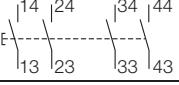
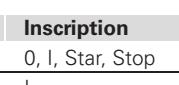
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de IIC / Ex I M2 Ex de I
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C(option)
<b>Rated voltage</b>	500V AC
<b>Rated current</b>	16A
<b>Rated current gold contacts</b>	0.4A
<b>Switching capacity</b>	400V/16A AC-1/ 400V/ 4A AC-11
<b>Degree of protection</b>	IP66 acc. to EN 60529
<b>Type of mounting</b>	DIN rail mounting
<b>Gasket material</b>	Neoprene (standard), fluoric silicone or viton on request
<b>Enclosure colour</b>	Grey
<b>2-Pole Version</b>	
<b>Connecting terminals</b>	2x2.5mm <sup>2</sup>
<b>Dimensions (L x W x H)</b>	59x31x45mm
<b>Weight</b>	0.15kg
<b>4-Pole Version</b>	
<b>Connecting terminals</b>	4x2.5mm <sup>2</sup>
<b>Dimensions (L x W x H)</b>	59x73x45mm
<b>Weight</b>	0.35kg

<sup>1)</sup>The 2-pole pushbutton needs one mounting area. The 4-pole pushbutton needs two mounting areas.

# DRT pushbutton and DDT double pushbutton

## Ordering code for component

Code	Component	Code
A	Pushbutton, for enclosure mounting	DRT
	Double pushbutton, for enclosure mounting	DDT

Code	Contact system	Contact	Code	
			Silver contact points	Gold contact points
C	2NC		13	16
	2NO		14	17
	1NO+1NC		15	18
	4NC		20	25
	1NC+3NO		21	26
	2NC+2NO		22	27
	3NC+1NO		23	28
	4NO		24	29

2

Code	Label	Inscription	Code	Inscription	Code
D1, D2		0, I, Star, Stop	001	0	002
	I	003	II	004	
		005	STOP	006	
	START	007	NOT-AUS	008	
	LANGSAM	009	SCHNELL	010	
	EMERG.STOP	011	-	012	
	ARRET	014	MARCHE	015	
	AUF	016	AB	017	
	Neutral whtie	018	Neutral green	019	
	0,I,Arret,Marche	020	UP	024	
	DOWN	025	ZU	026	
	ON	027	OFF	028	
	+	030	-	031	
	Neutral red	033	Neutral yellow	034	
	EIN	036	AUS	037	
	AUTO	039	HAND	050	
	SENKEN	051	HEBEN	052	
	LINKS	053	RECHTS	054	
	FAST	055	SLOW	056	
	RESET	057	OPEN	058	

For example:

Pushbutton, 2NC, silver contact points, standard label (0. 1. Start. Stop)  
DRT 13 001

# SLT key-operated pushbutton



## Technical data

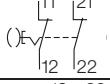
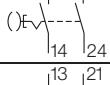
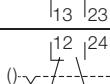
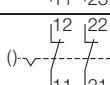
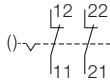
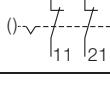
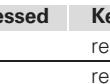
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de IIC / M2 Ex de
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C(option)
<b>Rated voltage</b>	500V AC
<b>Rated current</b>	16A
<b>Rated current gold contacts</b>	0.4A
<b>Switching capacity</b>	400V/16A AC-1/ 400V/ 4A AC-11
<b>Degree of protection</b>	IP66 acc. to EN 60529
<b>Type of mounting</b>	DIN rail mounting
<b>Gasket material</b>	Neoprene (standard), fluoric silicone or viton on request
<b>Enclosure colour</b>	Grey
<b>Lock</b>	CEAG1 (others on request)
<b>2-pole version</b>	
<b>Connecting terminals</b>	2x2.5mm <sup>2</sup>
<b>Dimensions (L x W x H)</b>	59x31x45mm
<b>Weight</b>	0.15kg
<b>4-pole version</b>	
<b>Connecting terminals</b>	4x2.5mm <sup>2</sup>
<b>Dimensions (L x W x H)</b>	59x73x45mm
<b>Weight</b>	0.35kg

<sup>1)</sup>The 2-pole pushbutton needs one mounting area. The 4-pole pushbutton needs two mounting areas.

# SLT key-operated pushbutton

## Ordering code for component

Code	Component	Code
A	Key-operated pushbutton	SLT

Code	Contact system	Contact	Code	
			Silver contact points	Gold contact points
C	2NC	(  )	13	16
	2NO	(  )	14	17
	1NO+1NC	(  )	15	18
	4NO	(  )	20	25
	1NC+3NO	(  )	21	26
	2NC+2NO	(  )	22	27
	3NC+1NO	(  )	23	28
	4NC	(  )	24	29

2

Code	Pushbutton not pressed	Key	Pushbutton pressed	Key	Code
D	lockable	removable	lockable	removable	10
	lockable	removable	lockable	not removable	11
	lockable	removable	not lockable	not removable	12
	lockable	not removable	lockable	removable	13
	not lockable	not removable	lockable	removable	14
	not lockable	removable	auto lockable	removable	15

For example:

Key-operated pushbutton, 2NC, silver contact points; function: lockable/removable/lockable/removable  
SLT 13 10

# SLS key-operated pushbutton



## Technical data

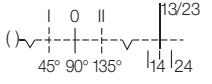
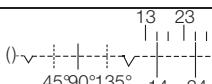
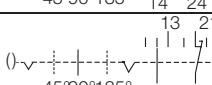
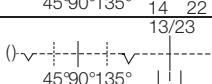
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de IIC / M2 Ex de
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C (option)
<b>Rated voltage</b>	500V AC
<b>Rated current</b>	16A
<b>Rated current gold contacts</b>	0.4A
<b>Switching capacity</b>	400V/16A AC-1/ 400V/ 4A AC-11
<b>Switching system</b>	Engaging-engaging-engaging
<b>Degree of protection</b>	IP66 acc. to EN 60529
<b>Type of mounting</b>	DIN rail mounting
<b>Gasket material</b>	Neoprene (standard), fluoric silicone or viton on request
<b>Enclosure colour</b>	Grey
<b>Lock</b>	CEAG1 (others on request)
<b>2-pole version</b>	
<b>Connecting terminals</b>	2x2.5mm <sup>2</sup>
<b>Dimensions (L x W x H)</b>	59x31x45mm
<b>Weight</b>	0.15kg
<b>4-pole version</b>	
<b>Connecting terminals</b>	4x2.5mm <sup>2</sup>
<b>Dimensions (L x W x H)</b>	59x73x45mm
<b>Weight</b>	0.35kg

<sup>1)</sup>The 2-pole pushbutton needs one mounting area. The 4-pole pushbutton needs two mounting areas.

# SLS key-operated pushbutton

## Ordering code for component

Code	Component	Code
A	Key-operated pushbutton	SLS5

Code	Contact system	Contact	Code	
			Silver contact points	Gold contact points
C	2NO		04	14
	2NO		05	15
	4NO		24	34
	2NO		23	33
	4NO		25	35

Code	Label	Code
D	I O II	01
	Fem 0 Ort	02
	Hand 0 Auto	03

Other labels on request

For example:  
 Key-operated switch, 2NO, silver contact points, label "I O II"  
 SLS5 04 01

# SGTE emergency stop pushbutton and SGT mushroom-head pushbutton



## Technical data

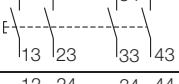
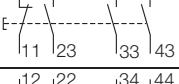
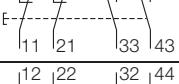
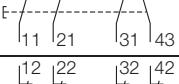
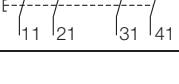
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de IIC / M2 Ex de
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C (option)
<b>Rated voltage</b>	500V AC
<b>Rated current</b>	16A
<b>Rated current gold contacts</b>	0.4A
<b>Switching capacity</b>	400V/16A AC-1/ 400V/ 4A AC-11
<b>Switching system</b>	Engaging-Engaging-Engaging
<b>Degree of protection</b>	IP66 acc. to EN 60529
<b>Type of mounting</b>	DIN rail mounting
<b>Gasket material</b>	Neoprene (standard), fluoric silicone or viton on request
<b>Enclosure colour</b>	Grey
<b>2-pole version</b>	
<b>Connecting terminals</b>	2x2.5mm <sup>2</sup>
<b>Dimensions (L x W x H)</b>	59x31x45mm
<b>Weight</b>	0.15kg
<b>4-pole version</b>	
<b>Connecting terminals</b>	4x2.5mm <sup>2</sup>
<b>Dimensions (L x W x H)</b>	59x73x45mm
<b>Weight</b>	0.35kg

<sup>1)</sup>The 2-pole pushbutton needs one mounting area. The 4-pole pushbutton needs two mounting areas.

# SGTE emergency stop pushbutton and SGT mushroom-head pushbutton

## Ordering code for component

Code	Component	Code
A	Mushroom-head pushbutton	SGT
	Mushroom-head emergency stop pushbutton	SGTE

Code	Contact system	Contact	Code	
			Silver contact points	Gold contact points
C	2NC		13	16
	2NO		14	17
	1NO+1NC		15	18
	4NC		20	25
	1NC+3NO		21	26
	2NC+2NO		22	27
	3NC+1NO		23	28
	4NO		24	29

2

Code	Label	Inscription	Code
D		Emergency stop (German - English) <sup>1)</sup>	1
		Emergency stop (German - French) <sup>1)</sup>	4
		0, I, START, STOP	001
		0	002
		I	003
		II	004
			005
		STOP	006
		START	007
		LANGSAM	009
		SCHNELL	010
		-	012
		ARRET	014
		MARCHE	015
		0, I, Arret, Marche	020
		UP	024
		DOWN	025
		ZU	026
		ON	027
		OFF	028
		+	030
		-	031

# SGTE emergency stop pushbutton and SGT mushroom-head pushbutton

Code	Label	Colour	Code
E		red <sup>1)</sup>	1
		yellow <sup>2)</sup>	2
		black <sup>2)</sup>	3
Code	Function	Released	Engaged
F		not lockable	not lockable
		not lockable	lockable
		not lockable	lockable
			Unlocking
			n/a (pushbutton function)
			key released
			hand released
			1 <sup>2)</sup>
			2
			3

<sup>1)</sup> only SGTE

<sup>2)</sup> only SGT

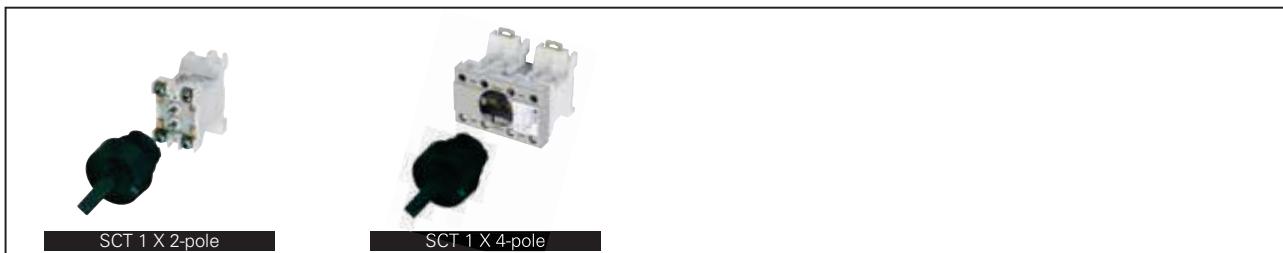
For example:

Mushroom-head emergency stop pushbutton, 2NC, "0, 1, Start, Stop" label, red, silver contact points, hand-released

SGT 0 13 01 1 2



# SCT mini-control switch



## Technical data

<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de IIC / M2 Ex de
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C (option)
<b>Rated voltage</b>	500V AC
<b>Rated current</b>	16A
<b>Rated current gold contacts</b>	0.4A
<b>Switching capacity</b>	400V/16A AC-1/ 400V/ 4A AC-11
<b>Switching system</b>	Engaging-engaging-engaging
<b>Degree of protection</b>	IP66 acc. to EN 60529
<b>Type of mounting</b>	DIN rail mounting
<b>Gasket material</b>	Neoprene (standard), fluoric silicone or viton on request
<b>Enclosure colour</b>	Grey
<b>2-pole version</b>	
<b>Connecting terminals</b>	2x2.5mm <sup>2</sup>
<b>Dimensions (L x W x H)</b>	59x31x45mm
<b>Weight</b>	0.15kg
<b>4-pole version</b>	
<b>Connecting terminals</b>	4x2.5mm <sup>2</sup>
<b>Dimensions (L x W x H)</b>	59x73x45mm
<b>Weight</b>	0.35kg

<sup>1)</sup>The 2-pole pushbutton needs one mounting area. The 4-pole pushbutton needs two mounting areas.

2

## Ordering code for component

Code	Component	Code
A	Mini-control switch	SCT
Code	Switching system	Code
C	spring - engaging - spring	4
	engaging - engaging - engaging	5
	engaging - engaging	6
	spring - engaging - engaging	7
	engaging - engaging - spring	8

# SCT mini-control switch

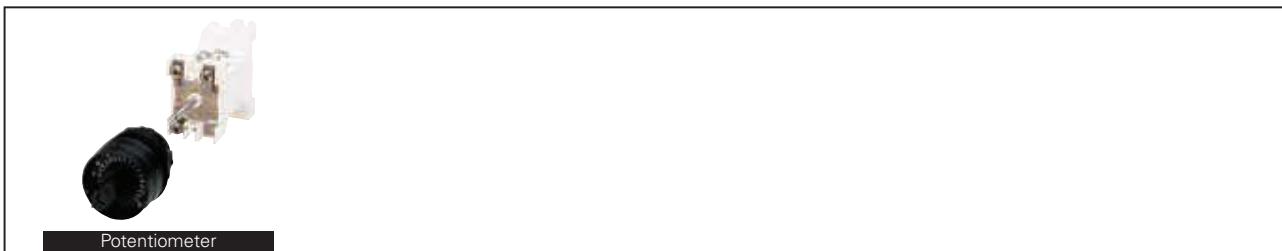
Code	Contact system	Contact	Code	
			Silver contact points	Gold contact points
D			01	11
			02	12
			03	13
			04	14
			05	15
			07	17
			22	32
			23	33
			21	31
			26	36
			25	35
			27	37
			24	34

2

Code	Label	Inscription	Code	Inscription	Code
E	0	I	01	0 I II	18
	I	II	02	AUS EIN	19
	STOP	START	03	AUS HAND AUTO	20
	HAND	AUTO	04	ÖRTLICH AUS FERN	21
	SENKEN	HEBEN	05	START NORMAL STOP	22
	REMOTE	LOCAL	06	OFF 0 ON	23
	I 0	II	07	HAND OFF AUTO	24
	AUS BETRIEB	EIN	08	0 IN START	25
	AUS 0	EIN	09	MAN AUTO	26
	AUF 0	AB	10	START STOP	27
	Entriegelt 0	Verriegelt	11	HEBEN SENKEN	28
	OUT OF	HAND	12	OFF ON	29
	LOCAL REMOTE	AUTO	13	AUS EIN	30

Other labels on request

# POT potentiometer



Potentiometer

## Technical data

<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de IIC / M2 Ex de
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C (option)
<b>Rated voltage</b>	max.250V
<b>Power consumption</b>	max.1W
<b>Resistance range</b>	100-10000Ω
<b>Switching capacity</b>	400V/16A AC-1/ 400V/ 4A AC-11
<b>Tolerance</b>	±20%
<b>Connecting terminals</b>	2x2.5mm <sup>2</sup>
<b>Degree of protection</b>	IP66 acc. to EN 60529
<b>Dimension (L x W x H)</b>	approx. 59x31x45mm
<b>Weight</b>	0.15kg
<b>Type of mounting</b>	DIN rail mounting
<b>Enclosure colour</b>	Grey
<b>Angle of rotation</b>	270°
<b>Scale</b>	0-100%

<sup>1)</sup>The 2-pole pushbutton needs one mounting area. The 4-pole pushbutton needs two mounting areas.

## 2

## Ordering code for component

Code	Component	Code
A	Potentiometer	POT
Code	Resistance	Code
C	0 - 100 Ohm	01
	0 - 220 Ohm	02
	0 - 470 Ohm	03
	0 - 1000 Ohm	04
	0 - 2200 Ohm	07
	0 - 4700 Ohm	05
	0 - 10000 Ohm	06

# SIL signal lamp



## Technical data

<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de IIC / Ex II2 G Ex d ia IIC
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C (option)
<b>Rated voltage</b>	
(Ex ed IIC)	20V-250V AC/DC
(Ex d ia IIC)	18V-30V DC
(Ex ed IIC)	12V-24V AC/DC
<b>Rated current</b>	
(20V-250V)	Approx. 4-15mA
(10V-28V Ex d ia IIC)	Max.25mA
(12V-30V)	Max.24mA
<b>Connecting terminals</b>	2x2.5mm <sup>2</sup>
<b>Degree of protection</b>	IP66 acc. to EN 60529
<b>Dimensions (L x W x H)</b>	59x31x45mm
<b>Weight</b>	0.15kg
<b>Type of mounting</b>	DIN rail mounting
<b>Enclosure colour</b>	Grey

## Ordering code for component

Code	Component	Code
A	Signal lamp	SIL
Code	Colour of lens	Code
C	white	1
	yellow	2
	red	3
	blue	4
	green	5
Code	Voltage	Code
D	20 V - 250 V AC/DC	10
	18 V - 30 V DC (Ex-i*)	34
	12 V - 24 V AC/DC	11

\* Supply by valve-driver components

U0=20V-18VDC with Ri=200-500Ω or

U0=10V-18VDC with Ri=100Ω-200Ω

No effective Ci and Li values

# AM45, AM72 measuring instrument



## Technical data

	<b>moving iron</b>	<b>moving coil</b>
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex e IIC / I M 2 Ex e I	Ex II 2 G Ex ib IIC / I M 2 Ex ib I
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C	-20°C ~ +40°C -55°C ~ +55°C
<b>Rated voltage</b>	up to 420V (AM 45) up to 750V (AM 72)	up to 420V (AM 45) up to 750V (AM 72)
<b>Overload range</b>	10 fold - 25 sec. 25 fold - 4 sec. 50 fold - 1 sec. indicated 1:1.5	10 fold - 5 sec.
<b>Measuring range</b>	Max.0-25A direct/n/1A	0/4-24mA
<b>Inductance Li</b>	<0.1mH	
<b>Capacitance Ci</b>	<0.1 nF	
<b>Winding specification of moving coil</b>	26.5 windings	
<b>Internal resistance</b>	2.5Ω +/- 30%	
<b>Open circuit voltage max. Ui</b>	30V	
<b>Short circuit current max. li</b>	150mA	
<b>Accuracy</b>	Class 2.5	Class 1.5
<b>Movement</b>	moving iron	moving coil
<b>Connecting terminals</b>	2x1.5-4mm <sup>2</sup>	2x1.5-4mm <sup>2</sup>
<b>Degree of protection</b>	IP66	IP66
<b>Dimension (L x W x H)</b>	50x45mm (AM45) 72x72mm (AM72)	50x45mm (AM45) 72x72mm (AM72)
<b>Weight</b>	0.35kg	0.35kg
<b>Type of mounting</b>	DIN rail mounting	DIN rail mounting
<b>Enclosure colour</b>	Grey	Grey

# AM45, AM72 measuring instrument

## Ordering code for component

Code	Component	Code
A	Measuring instrument AM 45	AM 45
	Measuring instrument AM 72	AM 72

Code	Movement	Code
C	Direct connection	1
	Ct connection 1 /A	2
	Port 0 - 20/24 mA (scale 0-100% / 120%) <sup>1)</sup>	5
	Port 4 - 20/24 mA (scale 0-100% / 120%) <sup>1)</sup>	6
	Moving-coil connection 0 - 20/24 mA (scale 0-100% / 120%) <sup>1) 3)</sup>	7
	Moving-coil connection 4 - 20/24 mA (scale 0-100% / 120%) <sup>1) 3)</sup>	8
	Ct connection n/5A	3

Code	Measuring range	Code	Measuring range	Code
D	0 - 1	02	0 - 75 / 112.5 A	13
	0 - 2.5 / 3.75 A <sup>2)</sup>	03	0 - 100 / 150 A	14
	0 - 5 / 7.5 A <sup>2)</sup>	04	0 - 150 / 225 A	15
	0 - 10 / 15 A <sup>2)</sup>	05	0 - 200 / 300 A	16
	0 - 15 / 22.5 A <sup>2)</sup>	06	0 - 250 / 375 A	17
	0 - 20 / 30 A <sup>2)</sup>	08	0 - 300 / 450 A	18
	0 - 30 / 45 A	09	0 - 400 / 600 A	19
	0 - 40 / 60 A	10	0 - 500 / 750 A	20
	0 - 50 / 75 A	11	0 - 600 / 900 A	21
	0 - 60 / 90 A	12	0 - 100% / 150%	33

<sup>1)</sup> Movements 1-20 mA/4-20 mA and with moving-coil connection are only available with scale 0 - 100%/120%

<sup>2)</sup> Version for direct connection (standard: CT connection n/1A) possible

<sup>3)</sup> Moving coil only for Ex-i or Ex-d flameproof applications

Other interchangeable scales available on request



# EX 23, EX 29 control switch



## Technical data

	<b>Ex 23</b>	<b>Ex 29</b>
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de IIC / I M 2 Ex e I	Ex II 2 G Ex de IIC / I M 2 Ex e I
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +45°C (option)	-20°C ~ +40°C -55°C ~ +55°C (option)
<b>Rated voltage</b>	up to 500 V	up to 500 V
<b>Rated current</b>	10A	16A <sup>1)</sup>
<b>Rated current gold contacts</b>	0.4A	0.4A
<b>Rated making-/rated breaking capacity</b>		
AC 15:	230V/6A 500V/4A	400V/4A 230V/6A
DC 13:	24V/2A 230V/0.5A	230V/0.3A 24V/2A
<b>Connecting terminals</b>	2x0.5-2.5mm <sup>2</sup>	2x0.5-2.5mm <sup>2</sup> or 1x1.0-6.0mm <sup>2</sup>
<b>Weight</b>		
1 tier:	approx. 0.2kg	approx. 0.25kg
2 tier:	approx. 0.35kg	approx. 0.40kg
3 tier:	-	approx. 0.55kg
<b>Type of mounting</b>	DIN rail mounting	DIN rail mounting
<b>Enclosure colour</b>	Grey	Black

<sup>1)</sup> 12 A cable section must be 2.5mm<sup>2</sup>

## 2

### Ordering code for component

<b>Code</b>	<b>Component</b>	<b>Code</b>
A	EX 23 control switch	EX 23
	EX 29 control switch	EX 29

<b>Code</b>	<b>Switch mechanism</b>	<b>Code</b>
C	spring - engaging - spring	4
	engaging - engaging - engaging	5
	engaging - engaging	6
	spring - engaging - engaging	7
	engaging - engaging - spring	8

# EX 23, EX 29 control switch

Code	Contact	Silver contact points	Contact	Silver contact points
D		060		034
		062		037
		065		049
		061		023
		063		019
		067		033
		011		024

Versions with gold contact points are available on request

Versions with compulsory NO are possible

Code	Label	Inscription	Code	Inscription	Code
E	0	I	01	0	I
	I	II	02	AUS	AUTO
	STOP	START	03	AUS	HAND
	HAND	AUTO	04	ÖRTLICH	AUS
	SENKEN	HEBEN	05	START	NORMAL
	REMOTE	LOCAL	06	OFF	0
	I	0	07	HAND	OFF
	AUS	BETRIEB	08	0	IN
	AUS	0	09	MAN	AUTO
	AUF	0	10	START	STOP
	Entriegelt	Verriegelt	11	HEBEN	SENKEN
	OUT	OF	12	OFF	ON
	LOCAL	REMOTE	13	AUS	EIN
	STOP	0	14	HAND	AUTO
	HAND	0	15	ON	OFF
	AUF	AUS	16	I	II
		ZU			III

2

Code	Locking facility	Code
F	None <input type="checkbox"/>	0
	Centre <input checked="" type="checkbox"/>	1
	Left <input type="checkbox"/>	2
	Right <input type="checkbox"/>	3

## Part III: labels and accessories



### Technical data

	<b>MXK 4-Ex</b>	<b>UT4/UT4 PE</b>
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex e II	Ex II 2 G Ex e II/2 D Ex e II
<b>Application temperature</b>	-50°C ~ +55°C	-50°C ~ +55°C
<b>Rated voltage</b>	up to 420 V	up to 690 V
<b>Rated current</b>	max. 27 A	max. 30 A
<b>Connecting terminals</b>	4mm <sup>2</sup>	0.14mm <sup>2</sup> -4mm <sup>2</sup> multi-wire 0.14mm <sup>2</sup> -6mm <sup>2</sup> single-wire
<b>Dimension</b>	6.2mm width	47.7mmx6.2mm
<b>Weight</b>	0.01kg	0.01kg
<b>Type of mounting</b>	NS35 DIN rail mounting	NS35 DIN rail mounting
<b>Enclosure colour</b>	Grey	Grey

### Ordering code for component

<b>Code</b>	<b>Component</b>	<b>Code</b>
A	KLM	KLM
<b>Code</b>	<b>Version</b>	<b>Code</b>
C	Ex-e	1
	Ex-i	2
<b>Code</b>	<b>Terminal type</b>	<b>Code</b>
D	Terminal block MXK4-Ex max. 6 terminals	B
	Terminal insert max. 3 terminals	E
	Terminal UT 4 / UT 4 PE	A
<b>Code</b>	<b>Number of terminals</b>	<b>Code</b>
E	1	001
	2	002
	3	003
	ect.	ect.

# Labels and accessories



## Ordering code for component

Code	Label	Code
A	52.0x13mm	ZUB19
	37.0mmx17mm with holder	ZUB20

Code	Inscription	Code
B	pending	1...4

Code	Mounting area	Code
C	pending	1...4

Code	Locking facility	for operating element	Material	Code
D	with flap (blank)	pushbutton	stainless steel	ZUB 12
	with flap (red)	pushbutton	stainless steel	ZUB 13
	with flap without "0" activation	double pushbutton	stainless steel	ZUB 16
	with flap with "0" activation	double pushbutton	stainless steel	ZUB 17
	with flap (blank)	mushroom-head pushbutton	stainless steel	ZUB 02
	with flap (red)	mushroom-head pushbutton	stainless steel	ZUB 01
	with bolt and chain	mushroom-head pushbutton	stainless steel	ZUB 14
	fire alarm (red) with hammer	mushroom-head pushbutton	stainless steel	ZUB 15
	fire alarm (red) with hammer	activates alarm when broken	stainless steel	ZUB 05
	with flap, not activated	pushbutton	plastic	ZUB 23
	with flap, activated	pushbutton	plastic	ZUB 24
	with flap, not activated	mushroom-head pushbutton	plastic	ZUB 22
	with flap, activated	mushroom-head pushbutton	plastic	ZUB 21

## Part IV: cable entry and flanges



### Ordering code for component

<b>Code</b>	<b>Type</b>	<b>Component</b>	<b>Code</b>
A	Entry type	Entry direct in enclosure	GEH
		Entry via plastic flange	FLK
		Entry via metal flange	FLM

<b>Code</b>	<b>Version</b>	<b>Component</b>	<b>Code</b>
B	Entry side position	Entry side on bottom (left or right)	1, 2
		Entry side on top (left or right)	3, 4

<b>Code</b>	<b>Version</b>	<b>Component</b>	<b>Code</b>
	Entry element	Only entry	OE
		Threaded entry	BO
		Threaded plug	SV
		Cable plastic gland	GK
		Cable metal gland	GM*
		Cable entry with plastic plug	GV
		Trumpet-shaped plastic gland	TR

<b>Code</b>	<b>Version</b>	<b>Component</b>	<b>Code</b>
D	Size	M12, M16, M20, M25, M32, M40, M50, M63	M..
		Ø21, Ø26	d..

<b>Code</b>	<b>Version</b>	<b>Component</b>	<b>Code</b>
E	Number	Number of entries	..

\* For metal cable gland, the type of cable/entry must be stated in plain language in the order.

# Assembled control station

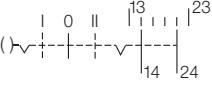
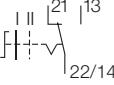
## Technical data

<b>Marking acc. to ATEX</b>	Ex II 2 G Ex e II T6 / Ex e ib IIC T6/Ex de IIC T6/ Ex de ib IIC T6 Ex II 2 D IP66 T48°C
<b>Marking acc. to IECEx</b>	Ex e II T6, Ex e ib IIC T6, Ex de IIC T6 or Ex de ib IIC T6
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C (option)
<b>Rated voltage</b>	690V AC ( up to 500 V with GHG23 control switch)
<b>Rated current</b>	16A ( max. 10A with GHG23 control switch)
<b>Connecting terminals</b>	41181: 2x2.5mm <sup>2</sup> 432, 434: 2x4mm <sup>2</sup>
<b>Rated making-/rated breaking capacity</b>	AC15: 230V/10A / 500V/6A DC13: 24V/2A / 230V/0.4A
<b>Degree of protection</b>	IP66 (standard) IP65 (with AM45 measuring instrument and double-head pushbutton)
<b>Insulation class</b>	I
<b>Enclosure materia</b>	Polyamide
<b>Enclosure colour</b>	Black

# Type GHG 411



## Ordering code for component

Version	Component	Weight (approx.)	Order No.
	1 x pushbutton DRT 1NO+1NC label : " 0, 1, START, STOP" brass base plate, 2 x M20, drilling on the bottom with two exe certificated plastic plugs	0.55kg	GHG4118188R0092
	1 x mushroom-head pushbutton 1NO+1NC"Emergency stop" brass base plate, 2 x M25 metal cable gland, drilling on the bottom with two exe certificated plastic plugs	0.65kg	GHG4118188R0093
	1 x key-operated switch 2NO SW 5 "engaging-engaging-engaging" label: "I 0 II", brass base plate, 2 x M20 drilling on the bottom with two exe certificated plastic plugs	0.67kg	GHG4118188R0094
	1 change-over SW 6 "engaging-engaging" label: " 0 - I", brass base plate, 2 x M20 drilling on the bottom with two exe certificated plastic plugs	0.60kg	GHG4118188R0095

# Type GHG 432



## Ordering code for component

Version	Component	Weight (approx.)	Order No.
 X1——X2	2 x pushbutton DRT 1NO+1NC label: "O, I, START, STOP", brass base plate, 2 x M25 drilling on the bottom with two exe certificated plastic plugs	1.00kg	GHG4322288R0018
 X1——X2	1 x signal lamp 20-250V AC/DC coloured lens cover "white, red, green, yellow" 1 x double pushbutton DDT 1NO+1NC label: "O, I, START, STOP", brass base plate, 2 x M25 drilling on the bottom with two exe certificated plastic plugs	1.05kg	GHG4322288R0019
 X1——X2	1 x signal lamp 20-250V AC/DC coloured lens cover "white, red, green, yellow" key-operated switch 2NO SW 5"engaging-engagingengaging label: "I O II" brass base plate, 2 x M25 drilling on the bottom with two exe certificated plastic plugs label: "I O II" brass base plate, 2 x M20 drilling on the bottom with two exe certificated plastic plugs	1.10kg	GHG4322288R0020
 X1——X2	1 x control switch GHG23 2NO + 1NC SW 5 "engaging-engagingspring" label: "I II III" brass base plate, 2 x M25 drilling on the bottom with two exe certificated plastic plugs	1.02kg	GHG4321288R0051

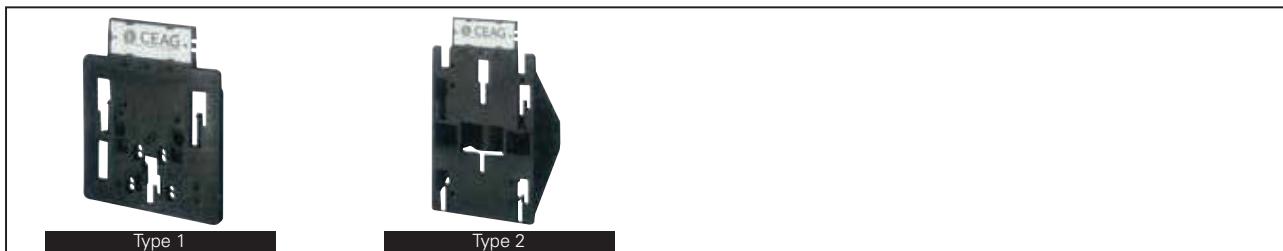
# Type GHG 434



## Ordering code for component

Version	Component	Weight (approx.)	Order No.
1 -  - 2	<p>1 x measuring AM72            CT connection n/1A            Scale O-100% 150%</p> <p>1 x double pushbutton DDT            1NO+1NC            label: "O, I, START, STOP"</p> <p>1 x mushroom-head button            1NO+1NC</p> <p>"Emergency stop" brass base plate, 2 x M25 drilling on the bottom with two exe certificated plastic plugs</p>	1.56kg	GHG4343288R0063
1 -  - 2	<p>1 x measuring AM72            CT connection n/1A            Scale O-100% 150%</p> <p>1 x double pushbutton DDT            1NO+1NC            "Emergency stop"</p> <p>1 x control switch GHG23            1 change-over            SW 6"engaging-engaging"            label: "O - I" brass base plate, 2 x M25 drilling on the bottom with two exe certificated plastic plugs</p>	1.70kg	GHG4343288R0064
X1 -  - X2	<p>1 x signal lamp            20-250V AC/DC            coloured lens cover: "white, red, green, yellow"</p> <p>1 x double pushbutton DDT            1NO+1NC            Label: "O, I, START, STOP"</p> <p>1 x mushroom-head pushbutton            1NO+1NC</p> <p>"Emergency stop"</p> <p>1 x key-operated switch            2NO            SW 5"engaging-engagingengaging"            label: "I O II" brass base plate, 2 x M25 drilling on the bottom with two exe certificated plastic plugs</p>	1.70kg	GHG4343288R0061

# Mounting plate for control station



## Mounting accessories for control station

### Mounting plate for type 411

Type	Application	Mounting technique	Order No.
1	wall mounting	screw-on	GHG 610 1953 R0101
1	pipe mounting	screw-on	GHG 610 1953 R0102
1	trellis-work mounting	screw-on	GHG 610 1953 R0103

### Mounting plate for type 432

Type	Application	Mounting technique	Order No.
2	wall mounting	screw-on	GHG 610 1953 R0104
2	pipe mounting	screw-on	GHG 610 1953 R0105
2	trellis-work mounting	screw-on	GHG 610 1953 R0106

### Mounting plate for type 434

Type	Application	Mounting technique	Order No.
3	wall mounting	screw-on	GHG 610 1953 R0118
3	pipe mounting	screw-on	GHG 610 1953 R0110
3	trellis-work mounting	screw-on	GHG 610 1953 R0118

Please refer to F.38-39 for the size of mounting plates.

# DSEA control station

## Product introduction

DSEA explosion-protected control station is for use in Zone 1, 2, 21 and 22, which can be used as motor and process control stations.



## Technical data

<b>Marking acc. to IECEx</b>	Exe d, ExtD A21 IP66T80°C
<b>IECEx certificate of conformity</b>	IECEx BKI 04.0003
<b>Degree of protection</b>	IP66
<b>Gas group</b>	IIC
<b>Certificate of conformity</b>	ANZEx05.3007
<b>Standard materials</b>	Bases & covers - high impact strength, corrosion resistant polyamide 12 Gaskets - 2 component polyurethane foam External hardware - stainless steel finish
<b>Options</b>	Stainless Steel available upon request (add suffix SS to part no.)

2

Device type	Description
1	Push Button c/w 1-N/O & 1-N/C
2	Mushroom Head Push Button c/w 1-N/O & 1-N/C Momentary Contact
3	Mushroom Head, Push Button c/w 1-N/O & 1-N/C Maintained Off, Pull To Reset
4	Mushroom Head Push Button c/w 1-N/O & 1-N/C Key To Reset
5	Selector Switch, 2 Poles ON/OFF Maintained
6	Selector Switch, 2 Positions, 1P Change Over
6SL	Selector Switch, 3 Positions, 1P Change Over
6SR	Selector Switch, 3 Positions, 1P Change Over, Spring Return From Right
6SLR	Selector Switch, 3 Positions, 1P change Over, Spring Return To Centre
7	Ammeter, 72mm Square, CT Operated, 1A Movement (5A on request)
8	Pilot Light, 12-240V ac/dc, 50/60 Hz (optional for other voltages)

## Ordering information

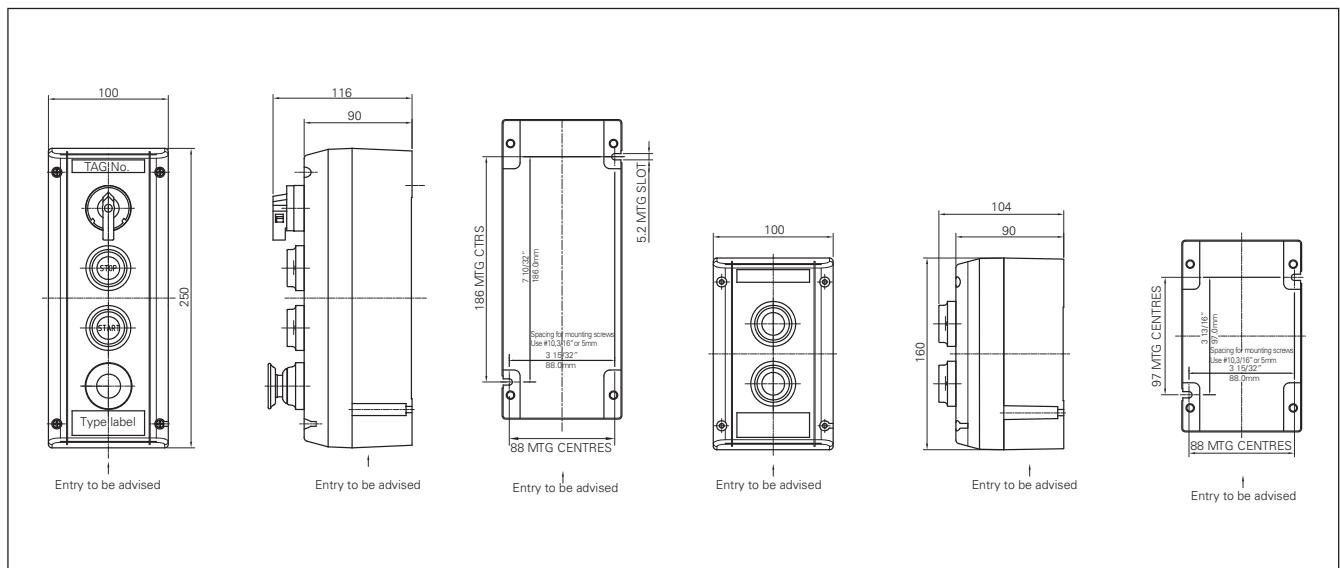
Catalogue No.	Size (mm)	No. of operators	No. of terminals
DSEA1	100 x 156 x 90	2	-
DSEA2	100 x 245 x 90	4	-
DSEA1-SS	140 x 166 x 76	2	-
DSEA2-SS	140 x 286 x 76	4	-

# DSEA control station

## Ordering information

Start push button	DSEA1-1
Stop/start double push button	DSEA1-11
Fire alarm break glass push button	DSEA1-1BG
MRH stop push button, pull to release	DSEA1-3
MRH stop push button, 2NC contacts	DSEA1-3-2NC
Padlockable MRH pull to release stop push button	DSEA1-3P
Padlockable MRH stop push button - 2 NC contacts	DSEA1-3P-2NC
2 position selector switch, 1 NO & 1NC	DSEA1-5
3 position off, run, start switch	DSEA1-6
72x72mm ammeter n=1A or 5A or 20mA	DSEA1-7
Pilot light 240V	DSEA1-8*
Flush start push button & MRH stop	DSEA1-1-3
Padlockable flush start push button c/w MRH stop	DSEA1-1-3P
Start push button & pilot light 240V	DSEA1-1-8*
Pilot light 240V & pilot light 240V	DSEA1-8*-8*
Double stop/start push button & remote local selector switch	DSEA1-11-5
Start push button + MRH stop & pilot light	DSEA2-1-3-8*
Double push button + 2 pilot lights	DSEA2-8*-8*-11
4 double push buttons	DSEA2-11-11-11-11
2 double push buttons & 2 pilot lights	DSEA2-11-8*-11-8*
2 flush push buttons & 2 MRH push buttons	DSEA2-1-3-1-3
1 x AM72 ammeter + 1 push button & 1 MRH push button	DSEA2-7-1-3

## Dimension



# DSA control station

## Product introduction

DSA explosion-protected control station is for use in the Gas-Ex-Areas of Zone 1/Zone 2 classification, which can be used as motor and process control stations.

## Technical data

Type of protection	Exd
IECEx certificate of conformity	ANZEx05.3007
Degree of protection	IP66/67
Gas group	IIB
Standard materials	Bases & covers - copper free Aluminium Switch operating levers, shafts & bushes - stainless steel Grey polyurethane finish
Options	Alternative finishes Special engravings Taffolyte labels (50mm x 10mm)



## Ordering information - face

D	S	A	0	3	P
Product identifier			Type of device (please refer below)	Options	
D - control station	0	Blank			
	1	Standard push button (red, black or green)			DB - additional N/O &
	2	Mushroom head self-resetting push button (red)			N/C contact
	3	Mushroom head push button maintained OFF			P - padlock
	4	Mushroom head push button maintained OFF, key reset			
	5	Key switch push button			
	6	Selector switch push button			
	7	Special - see listings			
	8	Pilot light (a-amber, r-red, g-green, b-blue, c-clear)			
	9	Rotary stack switch			

2

## Push button ordering information

Catalogue No.	Description
DSA01	Standard push button
DSA02	Mushroom head push button, spring return
DSA03	Mushroom head push button, latching
DSA03P	Mushroom head push button, latching & padlockable
DSA04	Mushroom head push button, latching & key re-set
DSA05	Key switch push button
DSA08	Indicating light (add G, R, A, B, C for colours)
DSA11	1 x start push button & 1 x stop push button
DSA12	1 x start push button & 1 x mushroom head stop spring return
DSA13	1 x start push button & 1 x mushroom head stop latching
DSA13P	1 x start push button & 1 x mushroom head stop latching & padlockable
DSA14	1 x start push button & 1 x mushroom head stop key re-set
DSA15	1 x start push button & 1 x key switch push button
DSA18	1 x start push button & 1 x indicating light (add G, R, A, B, C for colours)
DSA88	2 x indicating lights (add G, R, A, B, C for colours)

# DSA control station

## Switch ordering information

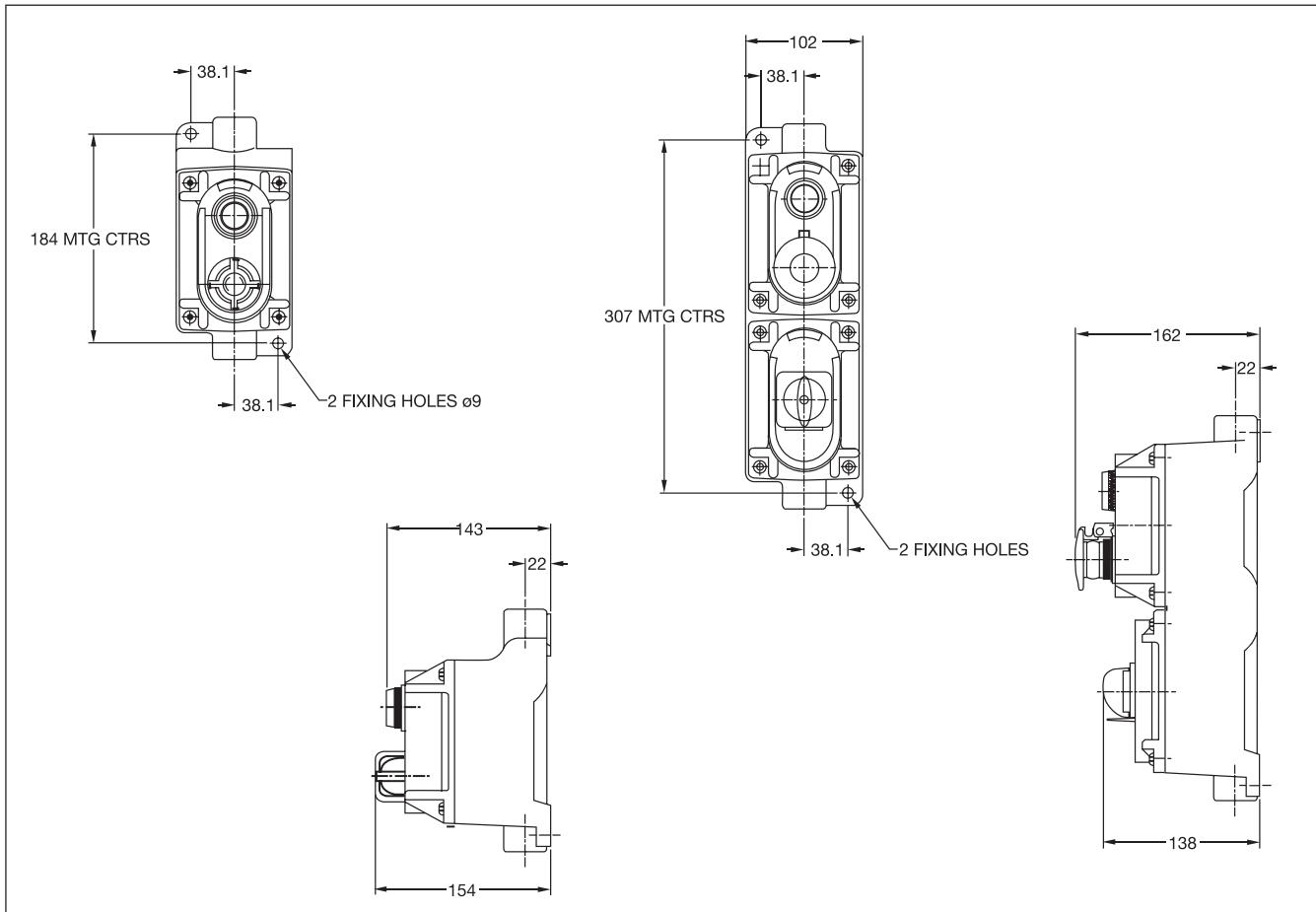
Catalogue No.	Description
DSA9-A178	10A, OFF - RUN - START, spring return from START - RUN
DSA9-A201	20A, 2 pole, 2 positions ON - OFF
DSA9-A202	20A, 3 pole, 2 positions ON - OFF
DSA9-A203	20A, 4 pole, 2 positions ON - OFF
DSA9-A212	20A, 3 pole, 3 positions change-over with centre OFF
DSA9-A215	20A, 2 pole, 3 positions change over with centre OFF
DSA9-A221	20A, 2 pole, 2 positions change over
DSA9-A222	20A, 4 pole, 2 positions change over

\* Switch base DSAB ordered separately, see next page.

## Ordering information - bases

DSAB	1	-	1	0	1	0
Product identifier	Single or double gang		Top entry size code	Left side Size code	Bottom entry Size code	Right side Size code
DSA - control station	1 single gang		1 20mm	1 20mm	1 20mm	1 20mm
	2 double gang		2 25mm	2 25mm	2 25mm	2 25mm
			3 32mm	3 32mm	3 32mm	3 32mm

## Dimension



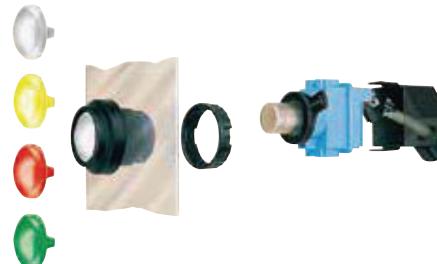
# Ex-control and signal units

## Application area

CEAG control and indicating elements can be integrated in panels with a wall thickness of up to 5mm.

## Product features

- The panel-mounting is easy.
- The single-wire installation is clear and simple.
- All panel-mounted apparatus can be retrofitted for cable connection with a slip-on strain relief and protective cover which is then completely certified.
- The completely certified measuring instruments for direct and indirect measurement are available for different amperage ranges.
- Standard actuator-element size of Ø 30.5 mm.
- Original packaging from Germany.



2



# 418 811 pushbutton & 418 814 double pushbutton



## Technical data

<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de IIC T6 / I M2 Ex e I
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C (option)
<b>Rated voltage</b>	500V AC
<b>Rated current</b>	16A
<b>Rated current gold contacts</b>	0.4A
<b>Rated making-/rated breaking capacity</b>	
AC15	250V/6A 500V/4A
DC13	24V/6A 220V/1A
<b>Connecting terminals</b>	2x2.5mm <sup>2</sup>
<b>Degree of protection</b>	IP66 acc. to EN 60529
<b>Dimension (L x W x H)</b>	Approx. 59 x 31 x 45 mm
<b>Weight</b>	0.20kg
<b>Type of mounting</b>	Ø 30.5 mm fixing hole
<b>Enclosure colour</b>	Grey
<b>Gasket material</b>	Neoprene (standard), fluoroc silicone or viton on request

# 418 811 pushbutton & 418 814 double pushbutton



## Ordering code for component

A	B	C1	C2
GHG418 81_	_	R	—

Code	Component	Code
A	pushbutton	GHG 418 811
	double pushbutton	GHG 418 814

Code	Contacts	Version	Code	
			Silver contact points	Gold contact points
B	2NC	 11 21	3	6
	2NO	 13 23	4	7
	1NO+1NC	 13 21	5	8

Code	Label	Inscription	Code	Inscription	Code
C1,C2		0, I, Start, Stop	01	0	02
	I	03	II	04	
		05	STOP	06	
	START	07	NOT-AUS	08	
	LANGSAM	09	SCHNELL	10	
	EMERG.STOP	11	➔	12	
		13	ARRET	14	
	MARCHE	15	AUF	16	
	AB	17	Neutral white	18	
	Neutral green	19	0, I, Arret, Marche	20	
	UP	24	DOWN	25	
	ZU	26	ON	27	
	OFF	28	+	30	
	-	31	Neutral red	33	
	Neutral yellow	34	EIN	36	
	AUS	37	Neutral black	38	
	AUTO	39	Neutral blue	40	
	HAND	50	SENKEN	51	
	HEBEN	52	LINKS	53	
	RECHTS	54	FAST	55	
	SLOW	56	RESET	57	
	OPEN	58			

# 418 811 pushbutton & 418 814 double pushbutton



## Example for ordering code

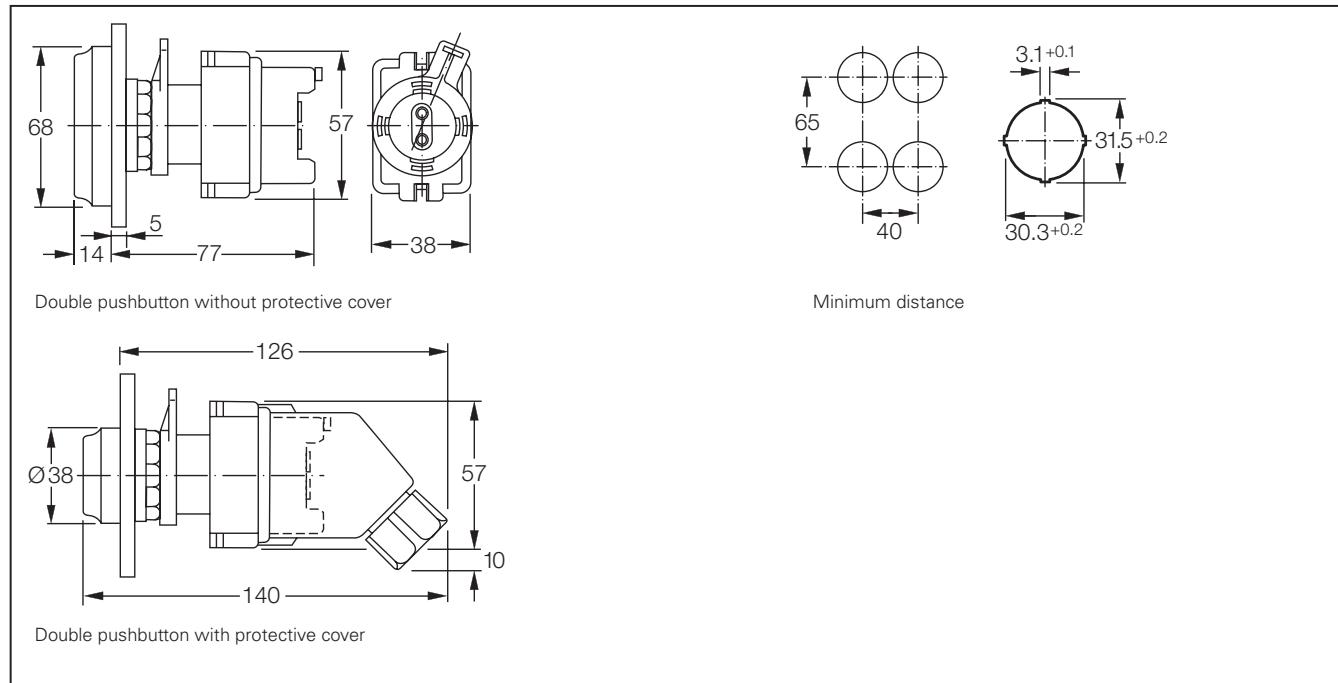
Version	Label	Ordering Code			
		A	B	C1	C2
Pushbutton without protective cover, silver contact points					
2NC	(0, I, START, STOP)	GHG 418 811	3	R0001	-
2NO	(0, I, START, STOP)	GHG 418 811	4	R0001	-
1NO+1NC	(0, I, START, STOP)	GHG 418 811	5	R0001	-
Double-pushbutton without protective cover, with gold contact points					
2NC	(0, I, START, STOP)	GHG 418 814	6	R01	01
2NO	(0, I, START, STOP)	GHG 418 814	7	R01	01
1NO+1NC	(0, I, START, STOP)	GHG 418 814	8	R01	01

## Accessories

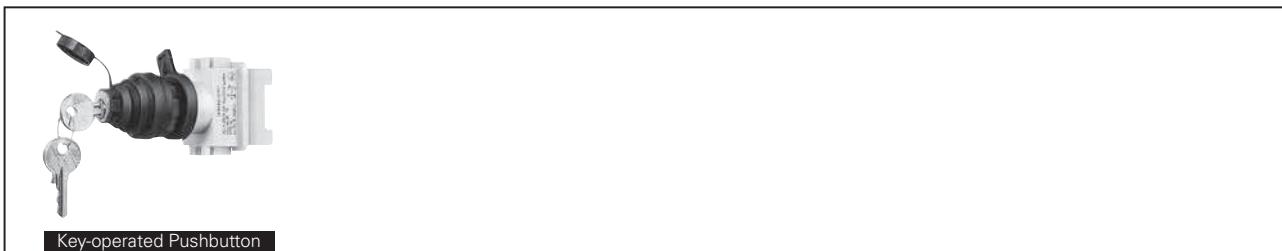
Type	OU	Order No.
Protective cover to meet IP66	5	GHG410 1939 R0002

Please note that we can only deliver in the ordering units (OU) stated in the tables above.

## Dimension



# 418 812 key-operated pushbutton



## Technical data

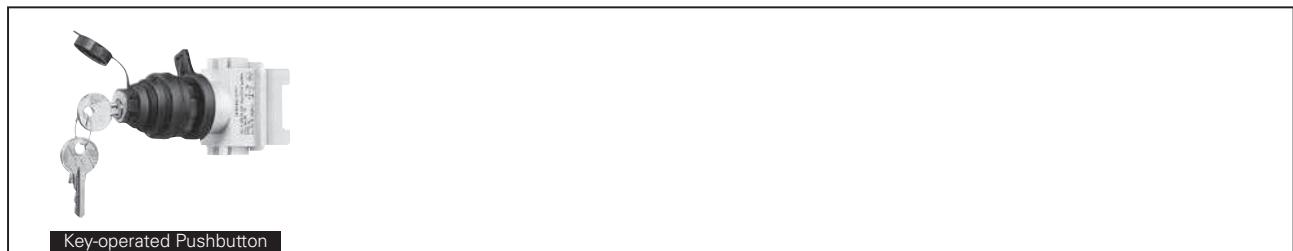
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de IIC T6 / I M2 Ex e I
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C (option)
<b>Rated voltage</b>	500V AC
<b>Rated current</b>	16A
<b>Rated current gold contacts</b>	0.4A
<b>Rated making-/Rated breaking capacity</b>	
AC15	250V/6A 500V/4A
DC13	24V/6A 220V/1A
<b>Connecting terminals</b>	2x2.5mm <sup>2</sup>
<b>Degree of protection</b>	IP66 acc. to EN 60529
<b>Dimension (L x W x H)</b>	Approx. 59 x 31 x 45 mm
<b>Weight</b>	0.20kg
<b>Type of mounting</b>	Ø 30.5 mm fixing hole
<b>Enclosure colour</b>	Grey
<b>Gasket material</b>	Neoprene (standard), fluoric silicone or viton on request

## Ordering code for component

2

A	B	C				
GHG418 812	—	R00 —				
Code	Component	Code				
A	Key-operated pushbutton	GHG 418 812				
Code	Contacts	Version	Code			
			Silver contact points	Gold contact points		
B	2NC		3	6		
	2NO		4	7		
	1NO+1NC		5	8		
Code	Function	Pushbutton not pressed	Key	Pushbutton pressed	Key	Code
C		lockable	removable	lockable	removable	10
		lockable	removable	lockable	not removable	11
		lockable	removable	not lockable	not removable	12
		lockable	not removable	lockable	removable	13
		not lockable	not removable	lockable	removable	14
		not lockable	removable	auto lockable	removable	15

# 418 812 key-operated pushbutton



## Example for ordering code

Version	Label		Ordering code		
	Pushbutton not pressed	Pushbutton pressed	A	B	C
Key switch with silver contact points, without protective cover					
1NO+1NC	lockable	lockable	GHG418 812	5R00	10
	removable	removable			
2NC	lockable	lockable	GHG418 812	3R00	11
	removable	removable			
2NO	lockable	not lockable	GHG418 812	4R00	12
	removable	not removable			
Key switch with gold contact points, without protective cover					
1NO+1NC	lockable	lockable	GHG418 812	8R00	10
	removable	removable			
2NC	lockable	lockable	GHG418 812	6R00	11
	removable	removable			
2NO	lockable	not lockable	GHG418 812	7R00	12
	removable	not removable			

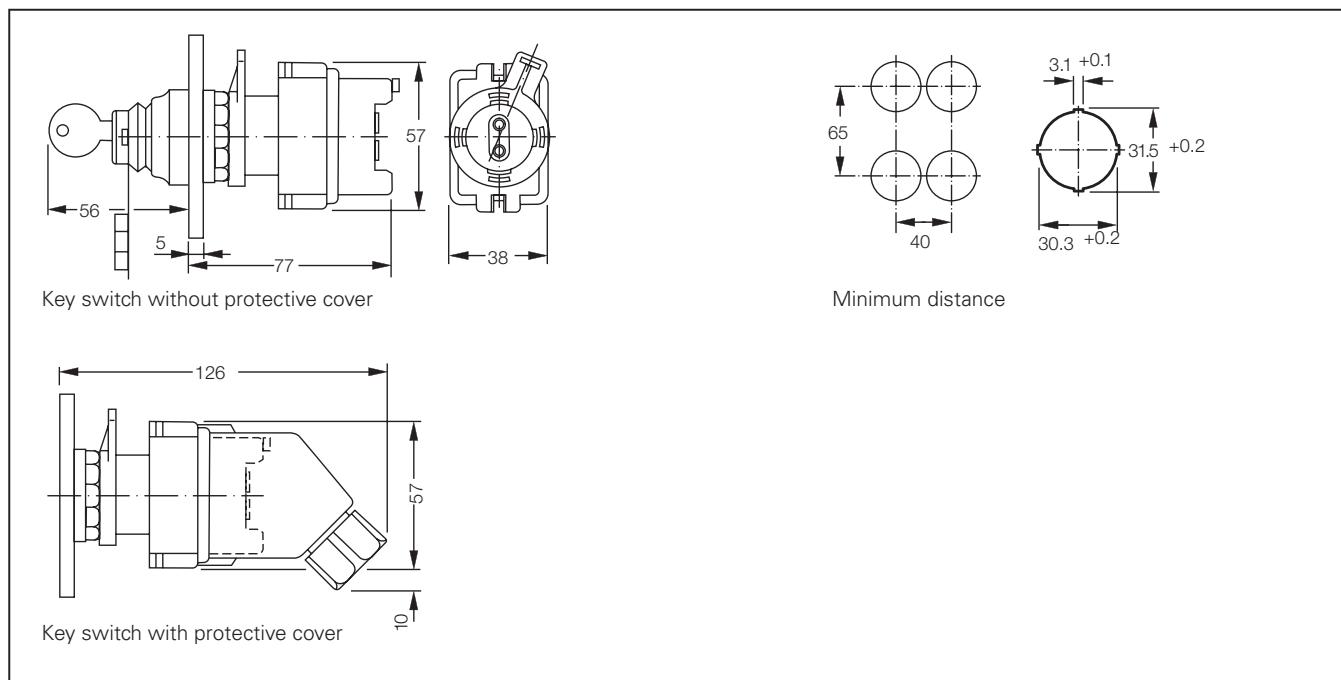
## Accessories

Type	OU	Order No.
Protective cover to meet IP66	5	GHG410 1939 R0002

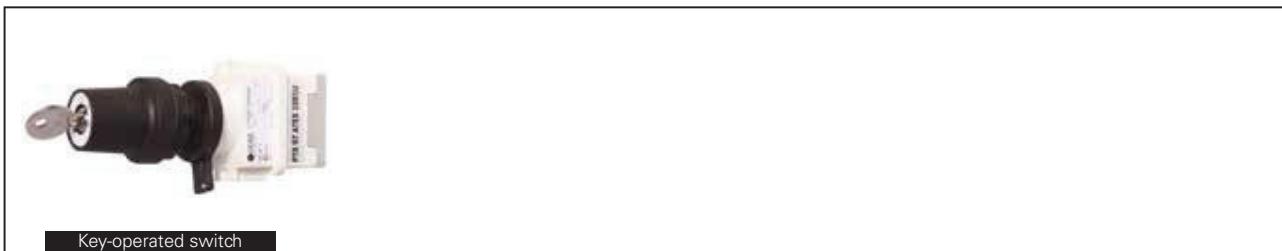
Please note that we can only deliver in the ordering units (OU) stated in the tables above.

2

## Dimension



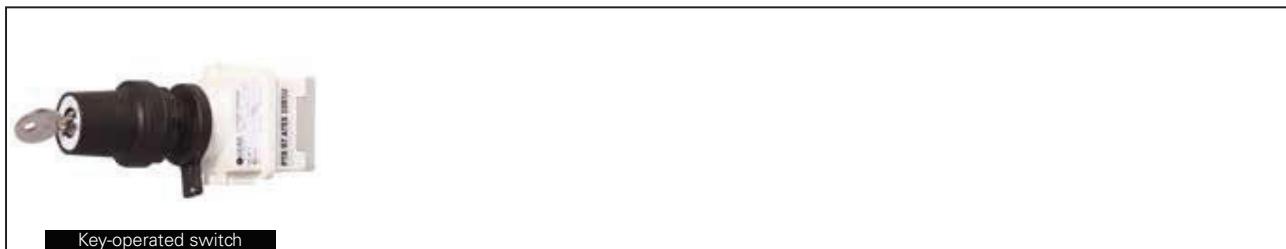
# 418 8195 key-operated switch



## Technical data

<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de IIC T6 / I M2 Ex e I
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C(option)
<b>Rated voltage</b>	500V AC
<b>Rated current</b>	16A
<b>Rated current gold contacts</b>	0.4A
<b>Rated making-/Rated breaking capacity</b>	
<b>AC15</b>	250V/6A 500V/4A
<b>DC13</b>	24V/6A 220V/1A
<b>Connecting terminals</b>	2x2.5mm <sup>2</sup>
<b>Switch system</b>	Engaging-engaging-engaging
<b>Dimension (L x W x H)</b>	Approx. 59 x 31 x 45 mm
<b>Weight</b>	0.15kg
<b>Type of mounting</b>	Ø 30.5 mm fixing hole
<b>Enclosure colour</b>	Grey
<b>Latch point</b>	CEAG1 (others on request)

# 418 8195 key-operated switch



## Ordering code for component

A	B	C			
GHG418 8195	R5	—			
Code	Component			Code	
A	Key-operated switch			GHG 418 8195	
Code	Contacts	Version		Code	
			Silver contact points	Gold contact points	
B	2NC	 45° 90° 135°	13/23	4	7
	2NO	 45° 90° 135°	13/23	5	8
Code	Inscription			Code	
C	I	0	II		07
	Fem	0	Ort		08
	Hand	0	Auto		09

Other labels on request

2

## Example for ordering code

Switch mechanism	Contact system	Label	Order No.		
			A	B	C
<b>Key switch with silver contacts, without protective cover.</b>					
4	 45° 90° 135°	I 0 II	GHG 418 8195	R5	4
4	 45° 90° 135°	FERN 0 ORT	GHG 418 8195	R5	4
4	 45° 90° 135°	HAND 0 AUTO	GHG 418 8195	R5	4
5	 45° 90° 135°	I 0 II	GHG 418 8195	R5	5
5	 45° 90° 135°	FERN 0 ORT	GHG 418 8195	R5	5
5	 45° 90° 135°	HAND 0 AUTO	GHG 418 8195	R5	5

Switch can be locked in all position and key can be removed in all positions.

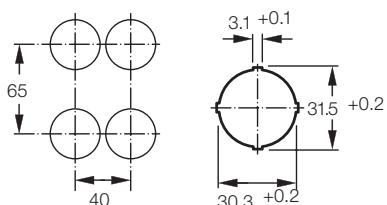
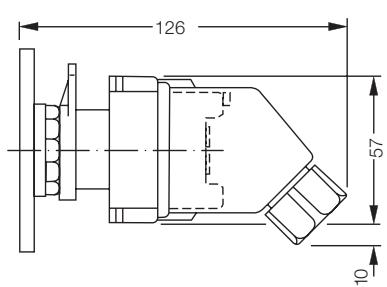
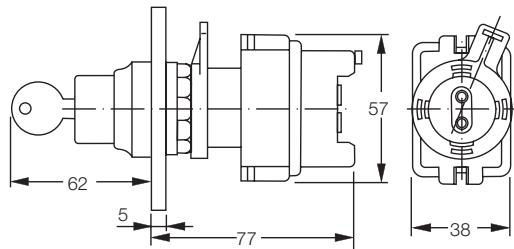
## Accessories

Type	OU	Order No.
Protective cover to meet IP66	5	GHG410 1939 R0002

Please note that we can only deliver in the ordering units(OU) stated in the tables above.

# 418 8195 key-operated switch

## Dimension



# 418 815 mushroom-head pushbutton (emergency stop and standard version)



## Technical data

<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de IIC T6 / I M2 Ex e I
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C (option)
<b>Rated voltage</b>	500V AC
<b>Rated current</b>	16A
<b>Rated current gold contacts</b>	0.4A
<b>Rated making-/Rated breaking capacity</b>	AC-15: 250V/6A 500V/4A DC-13: 24V/6A 220V/1A
<b>Connecting terminals</b>	2x2.5mm <sup>2</sup>
<b>Dimension (L x W x H)</b>	Approx. 59 x 31 x 45 mm
<b>Weight</b>	0.15kg
<b>Type of mounting</b>	Ø 30.5 mm fixing hole
<b>Enclosure colour</b>	Grey
<b>Gasket material</b>	Neoprene (standard), fluoric silicone or viton on request

# 418 815 mushroom-head pushbutton (emergency stop and standard version)



## Ordering code for component

A	B	C	D	E	
GHG418 815	-	R	-	-	
Code	Component			Code	
A	Mushroom-head switch			GHG 418 815	
Code	Contacts	Version		Code	
B	2NC			3	6
	2NO			4	7
	1NO+1NC			5	8
Code	Component			Code	
C	NOT-AUS EMERGENCY STOP (German - English) <sup>1)</sup>			1	
	NOT-AUS ARRET D'URGENCE (German - English) <sup>1)</sup>			4	
	Red			1	
	Yellow <sup>1)</sup>			2	
	Black <sup>2)</sup>			3	
Code	Function	Release	Engaged	Unlocking	Code
D		not lockable	not lockable	n/a (pushbutton function)	1 <sup>2)</sup>
		not lockable	lockable	hand released	2 <sup>1)</sup>
		not lockable	lockable	key released	3 <sup>1)</sup>
Code	Label	Inscription	Code	Inscription	Code
E		0, I, Start, Stop	01	0	02
		I	03	II	04
			05	STOP	06
		START	07	NOT-AUS <sup>1)</sup>	08

<sup>1)</sup> only Emergency stop mushroom-head pushbutton

<sup>2)</sup> only Mushroom-head pushbutton normal version

# 418 815 mushroom-head pushbutton (emergency stop and standard version)



## Example for ordering code

Contact	Contact version	Label inscription	Order No.						
			A	B	C	D	E		
Emergency Stop mushroom-head pushbutton red, with silver contact points, without protective cover									
<b>Hand released</b>									
2NC	Red	German/English	GHG418815	3	R1	2	00		
2NO	Red	German/English	GHG418815	4	R1	2	00		
1NO+1NC	Red	German/English	GHG418815	5	R1	2	00		
<b>Key released</b>									
2NC	Red	German/English	GHG418815	3	R1	3	00		
2NO	Red	German/English	GHG418815	4	R1	3	00		
1NO+1NC	Red	German/English	GHG418815	5	R1	3	00		
Mushroom-head pushbutton, with silver contact points, without protective cover									
<b>Pushbutton function only</b>									
2NC	Black	0, I, Start, Stop	GHG418815	3	R3	1	01		
2NO	Black	0, I, Start, Stop	GHG418815	4	R2	1	01		
1NO+1NC	Black	0, I, Start, Stop	GHG418815	5	R3	1	01		
1NO+1NC	Black	0, I, Start, Stop	GHG418815	5	R2	1	01		

## Accessories

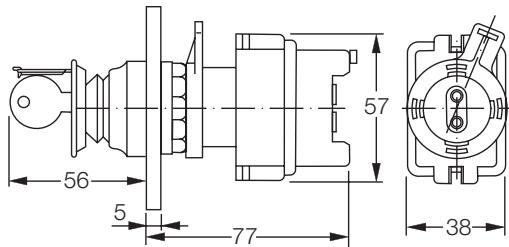
Type	OU	Order No.
Protective cover to meet IP66	5	GHG410 1939 R0002

Please note that we can only deliver in the ordering units(OU) stated in the tables above.

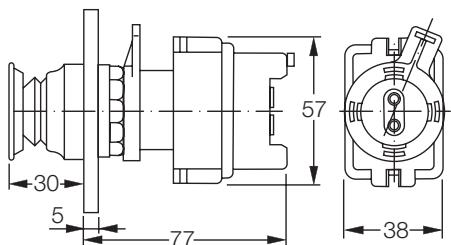
# 418 815 mushroom-head pushbutton (emergency stop and standard version)



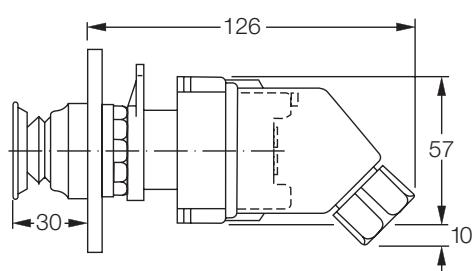
## Dimension



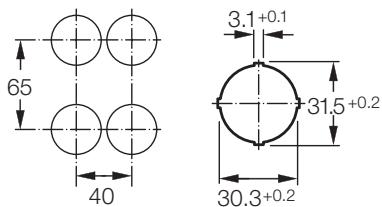
Mushroom-head pushbutton without protective cover  
with key release



Mushroom-head pushbutton without protective cover

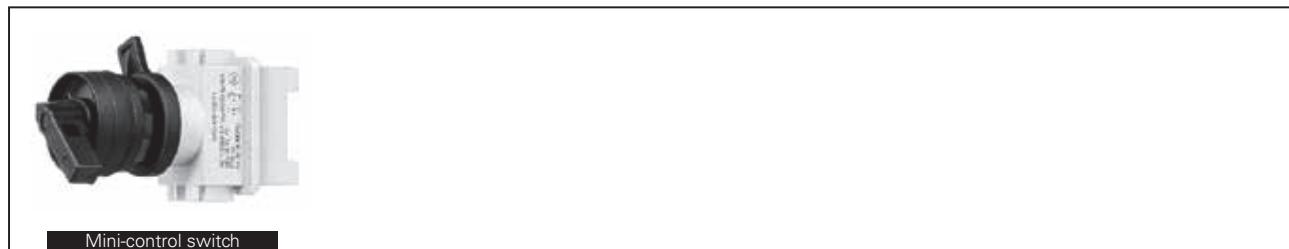


Mushroom-head pushbutton with protective cover



Minimum distances

## 418 8190 mini-control switch



## Technical data

<b>Marking acc. to ATEX</b>	<b>Ex II 2 G Ex de IIC T6 / I M2 Ex e I</b>
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C(option)
<b>Rated voltage</b>	500V AC
<b>Rated current</b>	16A
<b>Rated current gold contacts</b>	0.4A
<b>Rated making-/rated breaking capacity</b>	
AC15	250V/6A 500V/4A
DC13	24V/6A 220V/1A
<b>Connecting terminals</b>	2x2.5mm <sup>2</sup>
<b>Dimension (L x W x H)</b>	Approx. 59 x 31 x 45 mm
<b>Weight</b>	0.15kg
<b>Type of mounting</b>	Ø 30.5 mm fixing hole
<b>Enclosure colour</b>	Grey

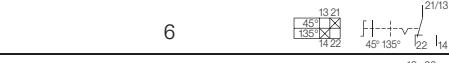
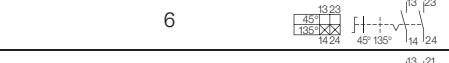
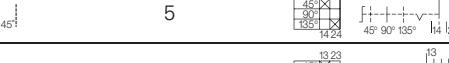
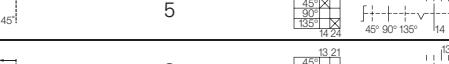
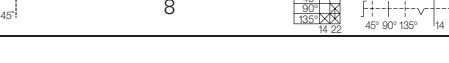
## **Ordering code for component**

A	B	C	D	E
GHG418 819	R	—	—	—
Code	Component			Code
A	Mini-Control Switch			GHG 418 8190
Code	Contacts	Contact system		Code
B	2NC			4
				5
				6
				7
				8
Code	Contact material			Code
C	silver			0
	gold			1
Code	Contacts	Contact system		Code
D			21/13	0
			13 21	1
			13 23	2
			13 23	3
			13 23	5
			13 21	7

# 418 8190 mini-control switch

Code	Label	Inscription	Code	Inscription	Code
E		0	I	01	HAND
		I	II	02	AUF
	STOP	START	03	HAND	AUS
	HAND	AUTO	04	0	AUT
	SENKEN	HEBEN	05	AUS	EIN
	REMOTE	LOCAL	06	AUS	AUT
	I	0	II	07	ÖRTLICH
	AUS	BETRIEB	08	START	NORMAL
	AUS	0	EIN	09	OFF
	AUF	0	AB	10	HAND
	STOP	0	START	14	0
				IN	START
					25

## Example for ordering code

Switching mechanism	Code	Contact system	Code	Label	Order No.							
					A	B	C	D				
Control switch with silver contact points, without protective cover												
<b>Switch can be locked in all positions</b>												
190°	6		0	I II	GHG 418 8190 R	6	0	02				
190°	6		2	0 I	GHG 418 8190 R	6	2	01				
190°	6		1	I II	GHG 418 8490 R	6	1	02				
145° 145°	5		3	I 0 II	GHG 418 8190 R	5	3	07				
145° 145°	5		5	I 0 II	GHG 418 8190 R	5	5	07				
145°	8		7	0 I	GHG 418 8190 R	8	7	01				

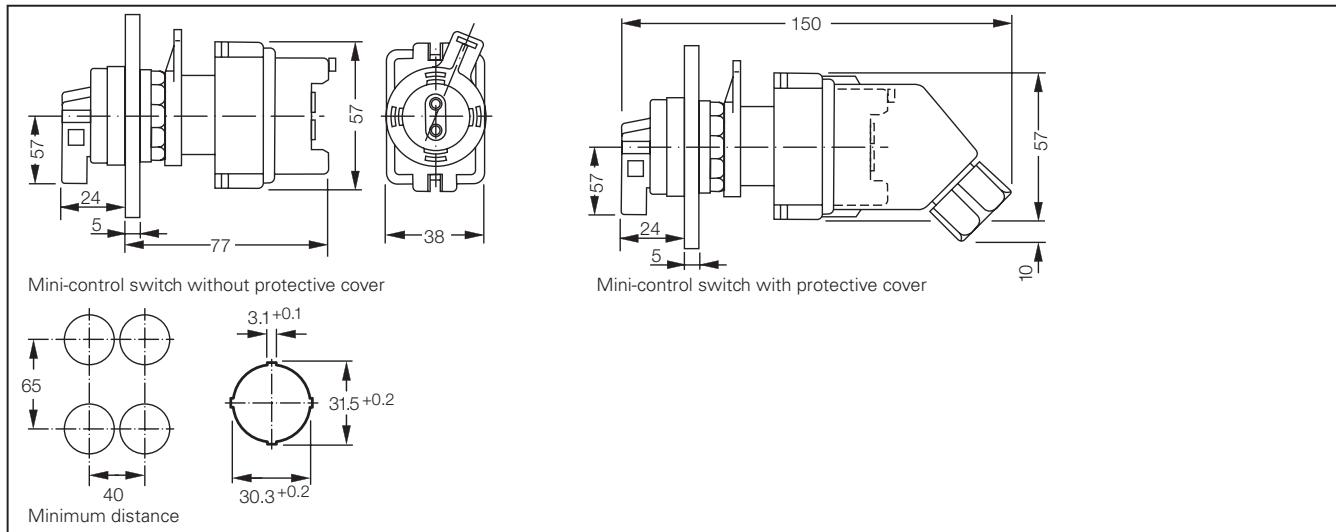
2

## Accessories

Type	OU	Order No.
Protective cover to meet IP66	5	GHG410 1939 R0002

Please note that we can only deliver in the ordering units (OU) stated in the tables above.

## Dimension



# GHG249 control switch



Control switch GHG249

## Technical data

<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de IIC T6 / I M2 Ex e I
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C (option)
<b>Rated voltage</b>	Up to 690V AC
<b>Rated current</b>	Up to 20A
<b>Rated current gold contacts</b>	Up to 0.4A
<b>Rated making-/rated breaking capacity</b>	
AC3	230V/8A 400V/6A
AC11	24V/6A 230V/0.4A
<b>Connecting terminals</b>	2x2.5mm <sup>2</sup> multi-wire, 6mm <sup>2</sup> single wire
<b>Weight</b>	0.55kg
<b>Type of mounting</b>	Ø 30.5 mm fixing hole
<b>Enclosure colour</b>	Grey

# GHG249 control switch



Control switch GHG249

## Ordering code for component

A	B	C	D <sup>1)</sup>	
249	-	-	-	

Code	Component	Code
A	Control switch GHG249	GHG 249
Code	Switch mechanism	Code
B	spring - engaging - spring	4
	engaging - engaging - engaging	5
	engaging - engaging	6
	spring - engaging - engaging	7
	engaging - engaging - spring	8

Code	Silver contact points	Contact system	Code
C			019
			033
			024
			021
			049
			037
			039
			038

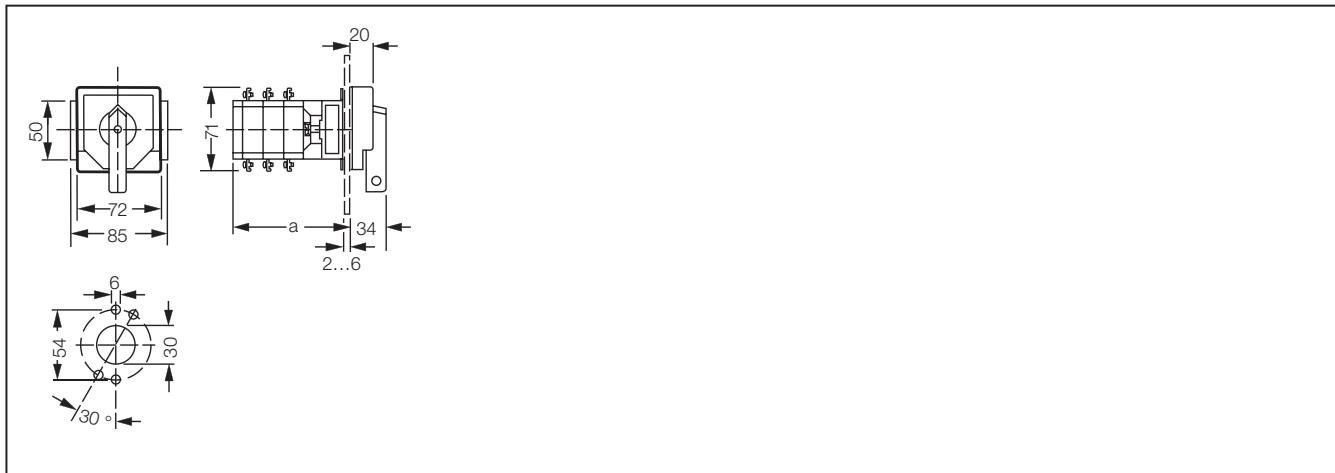
# GHG249 control switch

Code	Label	Inscription	Code	Inscription	Code
D	0	I	01	0	I
	I	II	02	AUS	AUTP
	STOP	START	03	AUS	HAND
	HAND	AUTO	04	ÖRTLICH	AUS
	SENKEN	HEBEN	05	START	NORMAL
	REMOTE	LOCAL	06	OFF	STOP
	I	0	07	HAND	ON
	AUS	BETRIEB	08	0	OFF
	AUS	0	09	EIN	AUTO
	AUF	0	10	AB	START
	Entriegelt	0	11	Verriegelt	STOP
	OUT	OF	12	HANd	SENKEN
	LOCAL	REMOTE	13	OFF	MAN
	STOP	0	14	START	AUTO
	HAND	0	15	AUS	EIN
	AUF	AUS	16	ON	30
		ZU		II	31
				III	32
					33

## Example for ordering code

Switch version A	Switch mechanism B	Code	Contact system C	Code	Label D	Code	Order No.
GHG 249	90°	6		019	0 - I	01	GHG 249 0004 R0058
GHG 249	90°	6		037	STOP - 0 - START	14	GHG 249 0004 R0039
GHG 249	90°	6		033	I - II	02	GHG 249 0004 R0084

## Dimension



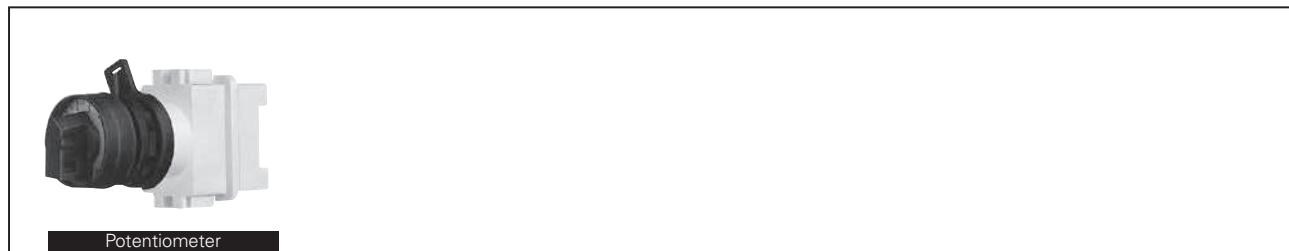
# 418 8131 potentiometer



## Technical data

<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de IIC T6 / I M2 Ex e I
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C (option)
<b>Rated voltage</b>	Up to 250V AC
<b>Power consumption</b>	Max. 1W
<b>Resistance range</b>	100-10000Ω
<b>Tolerance</b>	±20%
<b>Connecting terminals</b>	2x2.5mm <sup>2</sup>
<b>Dimension (L x W x H)</b>	Approx. 59 x 31 x 45 mm
<b>Weight</b>	0.15kg
<b>Type of mounting</b>	Ø 30.5 mm fixing hole
<b>Angle of rotation</b>	270°
<b>Scale</b>	0-100%
<b>Colour</b>	Grey

# 418 8131 potentiometer



## Ordering code for component

A	B	
GHG 418 8131	R00	—
Code	Component	Code
A	Potentiometer	GHG 418 8131
Code	Resistance	Code
B	0 - 100 Ohm	11
	0 - 220 Ohm	12
	0 - 470 Ohm	13
	0 - 1000 Ohm	14
	0 - 2200 Ohm	17
	0 - 4700 Ohm	15
	0 - 10000 Ohm	16

## Example for ordering code

Version	Order No.	
	A	B
Potentiometer 1 W 25% tolerance, without protective cover		
0 - 100 Ohm	GHG 418 8131	R 0011
0 - 220 Ohm	GHG 418 8131	R 0012
0 - 470 Ohm	GHG 418 8131	R 0013
0 - 1000 Ohm	GHG 418 8131	R 0014
0 - 2200 Ohm	GHG 418 8131	R 0017
0 - 4700 Ohm	GHG 418 8131	R 0015
0 - 10000 Ohm	GHG 418 8131	R 0016

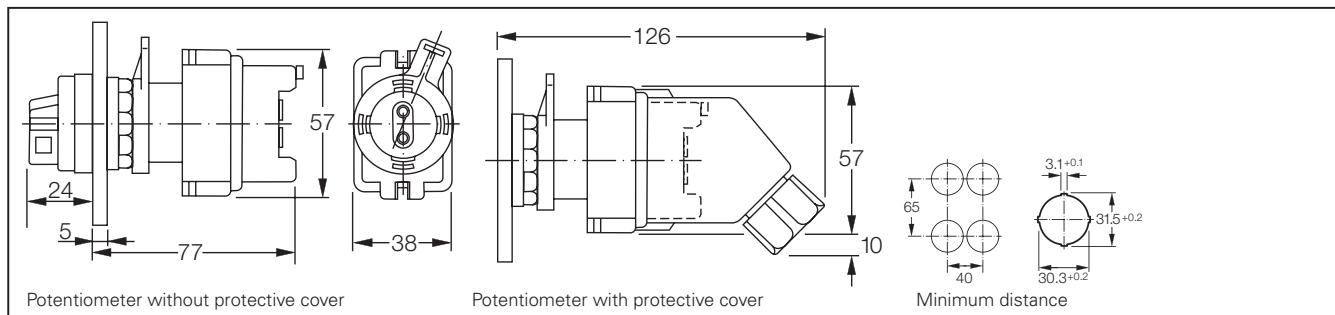
2

## Accessories

Type	OU	Order No.
Protective cover to meet IP66	5	GHG410 1939 R0002

Please note that we can only deliver in the ordering units (OU) stated in the tables above.

## Dimension



# 418 8170 signal lamp



Signal lamp

## Technical data

<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de IIC/II 2 G Ex d ia IIC
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C(option)
<b>Rated voltage</b>	
(Ex ed IIC)	20V to 250V AC/DC
(Ex d ia IIC)	10V to 28V DC
(Ex ed IIC)	12V to 30V AC/DC
<b>Rated current</b>	
(20V to 250V)	Approx. 4-15mA
(10V to 28V Ex d ia IIC)	Max. 25mA
(12V to 30V)	Max. 24mA
<b>Connecting terminals</b>	2x2.5mm <sup>2</sup>
<b>Dimension (L x W x H)</b>	Approx. 59 x 31 x 45 mm
<b>Weight</b>	0.15kg
<b>Type of mounting</b>	Ø 30.5 mm fixing hole
<b>Enclosure colour</b>	Grey

# 418 8170 signal lamp



## Ordering code for component

A	B	
GHG 418 8170	R00	—
Code	Component	Code
A	Signal lamp	GHG 418 8170
Code	Voltage	Code
B	20 V - 250 V AC/DC	51
	18 V - 30 V DC (Ex-i)	52
	12 V - 24 V AC/DC	53

## Example for ordering code

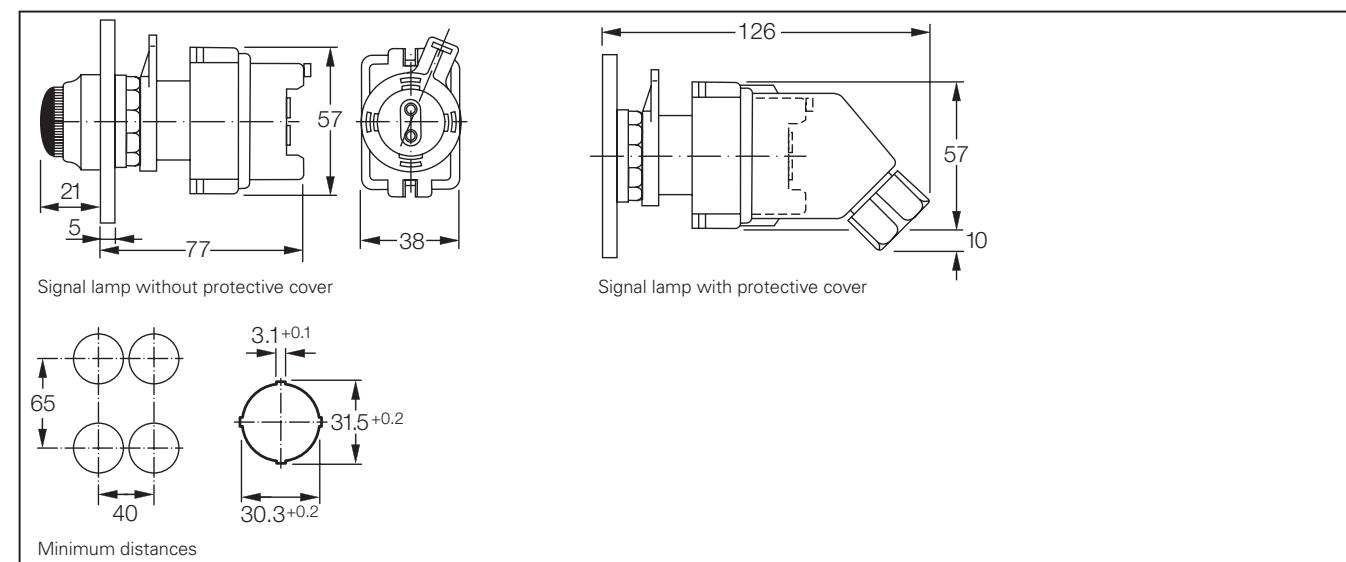
Version	Order No.	
	A	B
Version without protective cover with lens cover yellow, red, green and white		
Universal voltage 20V-250V AC/DC	GHG4188170	R0051
For intrinsically safe circuits (18 V up to 30 V DC1)	GHG4188170	R0052
Low voltage 12 V up to 24 V AC/DC	GHG4188170	R0053

## Accessories

Type	OU	Order No.
Protective cover to meet IP66	5	GHG410 1939 R0002

Please note that we can only deliver in the ordering units (OU) stated in the tables above.

## Dimension



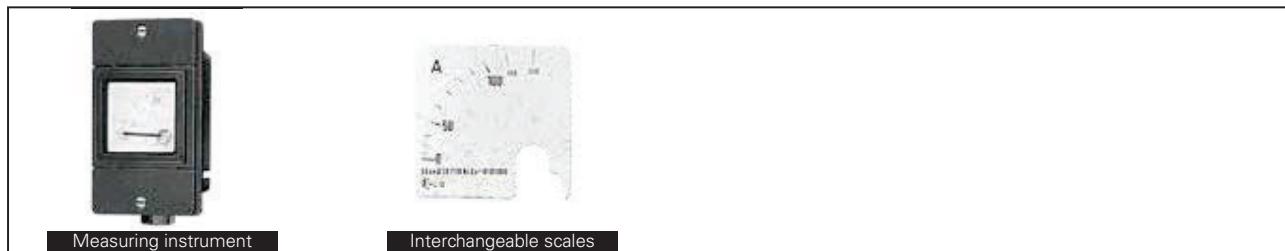
# AM 72 measuring instrument 413 84



## Technical data

	<b>Moving iron</b>	<b>Moving coil</b>
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex e IIC / I M 2 Ex e I	Ex II 2 G Ex ib IIC / I M 2 Ex ib I
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C (option)	-20°C ~ +40°C -55°C ~ +55°C (option)
<b>Rated voltage</b>	Up to 690V	Up to 690V
<b>Power consumption</b>	max. 0.31 VA	Max. 0.31 VA
<b>Overload range</b>	10 fold - 25 sec. 25 fold - 4 sec. 50 fold - 1 sec. Indicated: 1:1.5	10 fold - 5 sec.
<b>Measuring range</b>	Max. 0-25 A direct/ n / 1A	0/4-24mA
<b>Inductance Li</b>	<0.1mH	
<b>Capacitance Ci</b>	<0.1 nF	
<b>Winding specification of moving coil</b>	26.5 windings	
<b>Internal resistance</b>	2.5Ω+/- 30%	
<b>Open circuit voltage Ui</b>	30V	
<b>Short circuit current li</b>	150mA	
<b>Accuracy</b>	Class 2.5	Class 1.5
<b>Connecting terminals</b>	2x1.5-4mm <sup>2</sup>	2x1.5-4mm <sup>2</sup>
<b>Degree of protection</b>	IP66	IP66
<b>Cable glands/gland plates/enclosure drilling</b>	1xM25(Ø8-17mm)	1xM25(Ø8-17mm)
<b>Dimension (L x W x H)</b>	160x95x62mm	160x95x62mm
<b>Display size AM72</b>	72x72mm	72x72mm
<b>Weight</b>	0.8kg	0.8kg
<b>Type of mounting</b>	DIN rail mounting	DIN rail mounting
<b>Enclosure colour</b>	Grey	Grey

# AM 72 measuring instrument 413 84



## Ordering code for component

A	B	C		
GHG 412 828	-	R0	—	
Code	Component		Code	
A	AM72 measuring instrument		GHG 412 828	
Code	Movement		Code	
B	Direct connection		1	
	Ct connection 1/A		2	
	Port 0 - 20/24 mA (scale 0-100% / 120%) <sup>1)</sup>		5	
	Port 4 - 20/24 mA (scale 0-100% / 120%) <sup>1)</sup>		6	
	Moving-coil connection 0 - 20/24 mA (scale 0-100% / 120%) <sup>1) 3)</sup>		7	
	Moving-coil connection 4 - 20/24 mA (scale 0-100% / 120%) <sup>1) 3)</sup>		8	
Code	Measuring range	Code	Measuring range	Code
C	0 - 1	002	0 - 75 / 112.5 A	013
	0 - 2.5 / 3.75 A <sup>2)</sup>	003	0 - 100 / 150 A	014
	0 - 5 / 7.5 A <sup>2)</sup>	004	0 - 150 / 225 A	015
	0 - 10 / 15 A <sup>2)</sup>	005	0 - 200 / 300 A	016
	0 - 15 / 22.5 A <sup>2)</sup>	006	0 - 250 / 375 A	017
	0 - 20 / 30 A <sup>2)</sup>	008	0 - 300 / 450 A	018
	0 - 30 / 45 A	009	0 - 400 / 600 A	019
	0 - 40 / 60 A	010	0 - 500 / 750 A	020
	0 - 50 / 75 A	011	0 - 600 / 900 A	021
	0 - 60 / 90 A	012	0 - 100% / 150%	033

<sup>1)</sup> Movement 0 -20 mA / 4 - 20 mA and with moving-coil connection are only available with scale 0 - 100%/120%

<sup>2)</sup> Version for direct connection (standard: CT connection n/1A) possible

<sup>3)</sup> Moving coil only for Ex-i or Ex-d flameproof applications

Other interchangeable scales available on request

# AM 72 measuring instrument 413 84



Interchangeable scales



Measuring instrument

## Example for ordering code

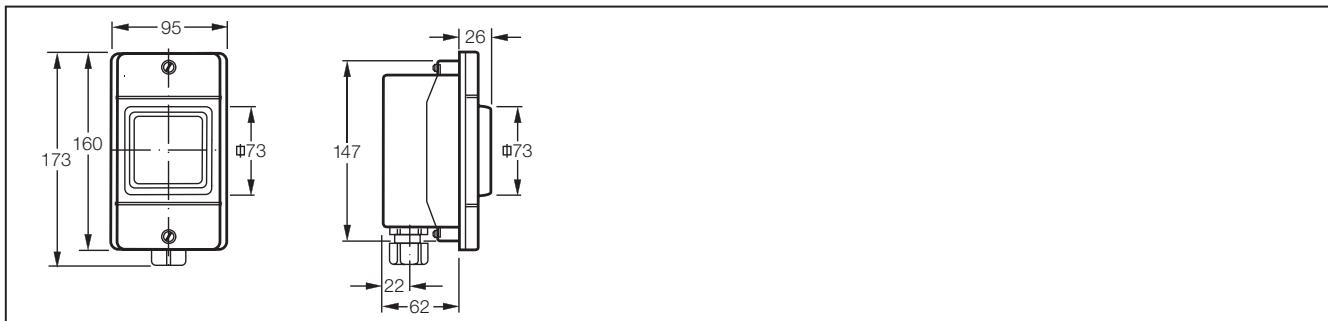
Measuring range	Order No.
Measuring instrument AM72, direct measurement, version with 1 x cable entry M25	
0 - 1 / 1.5 A	GHG 412 8281 R0002
0 - 2.5 / 3.75 A	GHG 412 8281 R0003
0 - 5 / 7.5 A	GHG 412 8281 R0004
0 - 10 / 15 A	GHG 412 8281 R0005
0 - 16 / 24 A	GHG 412 8281 R0007
0 - 20 / 24 mA 0-100% / 120% ( $R_i = 320\Omega$ )	GHG 412 8285 R0033
4 - 20 / 24 mA 0-100% / 120% ( $R_i = 320\Omega$ )	GHG 412 8286 R0035

Measuring instrument AM 72, Ct connection, n/1A, version with 1 x cable entry M25

0 - 1 / 1.5 A	GHG 412 8282 R0002
0 - 2.5 / 3.75 A	GHG 412 8282 R0003
0 - 5 / 7.5 A	GHG 412 8282 R0004
0 - 10 / 15 A	GHG 412 8282 R0005
0 - 15 / 22.5 A	GHG 412 8282 R0006
0 - 20 / 30 A	GHG 412 8282 R0008
0 - 30 / 45 A	GHG 412 8282 R0009
0 - 40 / 60 A	GHG 412 8282 R0010
0 - 50 / 75 A	GHG 412 8282 R0011
0 - 60 / 90 A	GHG 412 8282 R0012
0 - 75 / 112.5 A	GHG 412 8282 R0013
0 - 100 / 150 A	GHG 412 8282 R0014
0 - 150 / 225 A	GHG 412 8282 R0015
0 - 200 / 300 A	GHG 412 8282 R0016
0 - 250 / 375 A	GHG 412 8282 R0017
0 - 300 / 450 A	GHG 412 8282 R0018
0 - 400 / 600 A	GHG 412 8282 R0019
0 - 500 / 750 A	GHG 412 8282 R0020
0 - 600 / 900 A	GHG 412 8282 R0021
0 - 100% / 150% A	GHG 412 8282 R0031

2

## Dimension



# Interchangeable AM72



Interchangeable AM72

## Example for ordering code

Interchangeable scales for measuring instrument, CT connection n/1A for AM 45/AM 72

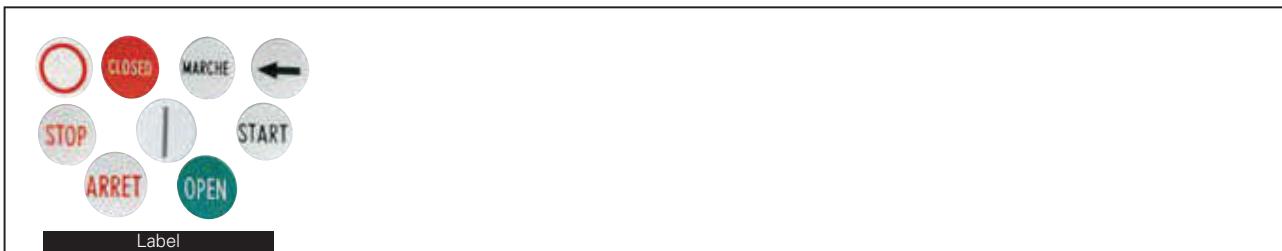
Scale	Order unit	Order No. AM45	Order No. AM72
0 - 1 / 1.5 A	10	GHG 410 1926 R0001	GHG 410 1928 R0001
0 - 2.5 / 3.75 A	10	GHG 410 1926 R0002	GHG 410 1928 R0002
0 - 5 / 7.5 A	10	GHG 410 1926 R0003	GHG 410 1928 R0003
0 - 10 / 15 A	10	GHG 410 1926 R0004	GHG 410 1928 R0004
0 - 15 / 22.5 A	10	GHG 410 1926 R0005	GHG 410 1928 R0005
0 - 20 / 30 A	10	GHG 410 1926 R0006	GHG 410 1928 R0006
0 - 25 / 37.5 A	10	GHG 410 1926 R0021	GHG 410 1928 R0021
0 - 30 / 45 A	10	GHG 410 1926 R0007	GHG 410 1928 R0007
0 - 40 / 60 A	10	GHG 410 1926 R0008	GHG 410 1928 R0008
0 - 50 / 75 A	10	GHG 410 1926 R0009	GHG 410 1928 R0009
0 - 60 / 90 A	10	GHG 410 1926 R0010	GHG 410 1928 R0010
0 - 75 / 112.5 A	10	GHG 410 1926 R0011	GHG 410 1928 R0011
0 - 100 / 150 A	10	GHG 410 1926 R0012	GHG 410 1928 R0012
0 - 150 / 225 A	10	GHG 410 1926 R0013	GHG 410 1928 R0013
0 - 200 / 300 A	10	GHG 410 1926 R0014	GHG 410 1928 R0014
0 - 250 / 375 A	10	GHG 410 1926 R0015	GHG 410 1928 R0015
0 - 300 / 450 A	10	GHG 410 1926 R0016	GHG 410 1928 R0016
0 - 400 / 600 A	10	GHG 410 1926 R0017	GHG 410 1928 R0017
0 - 500 / 750 A	10	GHG 410 1926 R0018	GHG 410 1928 R0018
0 - 600 / 900 A	10	GHG 410 1926 R0019	GHG 410 1928 R0019
0 - 100% / 150%	10	GHG 410 1926 R0020	GHG 410 1928 R0051

Special scales available on request

2



# Label



Label

## Order code

### Labels for pushbutton

Inscription	Order No.	Inscription	Order No.
0, I Start, Stop	001	0	002
I	003	II	004
D	005	STOP	006
START	007	NOT-AUS	008
LANGSAM	009	SCHNELL	010
EMERG.STOP	011	-	012
ARRET	014	MARCHE	015
AUF	016	AB	017
Neutral whtie	018	Neutral green	019
0, I, Arret, Marche	020	UP	024
DOWN	025	ZU	026
ON	027	OFF	028
+	030	-	031
Neutral red	033	Neutral yellow	034
EIN	036	AUS	037
AUTO	039	HAND	050
SENKEN	051	HEBEN	052
LINKS	053	RECHTS	054
FAST	055	SLOW	056
RESET	057	OPEN	058
HALT	069	III	070
VOR	073	ZURÜCK	074
FIRE ALARM	094	FORWARD	095
REVERSE	096	RUN	100
HIGH	101	LOW	102
LP	151	HQ	152
LQ	157	STÖR.QUIT	162
SPERREN	163	ENTSPERREN	164
ENTRIEGELN	165	VERRIEGELN	166

Special labels are available on request.

# Panels

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## AGP17 Explosion-protected panelboards

**Energy distribution, switching and control assembly**

### A robust solution for power distribution in Zone 1, 2, 21 and 22 hazardous areas

Eaton's Crouse-Hinds series AGP17 distribution and control board is certified for hazardous areas with Ex de protection.

Ex e increased safety Stainless Steel/GRP enclosure ensures maximum performance and corrosion resistance. A wide range of internal encapsulated components are available to meet any custom requirement.



#### Factory sealed assembly eliminates flame path

- Easy installation and reduced labor cost
- Reduced maintenance cost by eliminating Ex d inspections according to IEC60079-17, which requires inspections within every three years

#### Ex e enclosure eliminates

##### Ex d bolts

- Easy to open and access
- Improves safety by avoiding the risk of compromising safety due to missing, broken, stripped or galled bolts

#### 316LSS/GRP enclosure

- High level of corrosion and chemical resistance, ideal for off-shore applications and other aggressive hazardous areas

#### Modular design

- Simple expansion options
- Easily replace encapsulated components

#### Ex d MCCB up to 250A

- Covers wide range of Ex design applications

#### Lightweight and compact design

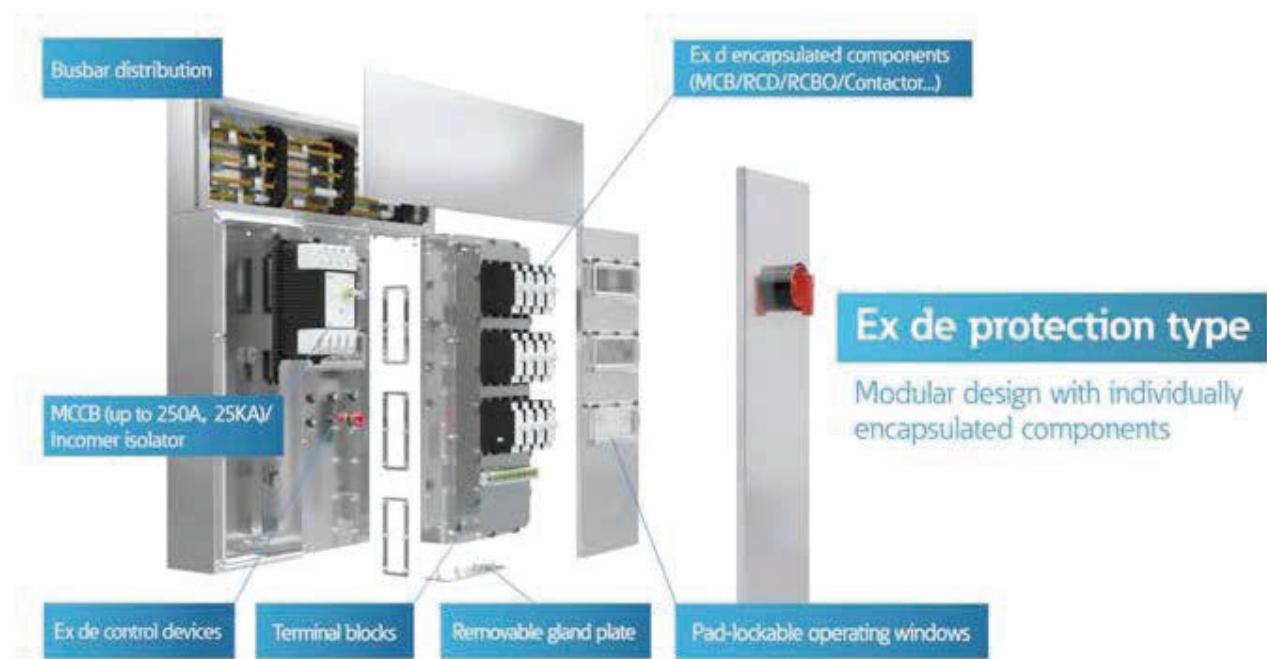
- Easy to install
- Advantage for off-shore applications

# AGP17 Explosion-protected panelboards



## Technical data

<b>EC-type examination certificate</b>	SEV 21 ATEX 0559X
<b>GB-certification of conformity</b>	CCC
<b>IECEx-certification of conformity</b>	IECEx NEP 18.0001X
<b>Marking acc. to ATEX</b>	$\text{Ex II 2 G Ex db eb ia/ib mb [ia/ib] IIIC T4...T6 Gb}$ $\text{Ex II 2 DEx tb IIIC T 80°C Db}$
<b>Marking acc. to IECEx</b>	$\text{Ex db eb ia/ib mb [ia/ib] IIC T4...T6 Gb}$ $\text{Ex tb IIIC T 80°C Db}$
<b>Application temperature</b>	- 20 °C up to +40 °C - 40 °C up to +55 °C (option)
<b>Rated voltage</b>	690V
<b>Rated current</b>	315A
<b>Terminal cross-section</b>	240mm <sup>2</sup>
<b>Degree of protection</b>	IP66 according to IEC60079
<b>Enclosure material</b>	Glass fiber reinforced polyester, or stainless steel SS316L
<b>Stainless steel enclosure finish</b>	Electro-polish(standard), mechanical brush, painting and powder coating are optional.



Notes: Max. 4 x 2pole breakers, 3 x 3 pole breakers or 2 x 4 pole breakers are allowed behind a window.

# Ex-d built-in components - MCB modules



## MCB 0.5A to 63A

### Certifications and Compliances

<b>Marking accd. to ATEX/IECEx</b>	Ex db eb IIC Gb
<b>Application temperature</b>	-40°C up to + 64°C / -20°C up to +64°C

### Electrical Ratings

<b>Rated voltage</b>	<b>Main contact</b>	max. 440 V AC
	<b>Auxiliary contact</b>	max. 250 V AC
<b>Rated current</b>	<b>Main contact</b>	0.5A to 63A
	<b>Auxiliary contact</b>	max. 5 A
<b>Rated switching capacity 2/3 phase</b>		ma x. 15kA
<b>Back-up fuse</b>		depend on rated current up to 125 A
<b>Connection terminals</b>	<b>Main contact</b>	25 mm <sup>2</sup>
	<b>Auxiliary contact</b>	2.5 mm <sup>2</sup>

### Additional Specifications

<b>Weight</b>	0.74 kg size 1 1.13 kg size 2 1.49 kg size 3
<b>Enclosure material</b>	Reinforced flame-retardant nylon
<b>Enclosure colour</b>	black
<b>Options</b>	Aux. contact; signal contact; shunt trip; undervoltage release
<b>Padlocking capability</b>	Padlockable at off position

## MCB ordering logic

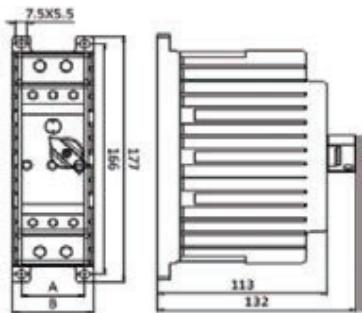
CPD161	-2	-1	1	2	-C	630	10	-1	2	1	1	N
Product Group	Enclosure size	Internal components code	Internal MCB	MCB size	Tripping characteristic	Rated current	Rated switching capacity	Aux. contact	Signal contact	Shutting release	Undervoltage release	Tamb
<b>CPD161</b>	<b>2</b> Size 1	<b>1</b> MCB	<b>1</b> Eaton/PL10~1P(230/400V), 2~4P(400V) 50/60Hz	<b>1</b> 1Pole	<b>B</b> B capacity	<b>005</b> 0.5A	<b>15</b> 15kA <sup>1)</sup>	<b>0</b> NA	<b>0</b> NA	<b>0</b> NA	<b>N</b>	
	<b>3</b> Size 2		<b>2</b> Eaton/FAZ ~ 1P(240/415V), 2~4P(440V) 50/60Hz	<b>2</b> 2Pole	<b>C</b> C capacity	<b>010</b> 1A	<b>10</b> 10kA	<b>1</b> 1NO	<b>1</b> 1C/O	<b>1</b> 12-110V	<b>1</b> 115VAC	-20°C up to +64°C
	<b>4</b> Size 3			<b>3</b> 3Pole	<b>D</b> D capacity	<b>020</b> 2A	<b>06</b> 6kA	<b>2</b> 1NC	<b>2</b> 1C/O	<b>2</b> 110-415V	<b>2</b> 230VAC	<b>3</b> 400VAC
			Enclosure Size 1 2P 1P 1P+ Aux. contact (1NO+1NC or 1CO or 2CO) 1P+ Signal contact 1CO and/or Aux.contact 1CO)	<b>4</b> 4Pole		<b>030</b> 3A		<b>3</b> 1C/O	<b>4</b> 2NO	<b>5</b> 1NO+1C/O	<b>6</b> 1NO+1NC	<b>Blank</b>
						<b>040</b> 4A						-40°C up to +64°C
						<b>060</b> 6A						
						<b>100</b> 10A						
						<b>130</b> 13A						
						<b>160</b> 16A						
						<b>200</b> 20A						
						<b>250</b> 25A						
						<b>320</b> 32A						
						<b>400</b> 40A						
						<b>500</b> 50A						
						<b>630</b> 63A						
			Enclosure Size 2 3P 2P+ Aux. contact (1NO+1NC or 1CO or 2CO) 2P+ Signal contact 1CO and/or Aux.contact 1CO) 2P+ shutting release contact 2P+ undervoltage release contact									
			Enclosure Size 3 4P 3P/4P+ Aux. contact (1NO+1NC or 1CO or 2CO) 3P/4P+ Signal contact 1CO and/or Aux.contact 1CO) 3P/4P+ shutting release contact 3P/4P+ undervoltage release contact									

<sup>1)</sup> FAZ only

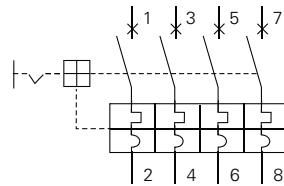
Contact Eaton for other configuration

# Ex-d built-in components - MCB modules

Dimension drawing (mm) / Connection diagram



Product type	A	B
CPD161-2	42	54
CPD161-3	60	72
CPD161-4	96	108



AGP17 Stainless Steel Panelboard with Painting

# Ex-d built-in components - MCCB modules



## MCCB 20A to 250A

		Certifications and Compliances
Marking accd. to 2014/34/EU		D II 2 G Ex de IIB/IIC Gb
Marking accd. to IECEx		Ex de IIB/IIC Gb
Functional temperature		-20°C up to +70°C
Application temperature <sup>1)</sup>		-20°C up to +55°C (IIC / IIB based on AGP17)
Limits of service temperature		-20°C up to +110°C (IIC / IIB)
Component degree of protection accd. EN 60529		IP20
Storage temperature		-20°C up to +55°C in original packing
		Electrical Ratings
Safe Isolation to EN 61140	between aux contacts and main contacts between aux contacts	500 VAC 300 VAC
Rated impulse withstand voltage	main contacts auxiliary contacts	8000 V 6000 V
Rated operating voltage U <sub>e</sub>		440 V
Rated switching capacity I <sub>cu</sub>	400/415/440V (50/60Hz) kA/cos ψ 500VDC	10 kA/0.25 or 25 kA 10 kA
Rated current I <sub>n</sub>	main contact aux. contact	20A,25A,32A,40A,63A,80A,100A,125A,160A,200A or 250A max. 5 A
Adjustable setting range I <sub>r</sub>		0.8 to 1.0 x rated current I <sub>n</sub>
Short current protection		I <sub>s</sub> = 10 x I <sub>n</sub>
Utilization category to IEC/EN 60947-2		A
Making/breaking capacity at rated current up to 400 V		AC1 & AC3
Connecting terminals main contact		1 x 4.0 mm <sup>2</sup> up to 1 x 185 mm <sup>2</sup>
Rated voltage aux. contact		max. 500 V AC
Rated current aux contact	AC15 le (up to 230 V) / DC13 le (up to 24 V) AC15 le (up to 400 V) / DC13 le (up to 60 V) AC15 le (up to 500 V) / DC13 le (up to 110 V) DC13 le (up to 220 V)	4 A / 3 A 2 A / 1.2 A 1 A / 0.8 A 0.3 A
Connecting terminals aux./ Signal contact		1.0 mm <sup>2</sup> up to 4.0 mm <sup>2</sup> fine stranded
Total opening delay on short circuit		< 10 ms
		Additional Specifications
Weight		10.5 kg - 4-pole / 10 kg - 3-pole
Enclosure material		Polyamide
Built-in position		Vertical and rotated 90 deg in all directions
Release system		Thermomagnetic release

<sup>1)</sup>The limits of the operating temperature range and the max. permissible temperature rise of the components (functional temperature) have to be taken into account.

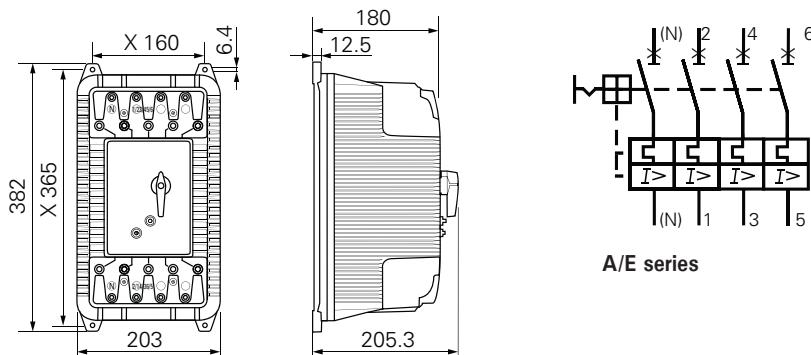
# Ex-d built-in components - MCB modules

## MCCB ordering logic

GHG 6277		0	01	R0	1	3	2
Product Group	Configuration		Accessories	Version	# of poles	shortcircuit current	Rated current
<b>GHG6277</b>	<b>0</b>	<b>MCCB only</b>	<b>00</b>	MCCB only	<b>R0</b>	E-series (standard)	<b>1</b> 20 A <sup>1)</sup>
	<b>1</b>	MCCB + 1NO	<b>01</b>	Shunt trip 24V AC/DC + early make 1NO	<b>2</b>	IEC 25 kA@ 440V AC	<b>2</b> 25 A <sup>1)</sup>
	<b>2</b>	MCCB + 1NC	<b>02</b>	Shunt trip 110V-130V AC/DC + early make 1NO		10kA@500V DC	<b>3</b> 32 A <sup>1)</sup>
	<b>3</b>	MCCB + trip indicator 1NO	<b>03</b>	Shunt trip 208V-250V AC/DC + early make 1NO			<b>4</b> 40 A <sup>1)</sup>
	<b>4</b>	MCCB + 1NO/1NC + trip indicator 1NC	<b>04</b>	Shunt trip 380V-440VAC/DC + early make 1NO			<b>2</b> 63 A
	<b>5</b>	MCCB + 2NO 5	<b>05</b>	Uv release 24V 50/60Hz + early make 1NO			<b>3</b> 80 A
	<b>6</b>	MCCB + 2NC 6	<b>06</b>	Uv release 110V-130V 50/60Hz + early make 1NO			<b>4</b> 100 A
	<b>7</b>	MCCB + 2NO + trip indicator 1NO	<b>07</b>	Uv release 208V-240V 50/60Hz + early make 1NO			<b>5</b> 125 A
	<b>8</b>	MCCB + 2NC + trip indicator 1NO	<b>08</b>	Uv release 380V-440V 50/60Hz + early make 1NO			<b>6</b> 160 A
	<b>9</b>	MCCB + 1NO + 1NC + trip indicator 1NO	<b>09</b>	Uv release 480V-525V 50/60Hz + early make 1NO			<b>7</b> 200 A
	<b>10</b>	MCCB + 1NO/1NC + trip indicator 1NC	<b>10</b>	Shunt trip 24V AC/DC			<b>9</b> 250 A
	<b>11</b>	MCCB + 2NO/2NC + trip indicator 1NO	<b>11</b>	Shunt trip 110V-130V AC/DC			
	<b>12</b>	MCCB + 2NO/2NC + trip indicator 1NC	<b>12</b>	Shunt trip 208V-250V AC/DC			
	<b>13</b>	MCCB + 1NO + 1NC + trip indicator 1NO	<b>13</b>	Shunt trip 380V-440VAC/DC			
	<b>14</b>	MCCB + 1NO/1NC + trip indicator 1NC	<b>14</b>	Uv release 24V 50/60Hz			
	<b>15</b>	MCCB + 2NO/2NC + trip indicator 1NC	<b>15</b>	Uv release 110V-130V 50/60Hz			
	<b>16</b>	MCCB + 2NO/2NC + trip indicator 1NO	<b>16</b>	Uv release 208V-240V 50/60Hz			
	<b>17</b>	MCCB + 2NO/2NC + trip indicator 1NC	<b>17</b>	Uv release 380V-440V 50/60Hz			
	<b>18</b>	MCCB + 2NO/2NC + trip indicator 1NO	<b>18</b>	Uv release 480V-525V 50/60Hz			
	<b>19</b>	MCCB + 2NO/2NC + trip indicator 1NC	<b>19</b>	Early make aux. switch 2NO			
	<b>20</b>	MCCB + 2NO/2NC + trip indicator 1NO	<b>20</b>	Uv release 24V DC			

<sup>1)</sup> Available for R2 E-series only

## Dimension drawing (mm) / Connection diagram



3

# Ex-d built-in components - RCD modules



## RCD 30mA to 300mA (16A/25A/40A/63A)

### Certifications and Compliances

<b>Marking accd. to ATEX/IECEx</b>	Ex db eb IIC Gb
<b>Application temperature</b>	-25°C up to +55°C / -20°C up to +55°C

### Electrical Ratings

<b>Rated voltage</b>	<b>Main contact</b>	max. 415 V AC
	<b>Auxiliary contact</b>	max. 250 V AC
<b>Rated current</b>	<b>Main contact</b>	16A to 63A
	<b>Auxiliary contact</b>	max. 5 A
<b>Rated residual operating current</b>		30mA, 100mA or 300mA
<b>Back-up fuse</b>		depend on rated current up to 100 A
<b>Connection terminals</b>	<b>Main contact</b>	25 mm <sup>2</sup>
	<b>Auxiliary contact</b>	2.5 mm <sup>2</sup>

### Additional Specifications

<b>Weight</b>	0.74 kg size 1 1.13 kg size 2 1.49 kg size 3
<b>Enclosure material</b>	Reinforced flame-retardant nylon
<b>Enclosure colour</b>	black
<b>Options</b>	Aux. contact; signal contact
<b>Padlocking capability</b>	Padlockable at off position

## RCD ordering logic

3

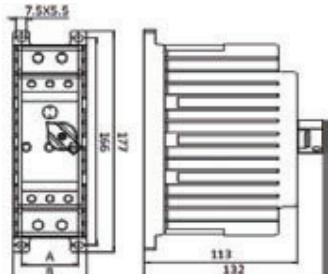
Product Group	Enclosure size	Internal components code	Internal RCD	Internal industrial RCD size	Rated current	Rated residual operating current	Aux. contact	Signal contact	Tamb
CPD161	2 Size 1 3 Size 2 4 Size 3	<b>2</b> RCD	<b>1</b> Eaton / PFIM / 2P or 4P / (230V/400V) / 50Hz / 55°C <sup>3</sup> <b>2</b> Eaton / FRCmM-A / 2P or 4P / (240V/415V) / 60Hz / 40°C	<b>2</b> 2Pole <b>4</b> 4Pole	<b>160</b> 16A <sup>1)</sup> <b>250</b> 25A <b>400</b> 40A <b>630</b> 63A	<b>030</b> 30mA <b>100</b> 100mA <sup>2)</sup> <b>300</b> 300mA <sup>2)</sup>	<b>0</b> NA <b>1</b> 1C/O	<b>0</b> NA <b>1</b> 1C/O	<b>N</b> -20°C up to +55°C <b>Blank</b> -25°C up to +55°C <b>TN</b> -20°C up to +40°C <b>T</b> -25°C up to +40°C
	Enclosure Size 1 Enclosure Size 2 Enclosure Size 3	2P 2P+ Aux. contact(1CO) 2P+ Signal contact (1CO) 4P 4P+ Aux. contact(1CO) 4P+ Signal contact (1CO)							

<sup>1)</sup> FRCmM-A only

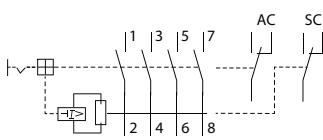
<sup>2)</sup> Not available for FRCmM-A 63A/2P and 63A/4P

<sup>3)</sup> This is max. permissible ambient temperature  
Contact Eaton for other configuration

## Dimension drawing (mm) / Connection diagram



Product type	A	B
CPD161-2	42	54
CPD161-3	60	72
CPD161-4	96	108



# Ex-d built-in components - RCBO modules



## RCBO 6A to 63A (30A/300mA)

### Certifications and Compliances

<b>Marking accd. to ATEX/IECEx</b>	Ex db eb IIC Gb
<b>Application temperature</b>	-25°C up to +55°C / -20°C up to +55°C

### Electrical Ratings

<b>Rated voltage</b>	<b>Main contact</b>	max. 400 V AC
	<b>Auxiliary contact</b>	max. 250 V AC
<b>Rated current</b>	<b>Main contact</b>	6A to 63A
	<b>Auxiliary contact</b>	max. 5 A
<b>Rated switching capacity 2/3 phase</b>		10 kA
<b>Back-up fuse</b>		depend on rated current up to 100 A
<b>Connection terminals</b>	<b>Main contact</b>	25 mm <sup>2</sup>
	<b>Auxiliary contact</b>	2.5 mm <sup>2</sup>

### Additional Specifications

<b>Weight</b>	0.74 kg size 1, 1.13 kg size 2, 1.49 kg size 3
<b>Enclosure material</b>	Reinforced flame retardant nylon
<b>Enclosure colour</b>	black
<b>Options</b>	Aux. contact; signal contact
<b>Padlocking capability</b>	Padlockable at off position

## RCBO ordering logic

Product Group	Enclosure size	Internal components code	Internal RCBO	RCBO size	Tripping characteristic	Rated current	Rated switching capacity	Rated residual operating current	Aux. contact	Signal contact	Tamb
CPD161	2 Size 1	3 RCBO	1 Eaton / PLD10 / 1P+N / 230V / 50Hz / 10kA / 55°C <sup>1)</sup> / Electronic 2 Eaton / PL10+PDB / 2P/400V / 50Hz / 10kA / 55°C / Electronic <sup>2)</sup> 3 Eaton / PFL10 / 1P+N / 230V / 50Hz / 10kA / 55°C / Electromagnetic 4 Eaton / PL10+PBSM / 2P / 230V / 50Hz / 10kA / 55°C / Electromagnetic <sup>2)</sup>	2 1 Pole+N 4 2 Pole	B B capacity C C capacity D D capacity	060 6A 080 8A 100 10A 130 13A 160 16A 200 20A 250 25A 320 32A 400 40A 500 50A 630 63A	10 10kA 06 6kA 100 100mA <sup>3)</sup>	030 30mA 300 300mA 100 100mA <sup>3)</sup>	0 NA 1 1C/O 2 2C/O	0 NA 1 1C/O 2 2C/O	N -20°C up to +55°C Blank -25°C up to +55°C TN -20°C up to +40°C T -25°C up to +40°C
	3 Size 2										
	4 Size 3										
	Enclosure Size 1 1P+N 2P										
	Enclosure Size 2 1P+N+Aux. contact(1CO) 1P+N+Sig. contact(1CO or 2CO) 2P+Aux. contact(1CO) 2P+Sig. contact(1CO or 2CO)										
	Enclosure Size 3 2P+Aux. contact(1CO) <sup>1)</sup> 2P+Sig. contact(1CO or 2CO) <sup>1)</sup>										

<sup>1)</sup> PL10+PDB or PL10+PBSM

<sup>2)</sup> Enclosure size 3, Utilize philosophy of MCB + RCCB connection in series for 2pole RCBO

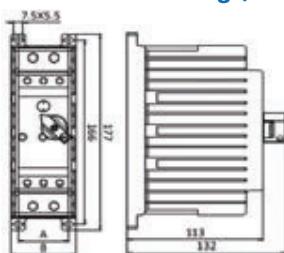
<sup>3)</sup> Not available for PLD10 & PFL10

<sup>4)</sup> This is max. permissible ambient temperature

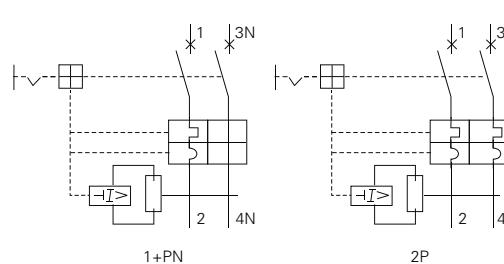
Contact Eaton for other configuration

3

## Dimension drawing (mm) / Connection diagram



Product type	A	B
CPD161-2	42	54
CPD161-3	60	72
CPD161-4	96	108



# Ex-d built-in components - Motor contactors



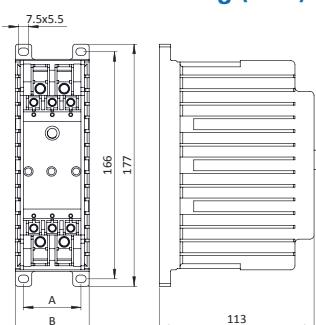
## Motor contactors

Certifications and Compliances								
<b>Marking accd. to ATEX/IECEx</b>		Ex db eb IIC Gb						
<b>Application temperature</b>		-20°C up to +50°C						
Electrical Ratings								
<b>Rated voltage</b>	<b>Main contact</b>		max. 440V AC					
	<b>Auxiliary contact</b>		max. 415V AC					
<b>Rated current</b>	<b>Auxiliary contact</b>		max. 5 A					
	<b>Main contact</b>		6 A	9 A	12 A	16 A		
<b>Rated capacity AC-3</b>	<b>220/240V</b>		1.5 kW	2.2 kW	3 kW	3 kW		
accd. to EN 60947-4-1	<b>380/415V</b>		2.2 kW	4 kW	5.5 kW	7.5 kW		
	<b>440V</b>		3 kW	4 kW	5.5 kW	7.5 kW		
<b>Connection terminals</b>	<b>Main contact</b>		25 mm <sup>2</sup>					
	<b>Auxiliary contact</b>		2.5 mm <sup>2</sup>					
Additional Specifications								
<b>Weight</b>	<b>3 pole</b>		1.13 kg size 2					
<b>Enclosure material</b>			Reinforced flame retardant nylon					
<b>Enclosure colour</b>			black					
<b>Options</b>			Aux. contact					

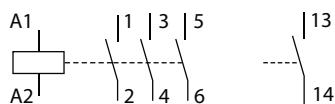
## Motor contactor ordering logic

CPD161	-3	-6	1	-09	-AC230	-2	-1	N
Product Group	Enclosure size	Internal components code	Internal contactor	Rated current	Control voltage(A1-A2)	Aux. contactor NO number	Aux. contactor NC number	Tamb
CPD161	3 Size 2	6 Motor contactor	1 Schneider/Tesys K series	06 6A 09 9A 12 12A 16 16A	AC024 AC24 V AC048 AC48 V AC110 AC110 V AC230 AC230 V AC240 AC230/240 V AC400 AC380/400 V AC440 AC440 V	DC012 DC12 V DC024 DC24 V DC048 DC48 V DC060 DC60 V DC110 DC110 V DC220 DC220 V	0 NA 1 1NO 2 2NO	0 NA 1 1NC 2 2NC
								N -20°C up to +50°C Blank -25°C up to +50°C

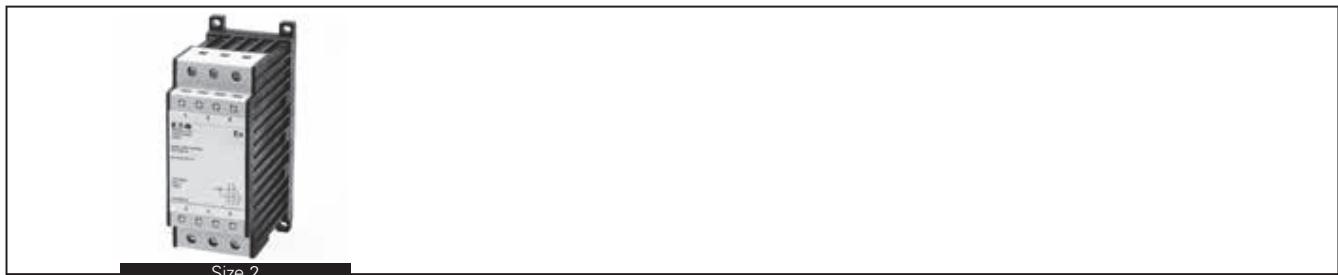
## Dimension drawing (mm) / Connection diagram



Product type	A	B
CPD161-3	60	72



# Ex-d built-in components - Installation contactors



## Installation contactors

### Certifications and Compliances

Marking accd. to ATEX/IECEx	Ex db eb IIC Gb
Application temperature	-25°C up to +64°C / -20°C up to +64°C

### Electrical Ratings

Rated voltage	Main contact	max. 415V AC
	Auxiliary contact	max. 415V AC
Rated current	Auxiliary contact	max. 5 A
	Main contact	20 A
Rated capacity AC-1 accd. to EN 60947-4-1	220-240V 380-415V	7.6 kW 13.5 kW
Rated capacity AC-3 accd. to EN 60947-4-1	220 230-240V 380-415V	2.2 kW 2.5 kW 4 kW
Connection terminals	Main contact	25 mm <sup>2</sup>
	Auxiliary contact	2.5 mm <sup>2</sup>

### Additional Specifications

Weight	1.13 kg size 2 1.49 kg size 3
Enclosure material	Reinforced flame retardant nylon
Enclosure colour	black

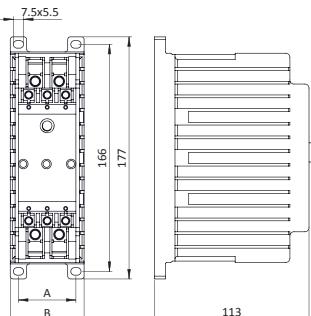
## Installation contactor ordering logic

CPD161	-2	-5	1	2	-50	230	-3	1	0	1	N
Product Group	Enclosure size	Internal components code	Internal installation contactors	Installation contactor Pole number	Rated current	Control voltage (Coil voltage)	Main NO contacts	Main NC contacts	Aux. NO contacts	Aux. NC contacts	Tamb
CPD161	3 Size 2	5 Installation contactor	1 Eaton/Z-SCH installation contactor	2 Pole 4 Pole	20 20A 230 230V AC	024 24V AC 230 230V AC	0 0NO 1 1NO 2 2NO 3 3NO 4 4NO	0 0NC 1 1NC 2 2NC 3 3NC 4 4NC	0 0NO 1 1NO 2 2NO 3 3NO 4 4NO	0 0NC 1 1NC 2 2NC 3 3NC 4 4NC	N -20°C up to +64°C Blank -25°C up to +64°C

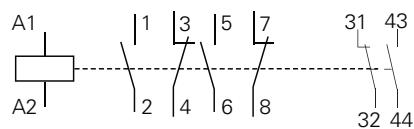
Enclosure Size 2 20A rating

3

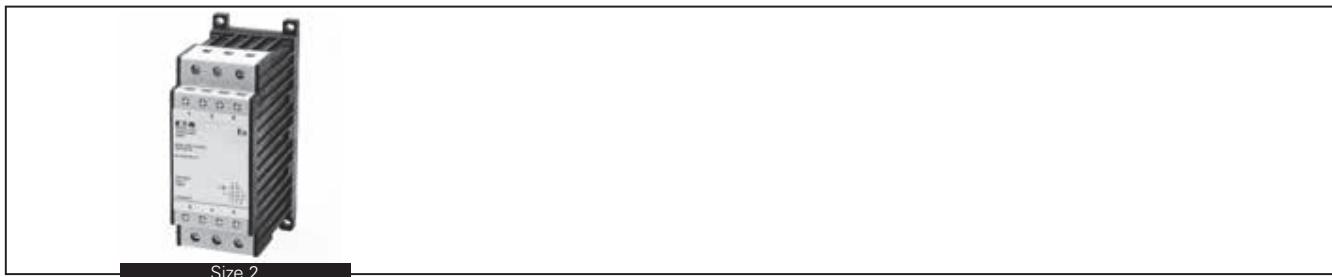
## Dimension drawing (mm) / Connection diagram



Product type	A	B
CPD161-3	60	72



# Ex-d built-in components - Thermal relays



## Thermal relays

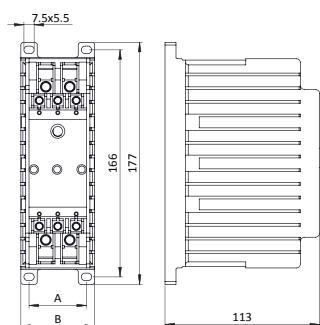
Certifications and Compliances					
<b>Marking accd. to ATEX/IECEx</b>		Ex db eb IIC Gb			
<b>Application temperature</b>		-20°C up to + 40°C			
Electrical Ratings					
<b>Rated voltage</b>	<b>Main contact</b>	max. 600 V AC			
	<b>Auxiliary contact</b>	max. 600 V AC			
<b>Rated current</b>	<b>Main contact</b>	12.5A			
	<b>Auxiliary contact</b>	max. 5A			
<b>Connection terminals</b>	<b>Main contact</b>	25 mm <sup>2</sup>			
	<b>Auxiliary contact</b>	2.5 mm <sup>2</sup>			
Additional Specifications					
<b>Weight</b>	<b>3 pole</b>	1.13 kg size 2			
<b>Enclosure material</b>		Reinforced flame-retardant nylon			
<b>Enclosure colour</b>		black			

## Thermal relay ordering logic

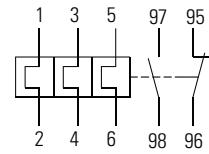
CPD161	3	4	1	02	N
Product Group	Enclosure size	Internal components code	Rated voltage (production series)	Rated current (Tripping current)	Tamb
CPD161	3 Size 2	4 Thermal relay	1 Eaton/XTOD/CC1 Thermal relay	01 0.3~0.45A 02 0.45~0.67A 03 0.67~1.0A 04 1.0~1.5A 05 1.4~2.1A 06 1.8~2.7A 07 2.4~3.6A 08 3.5~5.0A 09 4.0~6.0A 10 5.5~8.5A 11 8.5~12.5A	N -20°C up to +40°C Blank -25°C up to +40°C

3

## Dimension drawing (mm) / Connection diagram



Product type	A	B
CPD161-3	60	72



# Ex-d built-in components - Busbar



## Busbar system

### Busbar

#### Certification and compliances

ATEX / IECEx certificate	SEV 21 ATEX 0558U / IECEx_NEP_21.0007U
Marking according to ATEX / IECEx	Ex eb IIC Gb
Permissible ambient temperature	-55°C up to +55°C

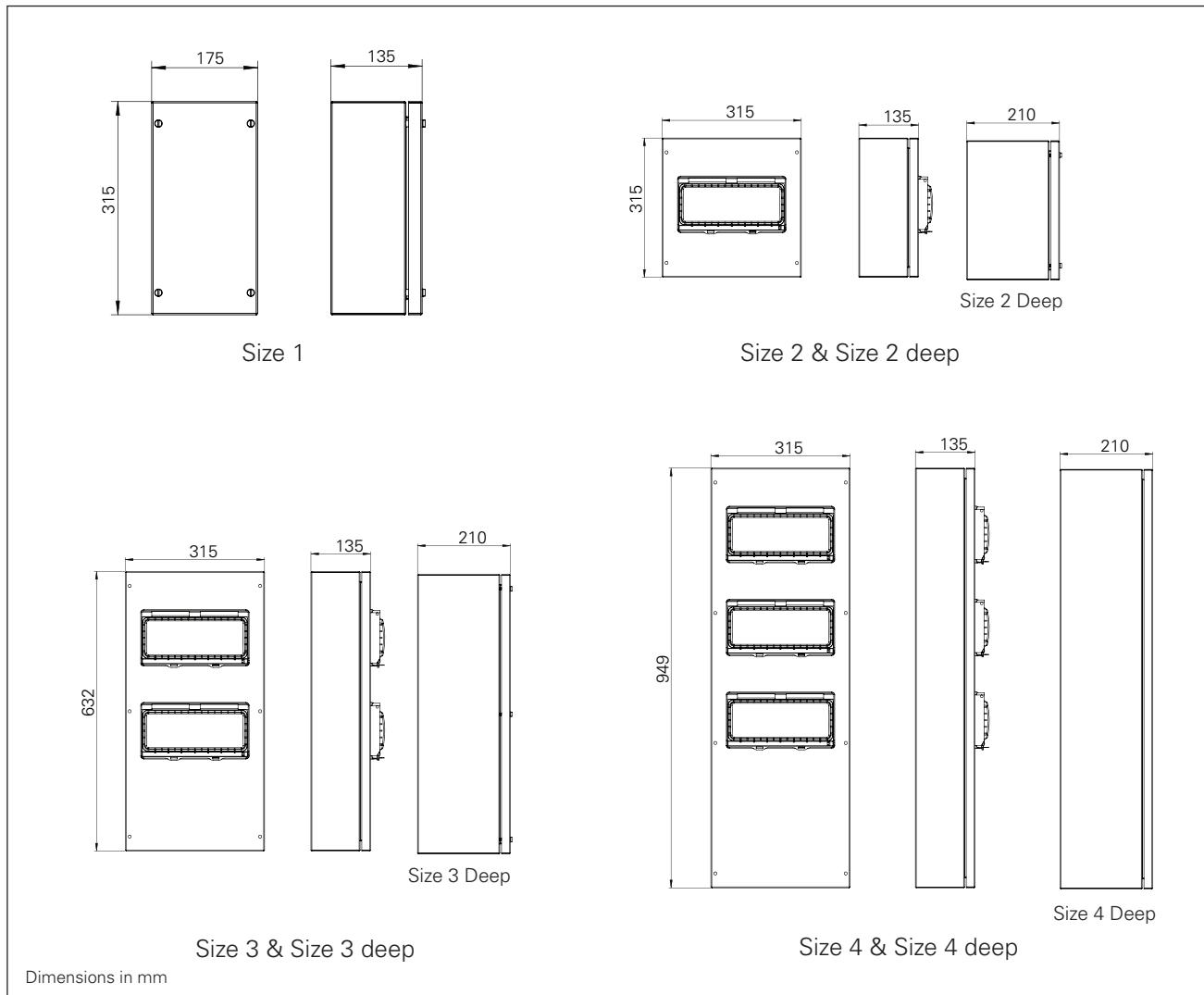
#### Electrical Ratings 250A

Rated voltage	690V
Rated current	250A
Rated short time current/1s	4kA
Rated short circuit current	35kA
Rated cross-section	60 mm <sup>2</sup>
Wire cross-section	1.5 mm <sup>2</sup> up to 185 mm <sup>2</sup>
Overall length of unit	Up to 6300 mm

#### Electrical Ratings 315A

Rated voltage	690V
Rated current	315A
Rated short time current/1s	9kA
Rated short circuit current	47kA
Rated cross-section	120 mm <sup>2</sup>
Wire cross-section	1.5 mm <sup>2</sup> up to 185 mm <sup>2</sup>
Overall length of unit	Up to 6300 mm

# 316L enclosure with dimension for panelboard



3

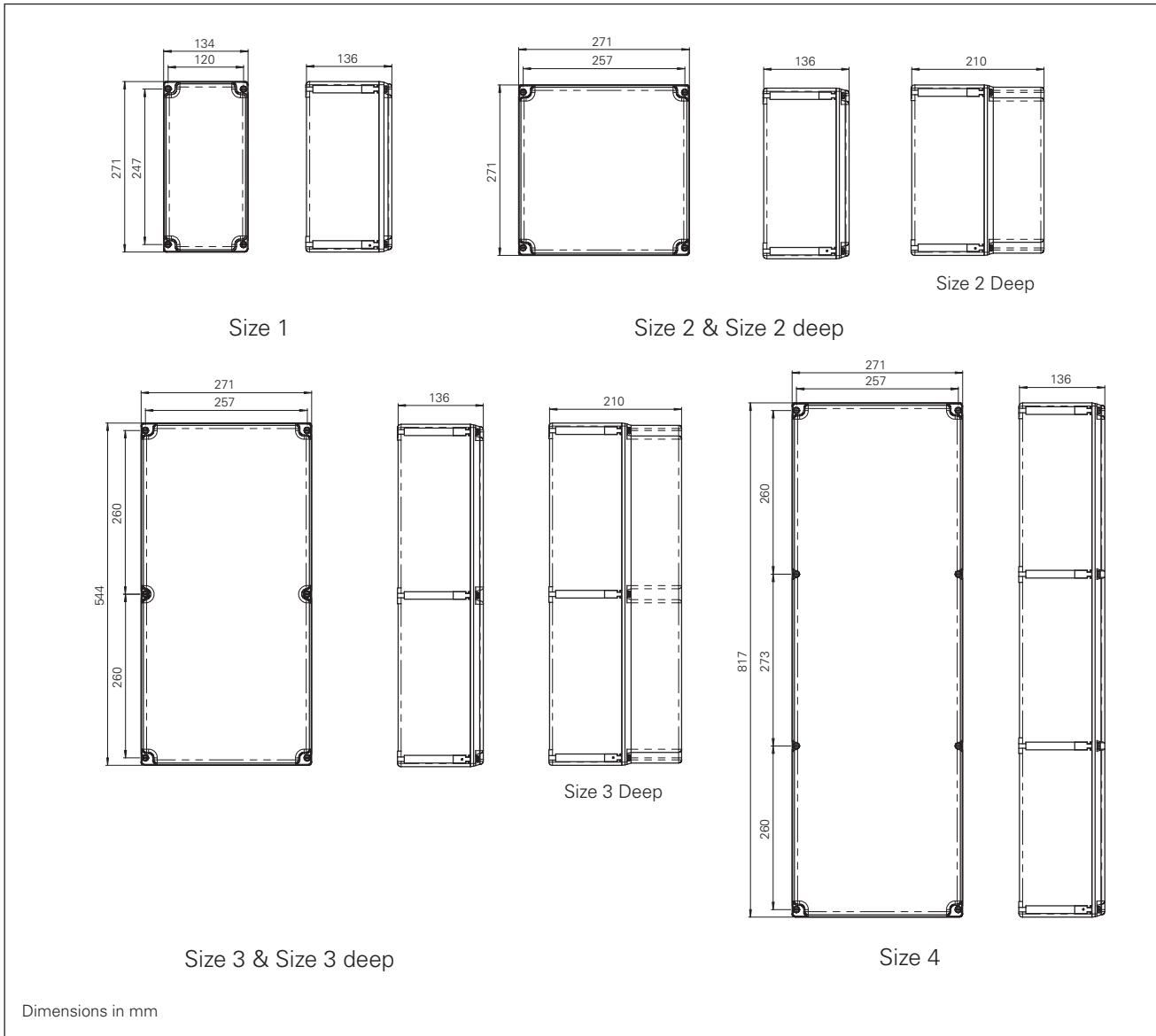
## Dimensions of enclosures

Type	Dimension (H x W x D in mm)
Size 1	315 x 175 x 135
Size 2	315 x 315 x 135
Size 2 deep	315 x 315 x 210
Size 3	632 x 315 x 135
Size 3 deep	632 x 315 x 210
Size 4	949 x 315 x 135
Size 4 deep	949 x 315 x 210

Note: Enclosures can be connected on request .



# GRP enclosure with dimension for panelboard



Note: Enclosures can be connected for panel building on request.

## Dimensions of enclosures

Type	Dimension (H x W x D in mm)
Size 1	271x134x136
Size 2	271x271x136
Size 2 deep	271x271x210
Size 3	544x271x136
Size 3 deep	544x271x210
Size 4	817x271x136

Note: Enclosures can be connected on request.



# Exde Panel - GHG619



Ex de panel GHG619 is for lighting circuits, heating circuits, socket distributions.

## Technical data

<b>EC-type examination certificate</b>	PTB 99 ATEX 1044 / BVS 22 ATEX E 006
<b>GB-certification of conformity</b>	CCC
<b>IECEx-certification of conformity</b>	IECEx BKI 07.0023 / IECEx BVS 22.0008
<b>Marking acc. to ATEX</b>	Ex II 2 G Ex de ia(ib) m [ia(ib)] IIC T4-T6 / Ex II 2 D Ex tD A21 IP66/IP65 T80 °C, T95 °C
<b>Marking acc. to IECEx</b>	Ex de ia(ib) m [ia(ib)] T4...T6 Ex tD A21 IP66 T80°C
<b>Application temperature</b>	-20°C ~ +40°C -55°C ~ +55°C (option)
<b>Rated voltage</b>	690V
<b>Rated current</b>	400A
<b>Insulation class</b>	I
<b>Terminal cross-section</b>	Up to 300mm <sup>2</sup>
<b>Degree of protection</b>	IP66 acc. to EN 60529
<b>Enclosure material</b>	Glass fibre reinforced polyester
<b>Enclosure colour</b>	Black

## Ordering information mcb distribution for lighting circuits

Version	Type	MCB 2-pole	Terminal cross-section	Cable gland	Weight	Order No.
40A	1	8x16A	10mm <sup>2</sup>	1 x M40 (17-28 mmØ) 8 x M25 (8-17 mmØ)	20kg	EXKO 214 600 G 0000
80A	2	12x16A	16mm <sup>2</sup>	1 x M40 (22-35 mmØ) 12 x M25 (8-17 mmØ)	32kg	EXKO 214 600 G 0001
80A	3	24x16A	16mm <sup>2</sup>	1 x M40 (22-35 mmØ) 24 x M25 (8-17 mmØ)	56kg	EXKO 214 600 G 0002

3

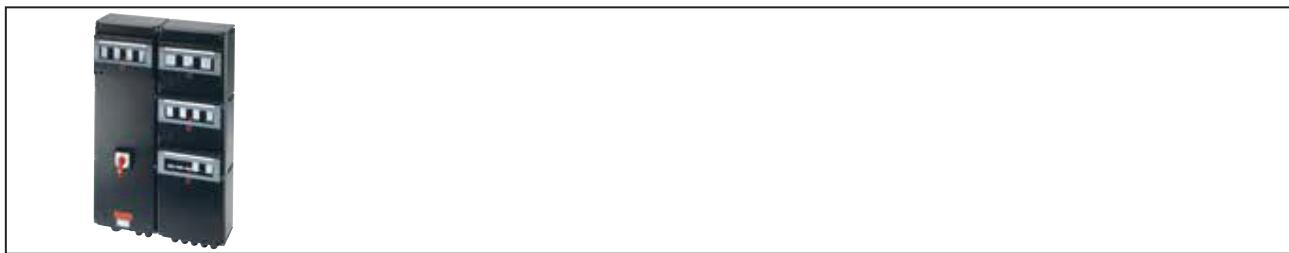
## Ordering information mcb distribution for heating circuits

Version	Type	MCB with RCD 2-pole	Terminal cross-section	Cable gland	Weight	Order No.
40A	1	8x16A, 30mA	10mm <sup>2</sup>	1 x M40 (17-28 mmØ) 8 x M25 (8-17 mmØ)	20kg	EXKO 214 600 G 0003
80A	2	12x16A, 30mA	16mm <sup>2</sup>	1 x M50 (22-35 mmØ) 12 x M25 (8-17 mmØ)	32kg	EXKO 214 600 G 0004
80A	3	24x16A, 30mA	16mm <sup>2</sup>	1 x M50 (22-35 mmØ) 24 x M25 (8-17 mmØ)	56kg	EXKO 214 600 G 0005

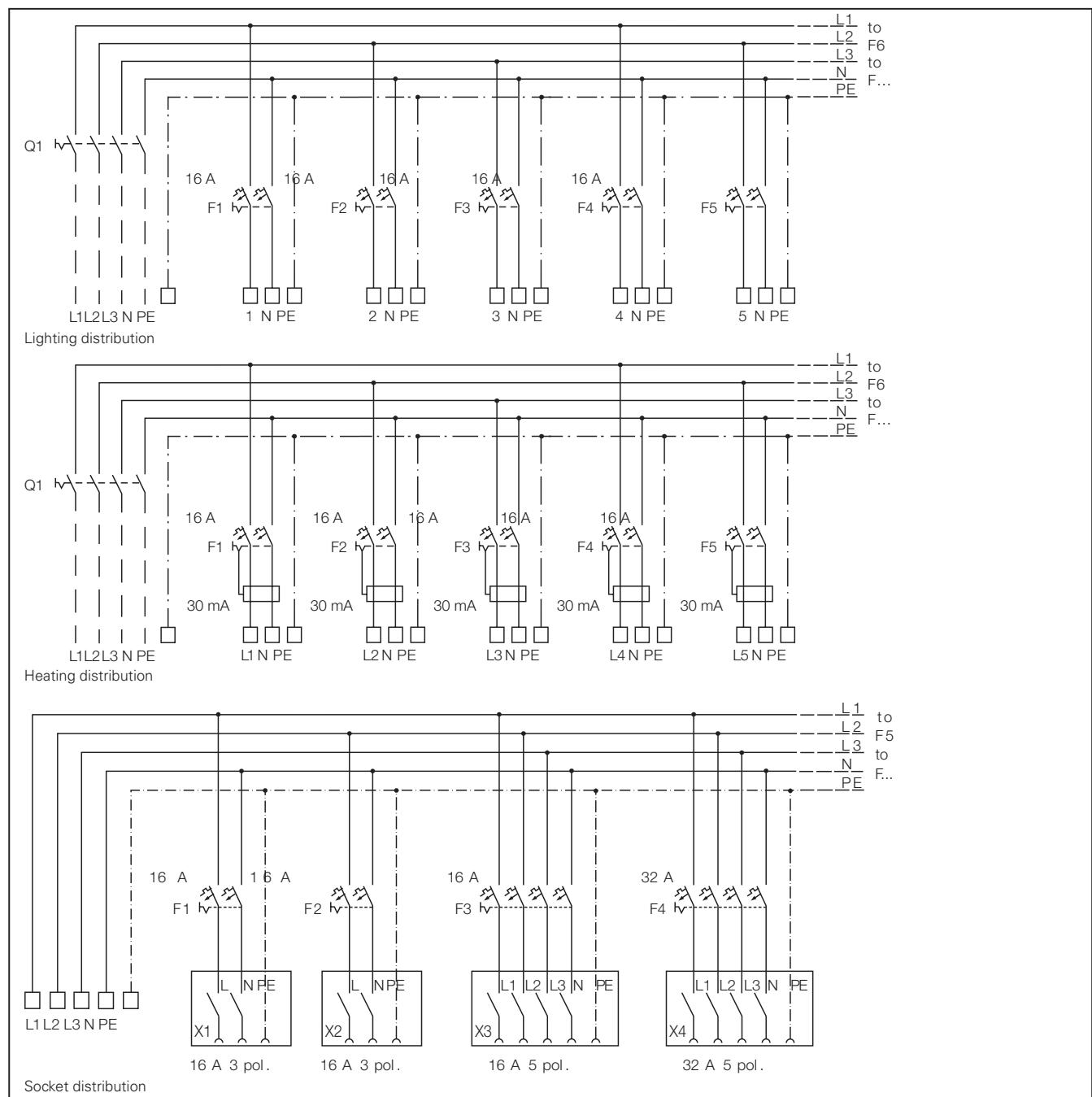
## Ordering information mcb distribution for sockets

Version	Type	Socket outlets	Cable gland	Weight	Order No.
2x16A	1	2x16A, 3-pole	1 x M40 (17-28 mmØ)	10kg	EXKO 233 800 C 0001
2x16A	2	1x16A, 3-pole			
1x32A		1x16A, 5-pole			
		1x32A, 5-pole			
4x16A	3	2x16A, 3-pole 2x16A, 5-pole	1 x M40	20kg 25kg	EXKO 233 800 C 0002 EXKO 233 800 C 0003

# Exde Panel - GHG619



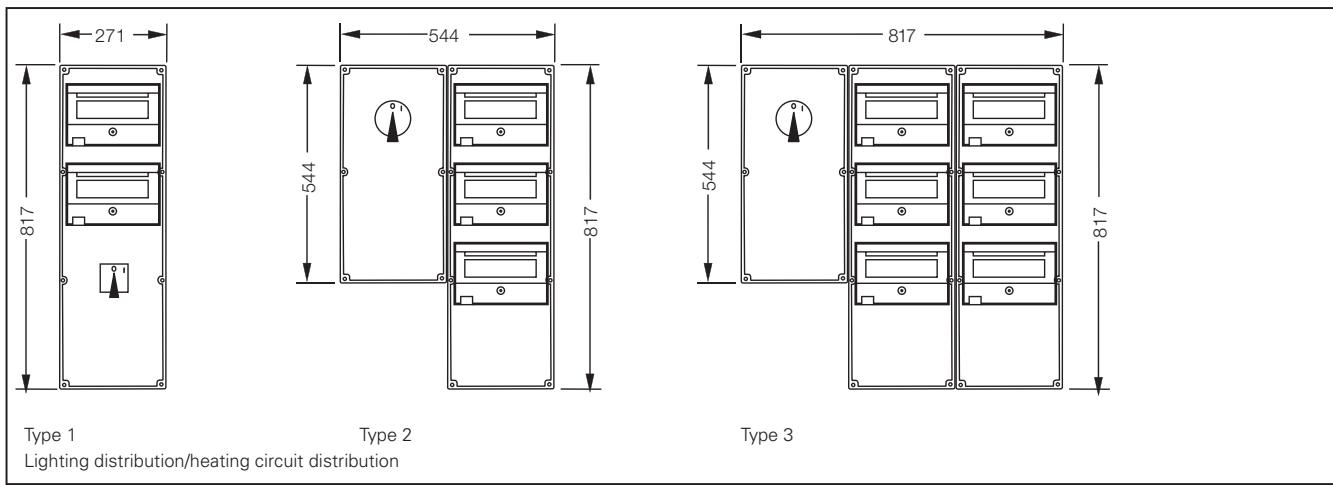
## Wiring diagram



# Exde Panel - GHG619



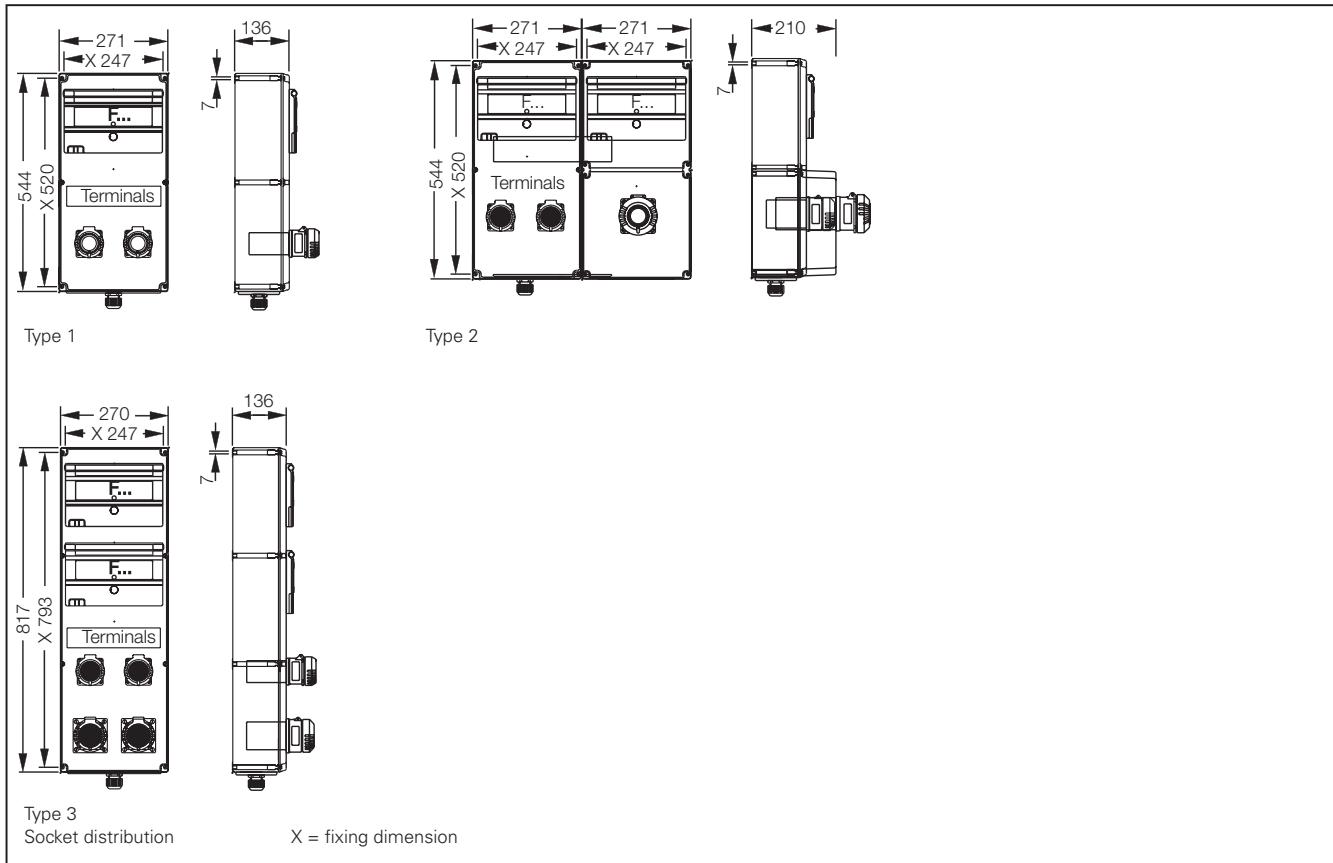
## Dimension



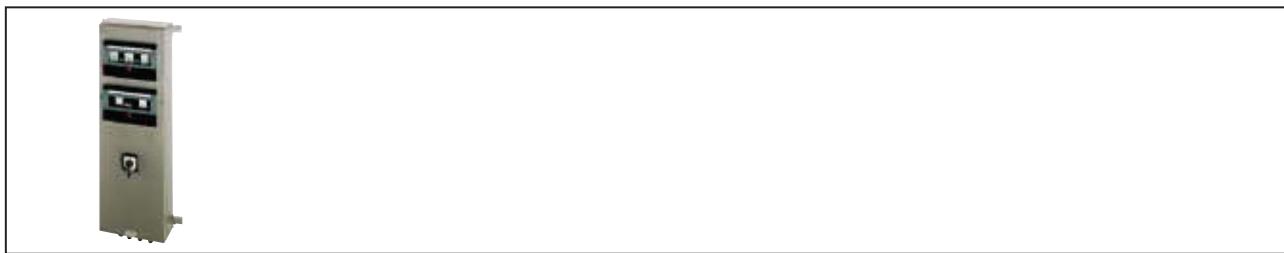
Type 1  
Lighting distribution/heating circuit distribution

Type 2

Type 3



# Exde Panel - GHG619



MCB distribution for lighting circuits | heating circuits | socket distribution

## Technical data

<b>Marking accd. to ATEX</b>	Ex II 2 G Ex de ia(ib) m [ia(ib)] IIC T6/T5/T4 Ex II 2 D Ex tD A21 IP66/IP65 T80 °C, T95 °C
<b>EC-Type Examination Certificate</b>	PTB 99 ATEX 1044 / BVS 22 ATEX E 006
<b>Permissible ambient temperature</b>	-20 °C up to +40 °C -55 °C up to +55 °C (option)
<b>IECEx Certificate of Conformity</b>	IECEx BKI 07.0023 / IECEx BVS 22.00087
<b>Marking accd. to IECEx</b>	Ex de ia(ib) m [ia(ib)] T4 ... T6 Ex tD A21 IP66 T80 °C
<b>GB-certification of conformity</b>	CCC
<b>Rated voltage</b>	690 V
<b>Rated current</b>	400 A
<b>Protection class</b>	I
<b>Terminal cross section</b>	up to 300 mm <sup>2</sup>
<b>Degree of protection accd. to EN 60529</b>	IP66
<b>Enclosure material</b>	Stainless steel AISI 316 L
<b>Enclosure colour</b>	Electro-polished

## Ordering details distribution for lighting circuits

Content	Type	MCB 2-pole	Connection terminals	Cable glands	Weight approx.	Order No.
40 A	1	8 x 16 A	10 mm <sup>2</sup>	1 x M40 (17 - 28 mm Ø) 8 x M25 (8 - 17 mm Ø)	22 kg	EXKO 223 100 Q 0000
80 A	2	12 x 16 A	16 mm <sup>2</sup>	1 x M50 (22 - 35 mm Ø) 12 x M25 (8 - 17 mm Ø)	34 kg	EXKO 223 100 Q 0001
80 A	3	24 x 16 A	16 mm <sup>2</sup>	1 x M50 (22 - 35 mm Ø) 24 x M25 (8 - 17 mm Ø)	58 kg	EXKO 223 100 Q 0002

3

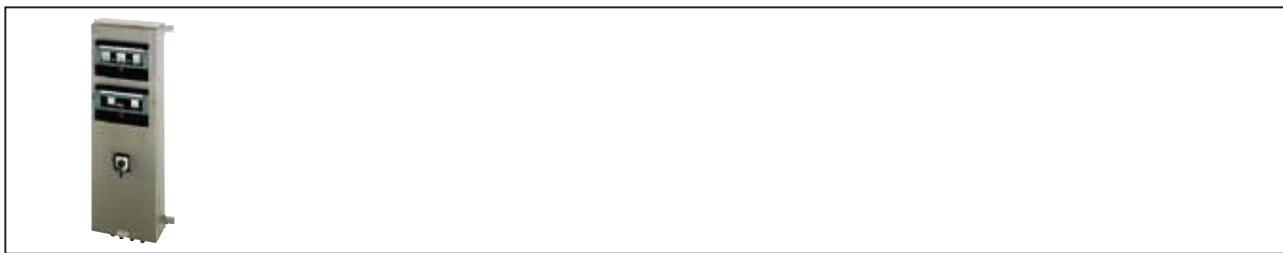
## Ordering details distribution for heating circuits

Content	Type	RCBO 2-pole	Connection terminals	Cable glands	Weight approx.	Order No.
40 A	1	8 x 16 A, 30 mA	10 mm <sup>2</sup>	1 x M40 (17 - 28 mm Ø) 8 x M25 (8 - 17 mm Ø)	22 kg	EXKO 223 100 Q 0003
80 A	2	12 x 16 A, 30 mA	16 mm <sup>2</sup>	1 x M50 (22 - 35 mm Ø) 12 x M25 (8 - 17 mm Ø)	34 kg	EXKO 223 100 Q 0004
80 A	3	24 x 16 A, 30 mA	16 mm <sup>2</sup>	1 x M50 (22 - 35 mm Ø) 24 x M25 (8 - 17 mm Ø)	58 kg	EXKO 223 100 Q 0005

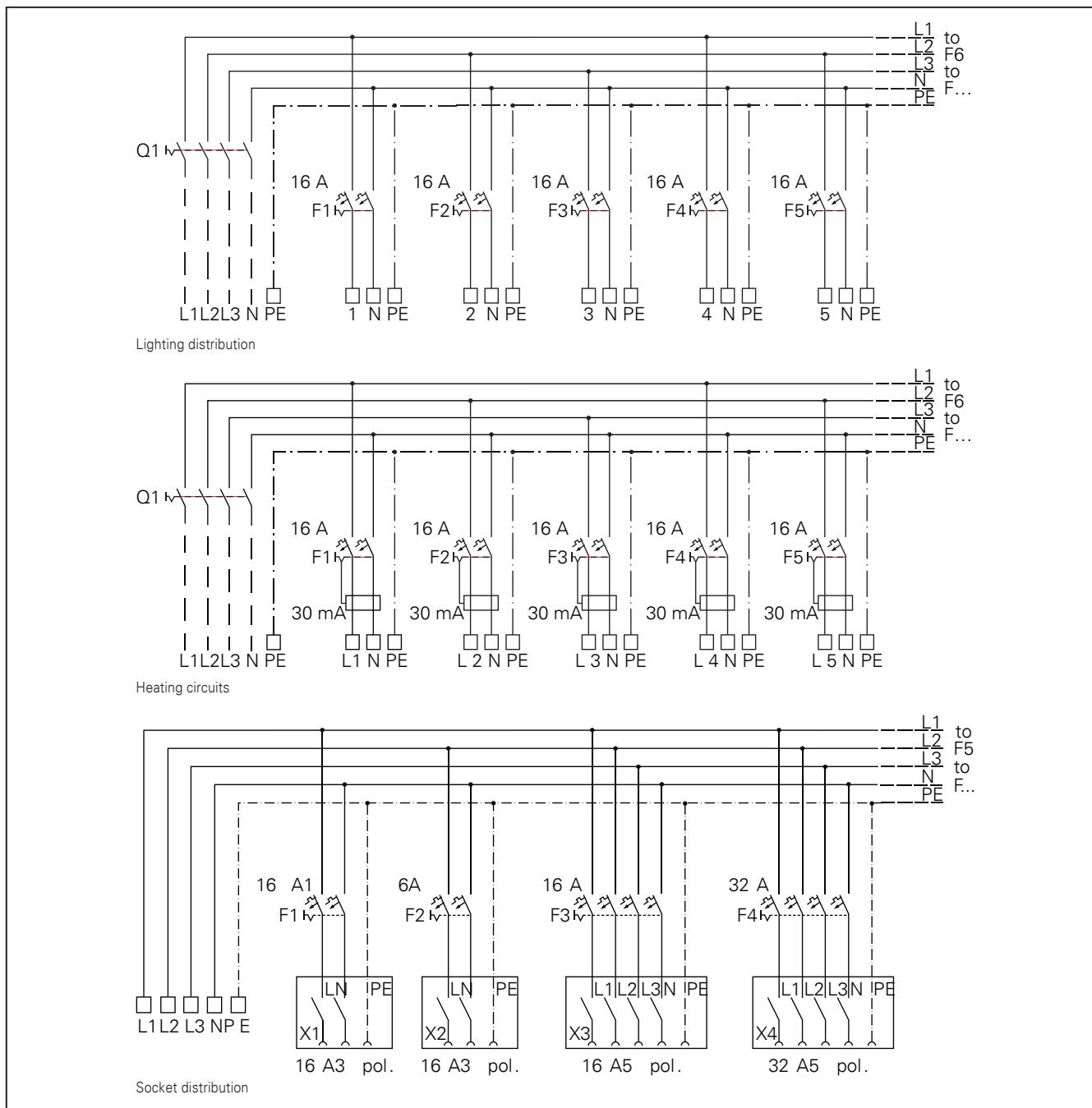
## Ordering details distribution for sockets

Content MCB	Type	Socket outlets	Cable glands	Weight approx.	Order No.
2 x 16 A	1	2 x 16 A 3-pole	1 x M40 (17 - 28 mm Ø)	12 kg	EXKO 223 800 C 0004
2 x 16 A	2	1 x 16 A 3-pole			
1 x 32 A		1 x 16 A 5-pole			
		1 x 32 A 5-pole	1 x M40	22 kg	EXKO 223 800 C 0005
4 x 16 A	3	2 x 16 A 3-pole 2 x 16 A 5-pole	1 x M40	27 kg	EXKO 223 800 C 0006

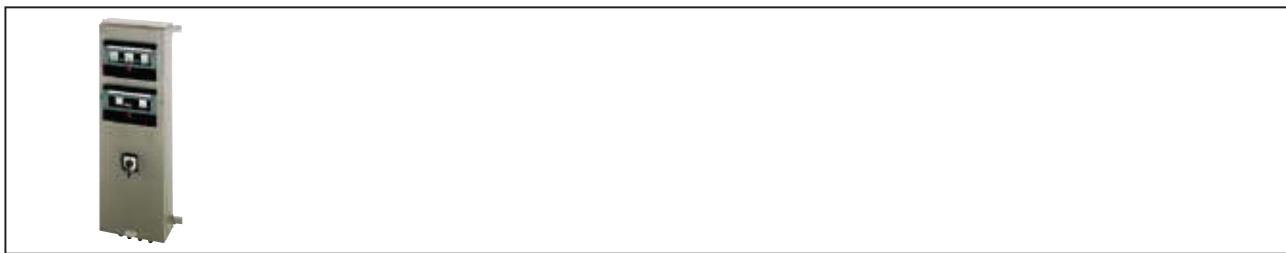
# Exde Panel - GHG619



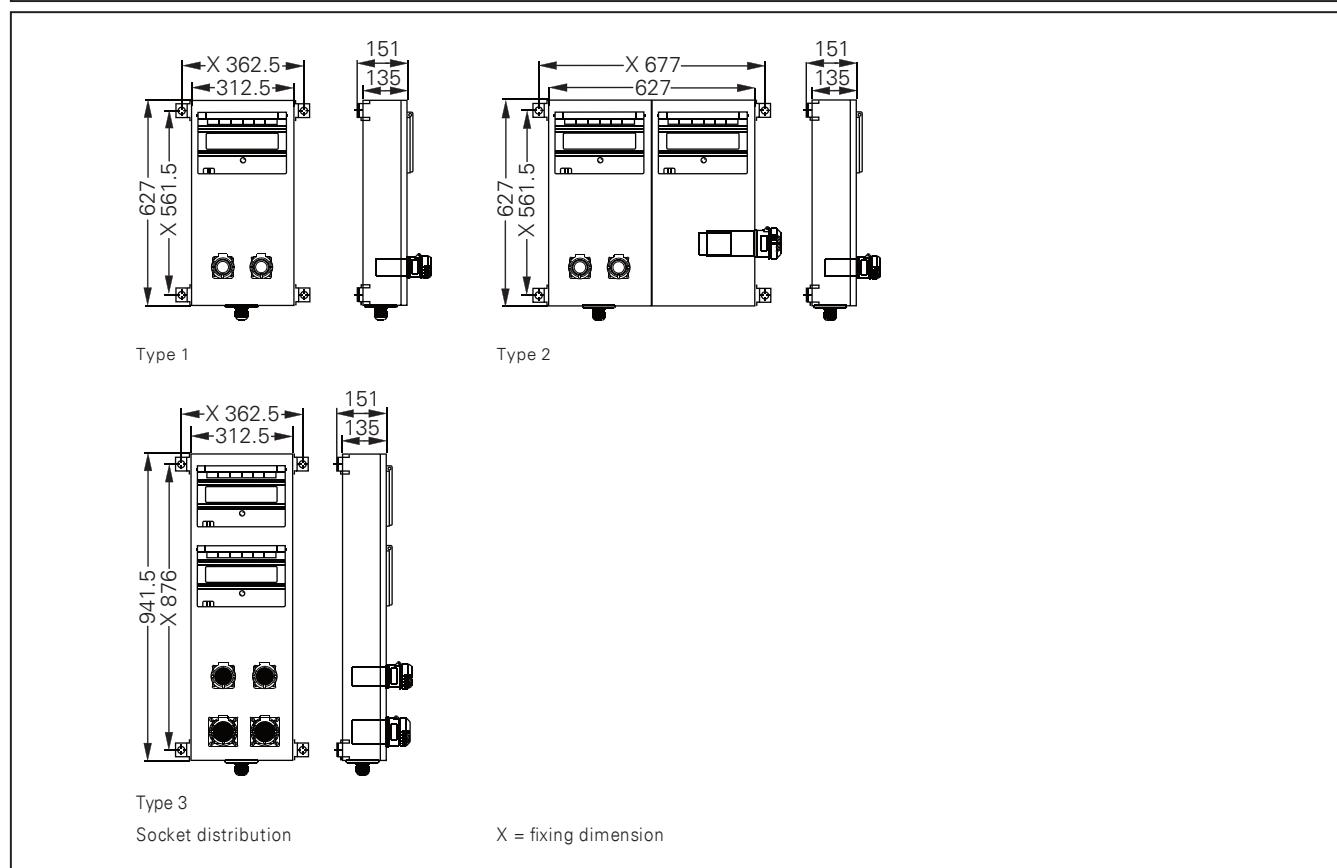
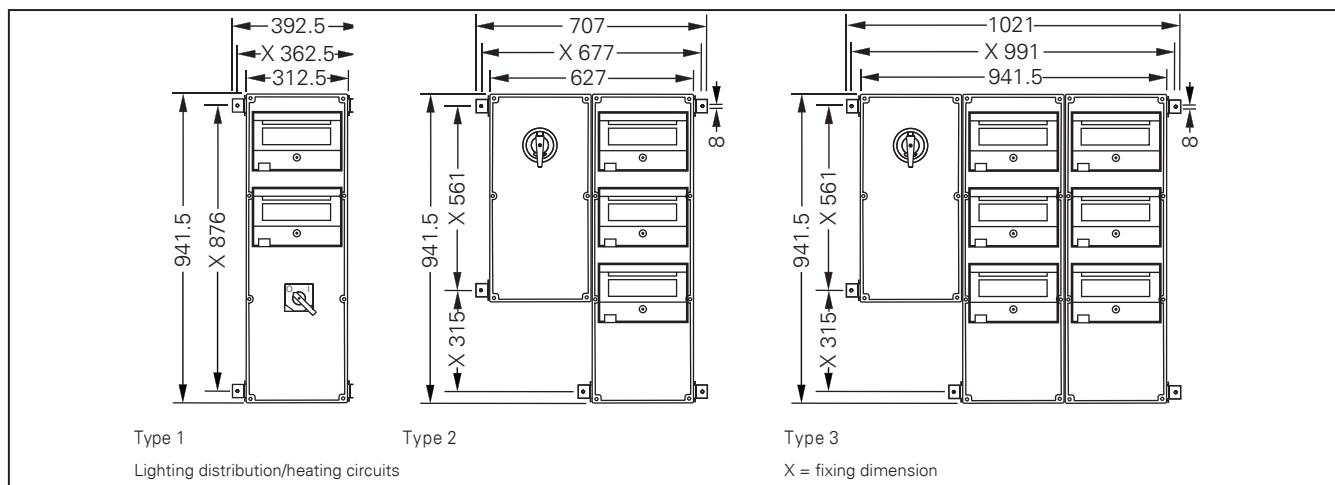
**Wiring diagram lighting distribution | heating circuits | socket distribution**



# Exde Panel - GHG619



## Dimension



# SynergEX panelboards for hazardous rated areas

One of the biggest challenges with enclosures located in hazardous areas is accessibility. To access internal components for preventative maintenance or troubleshooting, up to 70 bolts have to be loosened and then retightened, leading to extended periods of downtime and safety risks due to improperly torqued or missing bolts.

The SynergEX panelboard by Eaton's Crouse-Hinds Division utilizes individually encapsulated circuit breakers to reduce downtime, increase safety and lower maintenance costs in hazardous locations.

## Application

Provide overcurrent and short circuit protection for low voltage power, lighting and heat tracing applications in hazardous locations, such as refineries, chemical and petrochemical plants, mining, food processing, corrosive and industrial processing facilities.



## Certifications

- Class I, Division 2, Groups A, B, C, D
- Class II, Division 2, Groups F and G
- Zone 2 Ex ec IIC Gc T4
- Zone 22
- UL67
- CSA C22.2 No. 29
- UL60079-7
- CSA-C22.2 No.60079-15:2012
- IP66

## Environmental ratings

- NEMA 3R, 4, 4X
- Temperature class: T4
- Ambient temperature: -20°C to +55°C (default)  
-40°C to +55°C (with HT1 and HT2 suffix)

## Electrical ratings

SynergEX panelboard:

- Max. 225A/phase  
(three phase max.)
- Max. 480/277 V
- Max. 225A main breaker

Encapsulated branch circuit breakers:\*

- 120/240 VAC
  - 1-pole and 2-pole
  - 10, 15, 20, 25, 30, 35, 40 amps
  - 1-pole GFI and EPD
  - Auxiliary and trip indicator contact
- 208/120 VAC
  - 1-pole, 2-pole and 3-pole
  - 10, 15, 20, 25, 30, 35, 40 amps
  - 1-pole GFI and EPD
  - Auxiliary and trip indicator contact (On-chassis mains 10 - 40A)
- 480/277 VAC
  - 1-pole, 2-pole and 3-pole
  - 10, 15, 20, 25, 30, 35, 40 amps
  - Auxiliary and trip indicator contact

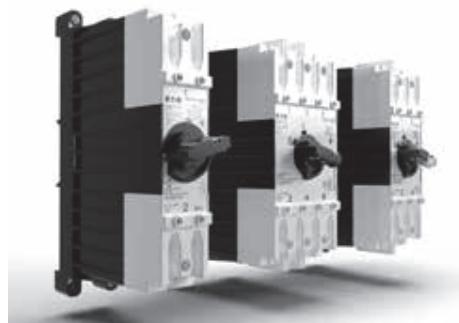
\* 10A to 40A: 10 kA short circuit rating

Encapsulated main circuit breakers:\*

- Up to 480/277 V
- 2- and 3-pole
- - 10, 20, 30, and 40A amps back-fed on-chassis main
- - 50, 60, 80, 100, 125, 150, 175, 200, and 225 amps off-chassis main
- - Auxiliary switch with trip indicator contact on circuit breaker, 1NO & 1NC Auxiliary; 1NO trip indicator contact (off-chassis main 50A to 225A)
- - Shunt trip (off-chassis main 50A to 225A)

\* 10A to 40A: 10 kA short circuit rating

\* 50A to 225A: 25 kA short circuit rating



Field swappable breakers

# SynergEX panelboards for hazardous rated areas

## Materials

- Enclosure and door – 316L stainless steel
- Observation window – polycarbonate
- Hinges – 304 stainless steel
- Enclosure hardware – 8-18 stainless steel
- 1/4 turn handle – plastic
- Backpan – 5052 H32 aluminum
- Deadfront – 304 stainless steel
- Internal parts (screws, nuts washers) – zinc plated steel
- Door gasket – polyurethane foam
- Window and gland plate gasket – Poron M19
- Power distribution block lugs – tin plated copper
- Bonding/grounding assembly – aluminum
- Circuit breakers – flame rated nylon
- Breaker handles – Type 6/6 nylon

## Multiple product designs and options

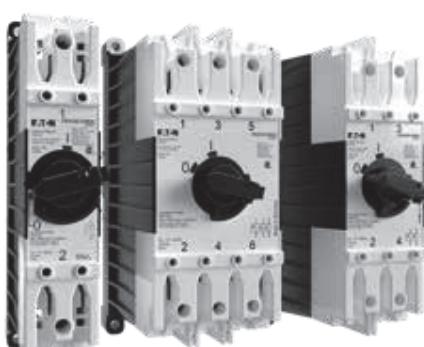
- 6 - 66 circuits with in one enclosure
  - Removable gland plates for easy addition of entries standard on all sizes
- \* For over 66 circuits, multiple enclosures are stacked and coupled. Coupling kit provided and maintains NEMA ratings.

## Save time and money

- Easy to open and access with only 1/4 turn (versus up to 70+ bolts in a traditional enclosure)
- Lower maintenance costs
- Lightweight design and reduced footprint for easier installation with reduced labor costs

## Unparalleled safety & flexibility in the field

- Proven reliability from Eaton's Crouse-Hinds tamper-proof encapsulated breakers
- The new EZFlex™ bus bar's patented design allows for breaker swap out in the field.



A 3-Pole breaker can be replaced with three single pole breakers without making any modification to the bus bar.

## Main breaker

- Lightweight and compact main breaker is encapsulated and internally mounted
- Easy connection to the busbar
- Push-to-trip mechanism for manual trip and testing of the breaker operation (off-chassis main)



50A-225A main breaker

## Faster build-time and delivery

- Built in-house at Eaton's Crouse-Hinds Houston Texas location
- In-stock panels reduce lead-times and are available for ten day quick ship program (refer to the SynergEX Quick Ship Program flyer for more details)



## EZFlex™ bus bar

The EZFlex™ bus bar provides maintenance-free design and allows breaker interchangeability. The bus does not have any threaded fasteners that would require any periodic maintenance. The branch breaker conductors are exothermically welded to provide a permanent molecular bond that will not loosen or corrode and have a current-carrying capacity equal to or higher than that of the conductor. These connections can withstand repeated fault currents and are designed to maintain integrity for the life of the installation.



### Features

- Thin layers of tinned electrolytic copper formed into a stack
- Insulated by high-resistance, halogen free, flame retardant and low smoke material with less than 20% contact with conductor for high flexibility
- Dramatically smaller and more flexible than comparable cable based on ampacity
- Better power density than cable with lower skin effect ratio
- Weight savings and material savings compared to wire alternatives
- 100% production dielectric tested
- RoHS compliant

### Specifications

- Finish: Tinned  
Material: Copper;  
Thermoplastic Elastomer  
Dielectric Strength: 20 kV/mm  
Flammability Rating: UL 94V-0  
Halogen Free Rating: UL 2885;  
IEC 60754-1; IEC 62821-1  
Low Smoke Rating: IEC 61034-  
2; ISO 5659-2; UL 2885  
Smoke, Toxicity and Acidity  
Rating: IEC 60754-2  
UV Resistance Rating: UL 854;  
UL 2556
- Insulation Elongation: 500%  
Insulation Thickness: 0.07"  
Nominal Voltage, UL/CSA/IEC:  
1,000 VAC; 1,500 VDC  
Working Temperature:  
-58° to 239° F  
Complies With: IEC 60695-2-  
11 (Glow Wire Test 960°C);  
IEC 61439.1; IEC 61439.1 Class  
II

## Power block

3



The Power block provides the customer connection for the incoming cables of the main lug only panels. The high short circuit rated large cross-section blocks offer time savings and reliability in every MLO panel configuration

### Features

- Compact power block with high short circuit current rating
- Tinned copper or aluminum block allows for copper or aluminum conductor direct connections, or using ferrule
- Screw retaining cover is hinged and removable
- Design allows for visual inspection of conductor and confirmation of connection
- Voltage detection and measurement connection
- 95% fill ratio

Certification Details: UL 1059

Complies With: IEC 60947-7-1

Enclosure Rating: IP 20

Flammability Rating: UL 94V-0

Certifications: RoHS, UL, UR

# SynergEX panelboards for hazardous rated areas

## Ordering information

Part number example

**SPFS236-02310-03220-12140-01120E-01120G-03110-01110E-01110G-3M225-BD-GPA-HT1-I-LID**

SynergEX panelboard, size F enclosure, 316L stainless steel, 120/208V (3 phase, 4-wire), (36) breaker spaces, (2) 3-pole 10A breakers, (3) 2-pole 20A breakers, (12) 1-pole 40A breaker, (1) 1-pole 20A EPD breaker, (1) 1-pole 20A GFI breaker, (3) 1-pole 10A breakers, (1) 1-pole 10A EPD breaker, (1) 1-pole 10A GFI breaker, 3-pole 225A main breaker, Breather Drain, (8) gland plates, 120V heaters for -40°C temperature rating, inverted panelboard (main connection at bottom), lamacoid ID

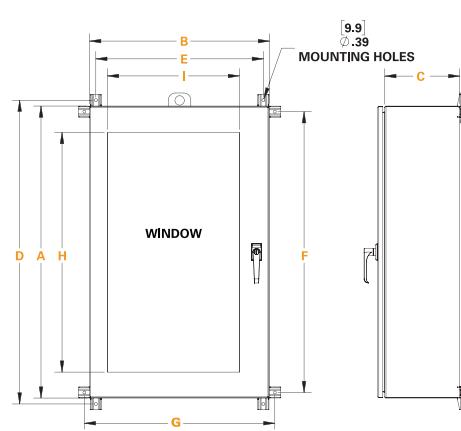
SSP	F	S	2	36	-
<b>Model</b>					
<b>SSP</b>	Class I, Division 2	<b>Enclosure material/finish</b>			
		<b>S</b>	316L stainless steel, natural finish		
			Consult factory for custom options and materials.		
		<b>Max breaker spaces</b>			
<b>Enclosure size</b>	<b>Dimensions HxWxD</b>	<b>With MLO or &lt;50A MCB*</b>	<b>With ≥50A MCB*</b>		
A	30 x 24 x 10"	12	6		
B	34 x 24 x 10"	18	12		
C	39 x 24 x 10"	24	18		
D	43 x 24 x 10"	30	24		
E	47 x 24 x 10"	36	30		
F	52 x 24 x 10"	42	36		
G	56 x 24 x 10"	48	42		
H	69 x 24 x 10	66	60		
L**	Coupled enclosure, vertical				
M**	Coupled enclosure, horizontal				

\* Total number of breakers selected must not exceed max breaker spaces referenced above. 2-pole on chassis main breaker (<50A MCB) takes 2 breaker spaces and 3-Pole on-chassis main takes three breaker spaces

\*\* Contact modified products.



## Dimensions and weight



Enclosure size	A	B	C	D	E	F	G	H	I	Weight
A	30.00 (762)	24.00 (610)	10.00 (254)	31.56 (801)	22.38 (568)	28.50 (723)	24.43 (646)	23.00 (584)	17.63 (448)	140 lbs. 64 kg.
B	34.00 (863)	24.00 (610)	10.00 (254)	35.56 (903)	22.38 (568)	32.50 (825)	24.43 (646)	27.00 (685)	17.63 (448)	158 lbs. 72 kg.
C	39.00 (990)	24.00 (610)	10.00 (254)	40.56 (1030)	22.38 (568)	37.50 (952)	24.43 (646)	32.00 (812)	17.63 (448)	182 lbs. 83 kg.
D	43.00 (1092)	24.00 (610)	10.00 (254)	44.56 (1131)	22.38 (568)	41.50 (1054)	24.43 (646)	36.00 (914)	17.63 (448)	200 lbs. 91 kg.
E	47.00 (1193)	24.00 (610)	10.00 (254)	48.56 (1233)	22.38 (568)	45.50 (1155)	24.43 (646)	40.00 (1016)	17.63 (448)	219 lbs. 99 kg.
F	52.00 (1320)	24.00 (610)	10.00 (254)	53.56 (1360)	22.38 (568)	50.50 (1282)	24.43 (646)	45.00 (1143)	17.63 (448)	242 lbs. 110 kg.
G	56.00 (1422)	24.00 (610)	10.00 (254)	57.56 (1462)	22.38 (568)	54.50 (1384)	24.43 (646)	49.00 (1244)	17.63 (448)	261 lbs. 118 kg.
H	69.00 (1752)	24.00 (610)	10.00 (254)	70.56 (1792)	22.38 (568)	67.50 (1714)	24.43 (646)	62.00 (1574)	17.59 (447)	321 lbs. 146 kg.

# SynergEX panelboards for hazardous rated areas

**Note: No spaces in part number configuration**

**02310-03220-12140-01120E-01120G-03110-01110E-01110G**

**3M**

#1. Pick quantity	#2. Breaker style	#3. Pick type
<b>QTY of alike breakers</b>		
<b>01-132</b>	1 minimum, 132 maximum	

**Add up # of alike breakers**

\* For over 66 circuits,  
multiple enclosures are  
stacked and coupled.

Each new series  
followed by dash  
**02310-03220**

**Main circuit breaker**

<b>BLANK</b>	Main lug only (225A)
<b>2M</b>	2-pole main circuit breaker (for single phase systems)
<b>3M</b>	3-pole main circuit breaker (for three phase systems)

**Branch breaker poles**

	<b>3-pole</b>	<b>2-pole</b>	<b>1-pole</b>	<b>EPD/GFI*</b>
<b>1</b>	1-pole breaker			–
<b>2</b>	2-pole breaker			
<b>3</b>	3-pole breaker			

Branch breaker order to be determined, first, by pole count, high to low. Then, within common pole count breakers, order to be determined by amperage, high to low. Then, within common amperage, order to be determined by style in the following order: standard, E, G, AX, SC.

**3-pole      2-pole      1-pole      EPD/GFI\***

10	10 (AX,SC)	10 (AX,SC)	–
15	15 (AX,SC)	15 (AX,SC)	15E/15G
20	20 (AX,SC)	20 (AX,SC)	20E/20G
25	25 (AX,SC)	25 (AX,SC)	–
30	30	30	30E/30G
35	35	35	–
40	40	40	40E/40G

#### See breaker spaces occupied section

AX = Breaker + (1) Form C Aux Contact

SC = Breaker + (1) Form C Trip Indicator Contact

E = 1P EPD (Ground Fault Equipment Protectors - 30 mA Sensitivity)

G = 1P GFI (Ground Fault Circuit Breakers - 5 mA Sensitivity)

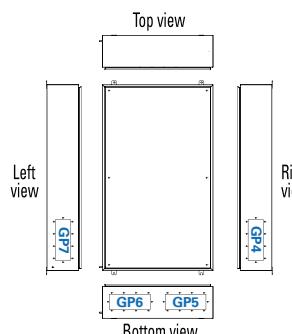
\*EPD and GFI breakers are rated for 120/240V applications  
(can not be used for 480/277V panels)

**Main breaker amperage**  
**10A - 225A**

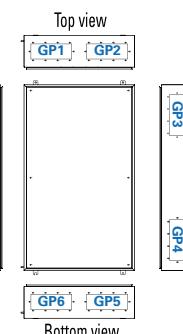
<b>10</b>	10 amps, 2- or 3-pole
<b>20</b>	20 amps, 2- or 3-pole
<b>30</b>	30 amps, 2- or 3-pole
<b>40</b>	40 amps, 2- or 3-pole
<b>50</b>	50 amps, 2- or 3-pole
<b>60</b>	60 amps, 2- or 3-pole
<b>80</b>	80 amps, 2- or 3-pole
<b>100</b>	100 amps, 2- or 3-pole
<b>125</b>	125 amps, 2- or 3-pole
<b>150</b>	150 amps, 2- or 3-pole
<b>175</b>	175 amps, 2- or 3-pole
<b>200</b>	200 amps, 2- or 3-pole
<b>225</b>	225 amps, 2- or 3-pole

#### Gland plate locations

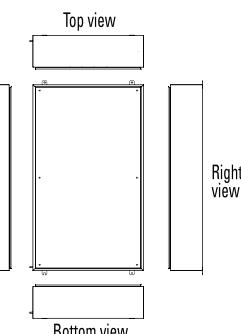
##### Default configuration



##### GPA option



##### GPN option



##### Enclosure sizes A-H

Gland plate dimensions = 10" x 6"

To add the following options to the panelboard, add a dash and then the suffix to the end of the catalog number – suffixes are added alphanumerically.

**225 — BD-GPA-HT1-I-LID**

##### Options

<b>BLS*</b>	Breaker location specification (Customer specified branch breaker location)
<b>BST</b>	Shunt Trip, 120V (for main breakers over 50A)
<b>DR#####</b>	"DR" followed by numerical drawing number indicates Modified Products
<b>GPA</b>	All gland plates included
<b>GPN</b>	No gland plates included
<b>HC1</b>	Heater system for internal condensation, 120V
<b>HC2</b>	Heater system for internal condensation, 277V
<b>HT1</b>	Heater system for -40°C temperature, 120V
<b>HT2</b>	Heater system for -40°C temperature, 277V
<b>I</b>	Inverted Panelboard (main connection at bottom)
<b>LID</b>	Lamacoid tag for customer specified identification
<b>LIT**</b>	Branch circuit indication lights
<b>LLD**</b>	Load side of MCB voltage indication
<b>LLN**</b>	Incoming power voltage indication
<b>S784</b>	Auxiliary switch with trip indicator contact on circuit breaker, 1NO & 1NC Auxiliary; 1NO trip indicator contact
<b>SID</b>	Stainless steel tag for customer specified identification

\* If BLS suffix is used the breaker location specification chart needs to be filled out and submitted with the order entry.

\*\* Contact modified products

# Ex d light alloy empty enclosure GHG 64



## Product introduction

Whether offshore applications, the usage in harsh environments of chemical plants or refineries: The new powder coated light metal enclosures of the GHG 64 series provide the highest standard of explosion protection. The flat flame path, the modular design as well as the extended temperature range (from -55 °C up to +55 °C) are highlights of the GHG 64 series. In addition, the enclosure can be equipped with an high amount of the new Ex-d actuators, due to the compact design of the enclosures. The enclosures design is optimised to merge the contrasts of weight reduction and strength increase. The extra

- ordinary rugged hinges are particularly designed to open the cover even if the GHG 64 is mounted directly side by side. Therefore, just unfasten the captive screws and by means of the innovative pull and swing hinges the cover can easily be opened. This simplifies maintenance and speeds up both repair work and there placement of built-in components. Furthermore, the individual enclosures can be coupled together using flameproof bushings. With eleven enclosure sizes to choose from, customised solutions for any specific application can be provided.

## Product features

- Temperautre range from -55 °C to +55 °C
- Ex d II B + H<sub>2</sub>
- Rated voltage up to 690 V rated current up to 1150 A
- Hinged cover with 110° opening angle
- Designed for easy maintenance
- Degree of protection IP65 (IP66 optional)
- Broad range of new Ex-d actuators and built-in components

## Technical data

<b>EC-type examination certificate</b>	PTB 08 ATEX 1043 X
<b>IECEx-certification of conformity</b>	IECEx PTB 11.0077X
<b>Marking to 94/9/EC</b>	Ex II 2 G Ex de IIB / IIB + H <sub>2</sub> , T5, T6 / Ex II 2 D tD A21 IP66
<b>EC-Type examination certificate</b>	PTB 08 ATEX 1042U
<b>Permissible ambient temperature</b>	-20 °C to +40 °C -55 °C to +55 °C (option)
<b>Rated voltage</b>	690 V
<b>Rated current</b>	1150 A
<b>Terminal cross-section</b>	Up to 240 mm <sup>2</sup>
<b>Degree of protection acc. to EN 60529</b>	IP65 (IP66 as option)
<b>Weight</b>	See ordering details
<b>Enclosure material</b>	Aluminium die-cast housing, powder coated
<b>Enclosure colour</b>	RAL 7032/7022

3

## Ordering details empty enclosures (II B)

Version	Power dissipation (Tamb. = 40 °C)		Weight	Dimensions L x W x D	Order No.
	T6	T5			
<b>Ex d light alloy empty enclosures</b>					
Size 1	94 W	134 W	10.5 kg	210 x 210 x 191 mm	GHG 640 1901 R0001
Size 2	112 W	158 W	14 kg	320 x 210 x 191 mm	GHG 640 1902 R0001
Size 4	152 W	214 W	18 kg	320 x 320 x 191 mm	GHG 640 1904 R0001
Size 5	197 W	280 W	21 kg	320 x 320 x 284 mm	GHG 640 1905 R0001
Size 8	270 W	390 W	35 kg	430 x 430 x 284 mm	GHG 640 1908 R0001
Size 9	390 W	430 W	53 kg	650 x 430 x 284 mm	GHG 640 1909 R0001
Size 10	470 W	640 W	73 kg	650 x 430 x 439 mm	GHG 640 1910 R0001
Size 11	470 W	640 W	105 kg	650 x 650 x 442 mm	GHG 640 1911 R0001

# Ex-d built-in control units / signal units / actuators for GHG 64



## Product introduction

In addition to the known bus bar and connection boxes, a wide variety of new built-in components, such as switches, indicating devices, actuators and contact blocks, allow a multitude of combinations for customised complex controls. Threaded Ex-d holes in accordance with your specifications are drilled into the enclosure covers in our works.

The desired components are simply crewed into those drillings. Each part can be easily exchanged due to the modular layout

of the actuators and contact blocks: Simply by opening the bayonet coupling between the actuator and the contact block. The contact blocks provide all combinations of N/O and N/C from 1 pole up to 4 poles.

Durable LED indicator lamps ensure safe operation on a lasting basis. Actuating elements for various MCBs resp. RCDs and mushroomhead pushbuttons, key-operated switches or photo-cell inserts complete the product range.

## Product features

- Pushbuttons (up to 4 poles with any combination of N/O and N/C)
- Pushbuttons with emergency stop function
- Key-operated switches / pushbuttons
- Indicating lamp in various colours
- Padlocking facilities
- Type labels
- Actuators for circuit breakers

## Technical data

<b>Marking to 94/9/EC</b>	Ex II 2 G Ex d II
<b>EC-Type Examination Certificate</b>	PTB 06 ATEX 1009U
<b>Permissible ambient temperature</b>	-20 °C to +40 °C -55 °C to +55 °C (option)
<b>Rated voltage switch</b>	690 V
<b>Rated voltage indication lamp</b>	230 V
<b>Rated current (switch)</b>	63 A
<b>Degree of protection acc. to EN 60529</b>	IP65 (IP66 as option)
<b>Ex-d fixing thread</b>	M22 x 1.5

# Ex-d built-in control units / signal units / actuators for GHG 64



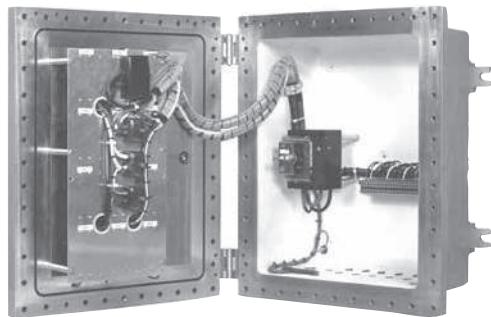
## Ordering details empty enclosures (II B)

Version	Order No.
<b>Contact block</b>	
1 NO	GHG 640 9617 P0001
1 NC	GHG 640 9617 P0002
1 NO + 1 NC	GHG 640 9617 P0003
2 NO	GHG 640 9617 P0004
2 NC	GHG 640 9617 P0005
2 NO + 1 NC	GHG 640 9617 P0006
1 NO + 2 NC	GHG 640 9617 P0007
2 NO + 2 NC	GHG 640 9617 P0008
3 NO + 1 NC	GHG 640 9617 P0009
1 NO + 3 NC	GHG 640 9617 P0010
4 NO	GHG 640 9617 P0011
4 NC	GHG 640 9617 P0012
<b>Signal lamp unit</b>	
Green	GHG 640 9614 P0001
Red	GHG 640 9614 P0002
Yellow	GHG 640 9614 P0003
Blue	GHG 640 9614 P0004
Clear	GHG 640 9614 P0005
<b>Mushroom head pushbutton / emergency stop pushbutton</b>	
D 36 mm with lock	GHG 640 9603 P0001
D 50 mm with lock	GHG 640 9603 P0002
with rotary latch	GHG 640 9604 P0001
Emergency stop pushbutton	GHG 640 9606 P0001
<b>Pushbutton</b>	
Yellow	GHG 640 9607 P0001
Blue	GHG 640 9607 P0002
Red	GHG 640 9607 P0003
Green	GHG 640 9607 P0004
White	GHG 640 9607 P0005
Black	GHG 640 9607 P0006
<b>Key-operated pushbutton</b>	
with 2 keys	GHG 640 9608 P0001
<b>Actuator</b>	
Rotary actuator for MCBs	GHG 640 9602 P0001
Rotary actuator for 20 A / 32 - 63 A	GHG 640 9612 P0001
<b>Locking device</b>	
Pushbutton pressed	GHG 640 9614 P0001
Pushbutton unpressed	GHG 640 9614 P0001
MCB actuator	GHG 640 9614 P0003

# EPBA control panel

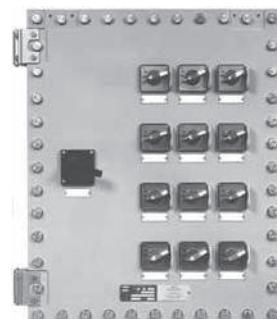
## Product introduction

EPBA control panel is designed for group IIB for the hazardous areas of Zone 1 and Zone 2. The custom built panels are used as distribution panels for motor control and indications.



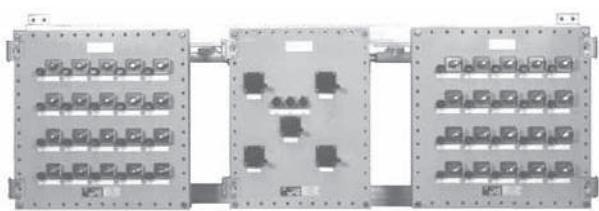
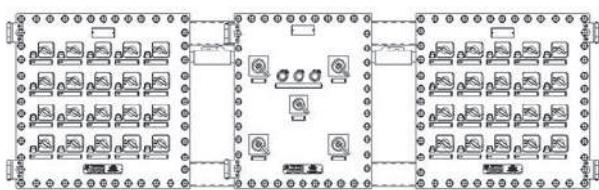
## Technical data

Certificate of conformity	ANZEx 06.3018X ANZEx 06.3049X
Type of protection	Exd
Degree of protection	IP66
Gas group	IIB or IIB ( $H_2$ )
Standard materials	Body & cover - copper free aluminum Cover screws - stainless steel Hinges (to size 1616) stainless steel Hinges (size 2418 & above) copper free aluminum Gasket - neoprene Branch circuit breakers - investment cast stainless steel



## Mounting configurations

3



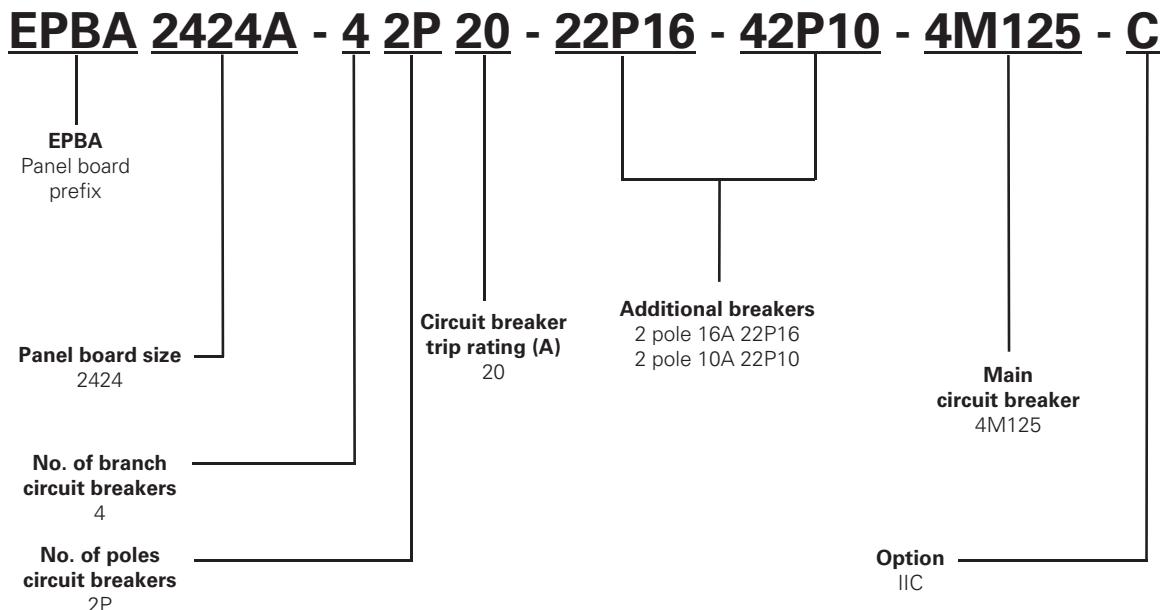
Wall mounted circuit breaker distribution panel



Free standing  
motor control  
panel

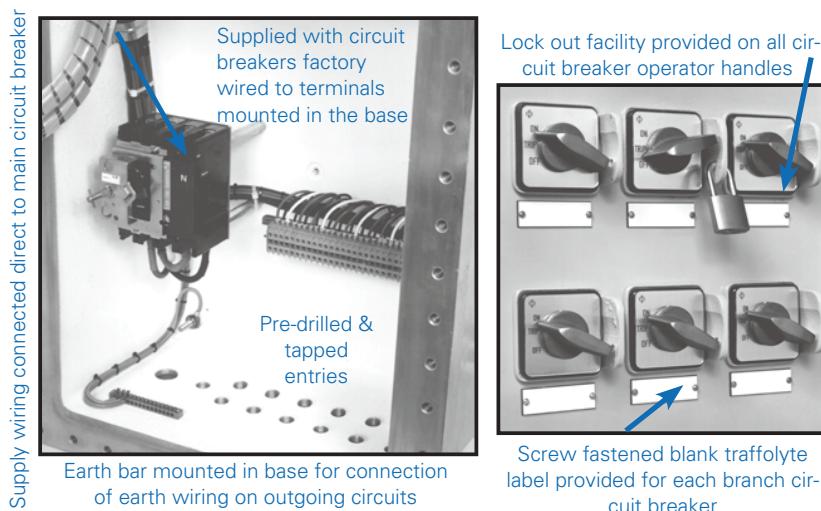
# EPBA control panel

## Ordering information



Please consult factory for availability

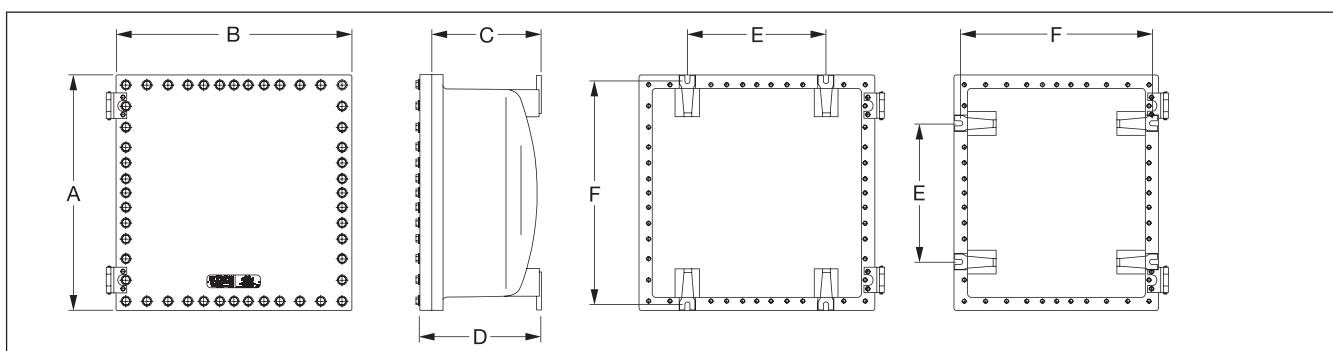
Note: Main circuit breaker is provided only when specified in catalogue number



Cat.No.	A	B	C	D	E	F
EPBA1212	415	415	230	285	143	405
EPBA1616	516	516	230	285	242	505
EPBA2418	750	595	295	350	413	556
EPBA2424	750	750	295	350	413	708

3

## Dimension

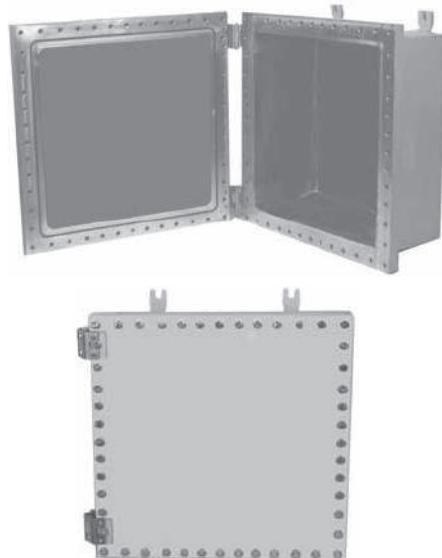


# EJBA junction boxes

## Product introduction

EJBA made of cast copper free aluminium is designed for the hazardous areas of Zone 1 and Zone 2. It can be used as terminal box or bus bar system junction box with terminals:

- To enclose equipment and control devices, relays, contactors and/or instruments;
- To house custom built panels (refer to H14 custom built panels).



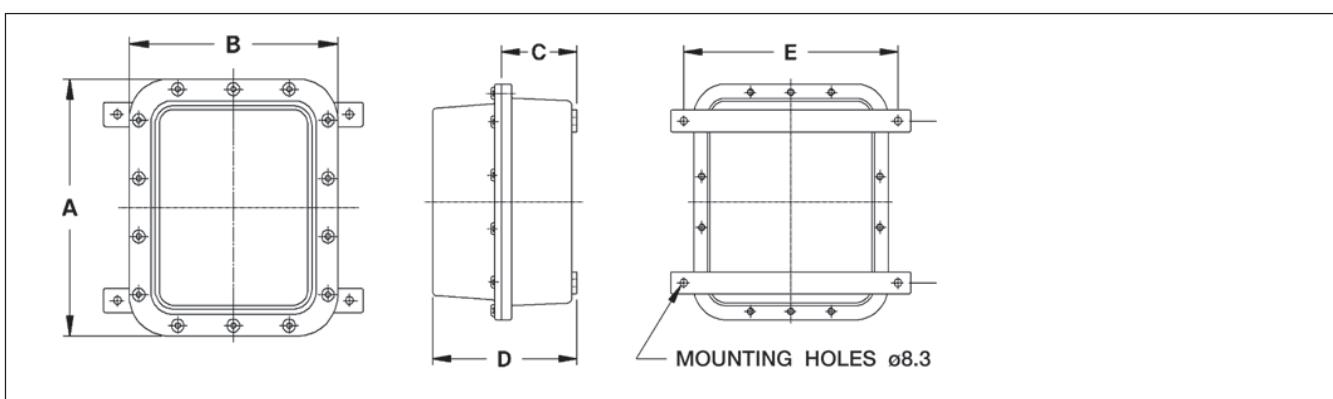
## Technical data

<b>Certificate of conformity</b>	ANZEx 06.3018X
<b>Type of protection</b>	Exd
<b>Degree of protection</b>	IP66
<b>Gas group</b>	IIB or IIB +H <sub>2</sub>
<b>Standard materials</b>	Body & cover - cast copper free aluminium
<b>Options</b>	Grey polyurethane finish Captive cover screws Marine grade paint

## Dimension

Cat.No.	A	B	C	D	E	F	Mtg Screws
EJBA464	215	165	122	135	145	150	M6
EJBA783	280	240	87	115	230	192	M8
EJBA786	280	240	87	170	230	192	M8
EJBA886	280	280	180	230	140	280	M8
EJBA1286	280	380	175	225	168	305	M12
EJBA9166	305	485	175	225	242	325	M12
EJBA121208	415	415	230	285	143	395	M6
EJBA161608	516	516	230	285	242	505	M8
EJBA211710	654	545	323	355	300	610	M8
EJBA241810	595	750	295	350	413	556	M8
EJBA242410	750	750	295	350	413	708	M12

3



Note: All drilling and tapping of entries must be carried out by the manufacturer to ensure that certification requirements are not breached. Whilst mounting of devices such as relays etc. can be carried out in the future if the enclosure is provided with a mounting plate, care should be taken with devices which are likely to raise the surface temperature of the enclosure.

# CPD15 series flameproof enclosures

## Product introduction

CPD15 series enclosure is made of Copper-free Aluminum body and cover with corrosive resistant coating, which is optimized range of application for IIB + H<sub>2</sub>. The series fulfills IP66 according to IEC60079-0, IEC60079-1, IEC60079-31. CPD15 series enclosure has large entry area for individual solutions.



## Product features

### • Earthing continuity

- Standard steel hinges are designed to link cover and body and ensure earth continuity between them
- External earth stud can be added as an option

### • Coating

- Thermoset polyester coating can endure 200hrs saline mist

### • Standard internal mounting plate

### • Removable mounting tags

- Allow easy field-replacement in case mounting feet are damaged or broken

### • Standard silicone gasket

- Comes standard in all sizes
- Provide IP66 protection for enclosure

## Technical data

IECEx-certification of conformity	IECEx CQM 16.0016X
GB-certification of conformity	CCC
Marking acc. to IECEx	Ex db [ia IIC Ga / ib IIC Gb] IIB+H <sub>2</sub> T4, T5, T6 Gb Ex tb [ia IIIC Da / ib IIIC Db] IIIC T130°C, T95°C, T80°C Db IP66/65
Standard material	body and cover - copper-free aluminum, ZL104 (<0.1%) gasket - silicone cover bolts and hinges - steel coating - RAL7016 for cover, RAL7032 for body
Cover devices	signal lamps pushbuttons rotary switches circuit breaker handles round window, Ø 80 mm
Permissible ambient temp.	- 40°C to +55°C

3

## Ordering information

CPD15	100	XX	YY
Product series		Size	Configuration
		02 - 474 x 426 x 291	03 = IIB + H <sub>2</sub> , IP65 (with window)
		03 - 577 x 426 x 291	07 = IIB + H <sub>2</sub> , IP66
		04 - 680 x 529 x 291	

# CPD15 series flameproof enclosures

## Ordering details complete motor starter distribution

### Direct circuit

Motor capacity to AC 3	Enclosure size	Connection terminals	Cable entries	Order No. with signal lamp	Order No. without signal lamp
1.1kW	CPD15 size 2	6mm <sup>2</sup>	2xM25	CPD1510002MD011S	CPD1510002MD011
1.5kW	CPD15 size 2	6mm <sup>2</sup>	2xM25	CPD1510002MD015S	CPD1510002MD015
2.2kW	CPD15 size 2	6mm <sup>2</sup>	2xM25	CPD1510002MD022S	CPD1510002MD022
3kW	CPD15 size 2	10mm <sup>2</sup>	2xM25	CPD1510002MD030S	CPD1510002MD030
4kW	CPD15 size 2	10mm <sup>2</sup>	2xM25	CPD1510002MD040S	CPD1510002MD040
5.5kW	CPD15 size 2	16mm <sup>2</sup>	2xM25	CPD1510002MD055S	CPD1510002MD055
7.5kW	CPD15 size 2	16mm <sup>2</sup>	2xM25	CPD1510002MD075S	CPD1510002MD075
11kW	CPD15 size 2	16mm <sup>2</sup>	2xM25	CPD1510002MD110S	CPD1510002MD110
15kW	CPD15 size 2	16mm <sup>2</sup>	2xM25	CPD1510002MD150S	CPD1510002MD150

### Star-delta circuit

Motor capacity to AC 3	Enclosure size	Connection terminals	Cable entries	Order No. with signal lamp	Order No. without signal lamp
22kW	CPD15 size 4	35mm <sup>2</sup>	2xM32	CPD1510004MS022S	CPD1510004MS022
30kW	CPD15 size 4	35mm <sup>2</sup>	2xM32	CPD1510004MS030S	CPD1510004MS030
37kW	CPD15 size 4	35mm <sup>2</sup>	2xM32	CPD1510004MS037S	CPD1510004MS037
45kW	CPD15 size 4	50mm <sup>2</sup>	2xM40	CPD1510004MS045S	CPD1510004MS045
55kW	CPD15 size 4	50mm <sup>2</sup>	2xM40	CPD1510004MS055S	CPD1510004MS055

## Ordering details complete isolation switch

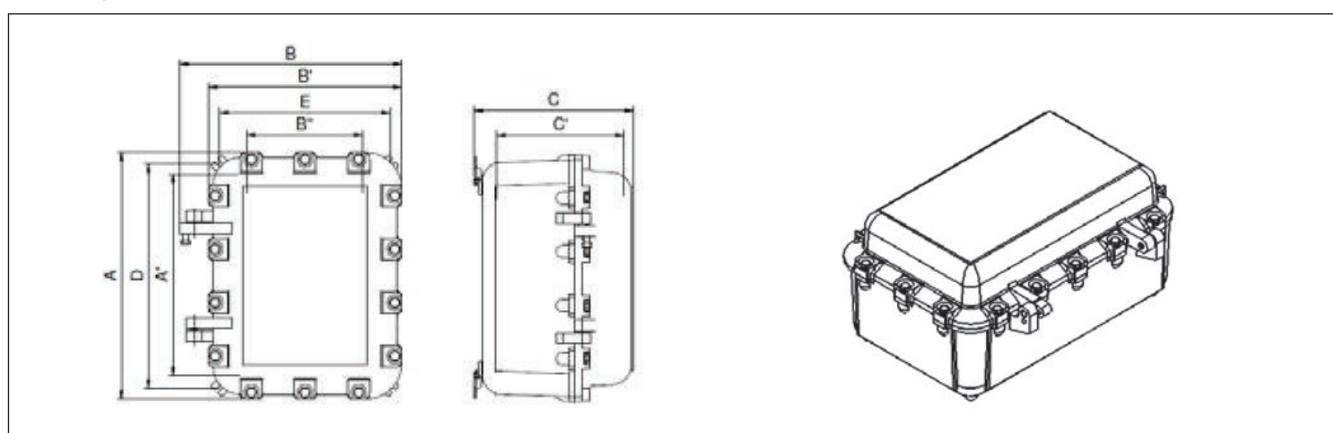
Current	Enclosure size	Cable entries	Order No. (3 poles)	Order No. (4 poles)
10A	CPD15 size 2	2xM25	CPD1510002IS3010	CPD1510002IS4010
20A	CPD15 size 2	2xM25	CPD1510002IS3020	CPD1510002IS4020
40A	CPD15 size 3	2xM32	CPD1510003IS3040	CPD1510003IS4040
80A	CPD15 size 3	2xM32	CPD1510003IS3080	CPD1510003IS4080

## Dimension

Material number	External dimensions				Inside dimensions			Mounting	
	A	B	B'	C	A'	B'	C'	D	E
CPD 15 10002 YY	474	426	371	301	414	311	249	430	327
CPD 15 10003 YY	577	426	371	301	517	311	249	533	327
CPD 15 10004 YY	680	529	474	301	619	414	247	636	430

3

## Drawing details



# EJB flameproof enclosures

## Product introduction

The EJB range is an "ATEX IECEx and GB/CCC certified" flameproof enclosure for category 2, Zone 1, Zone 2 application and fully complaint with the impact, thermal and ingress requirements of EN60079 and GB3836. EJB is available in comprehensive range of different sizes, each with the facility for various configuration possibilities for a multitude of applications.

EJB series had become the first choice for customers because of its classic design, high quality and brilliant overall performance.



## Technical data

<b>EC-type examination certificate</b>	LOM 08 ATEX 2071X
<b>IECEx-certification of conformity</b>	IECEx BKI 07.0018
<b>GB certificate of conformity</b>	CCC
<b>Marking acc. to ATEX</b>	II 2 G Ex d IIB T4...T6 II 2 G Ex d [ia/ib] IIB T6
<b>Marking accd. to IECEx</b>	Ex d IIB T4...T6 Ex d [ia/ib] IIB T6
<b>Material/Finish</b>	Light alloy, RAL7016/RAL7032
<b>Rated voltage</b>	690V
<b>Max. rated current</b>	1200A
<b>Terminal</b>	Up to 240 mm <sup>2</sup>
<b>Temperature range</b>	-20 °C~+55 °C
<b>Application</b>	Zone 1 and Zone 2

# EJB flameproof enclosures

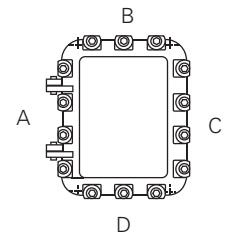
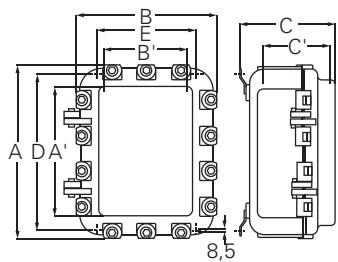
## Enclosure details

Type	Ta≤40°C			Ta≤55°C			Gas group	Dust group	IP	Weight
	T4/T130°C	T5/T95°C	T6/T180°C	T4/T130°C	T5/T95°C	T6/T80°C				
EJB 12R	100	60	30	83	43	18	IIB	No	IP65	3.22
EJB 12A	100	60	30	83	43	18	IIB	No	IP65	3.68
EJB 14R	240	140	80	200	100	50	IIB	No	IP65	8.30
EJB 23R...	240	140	60	200	100	35	IIB	No	IP65	11.21
EJB 110	295	170	125	245	120	75	IIB	No	IP65	22.50
EJB 120	480	270	150	400	195	90	IIB	No	IP65	27.00
EJB 121	500	280	150	415	200	90	IIB	No	IP65	31.00
EJB 130	590	340	200	490	245	125	IIB	No	IP65	37.00
EJB 131...	610	350	200	505	250	125	IIB	No	IP65	39.50
EJB 240	700	400	250	580	290	155	IIB	No	IP65	49.5
EJB 241	700	400	250	580	290	155	IIB	No	IP65	56.80
EJB 241M1	700	400	250	580	290	155	IIB	No	IP65	90.9

<sup>(1)</sup>Changed to IP65 when a ø80 window applied

## Dimension

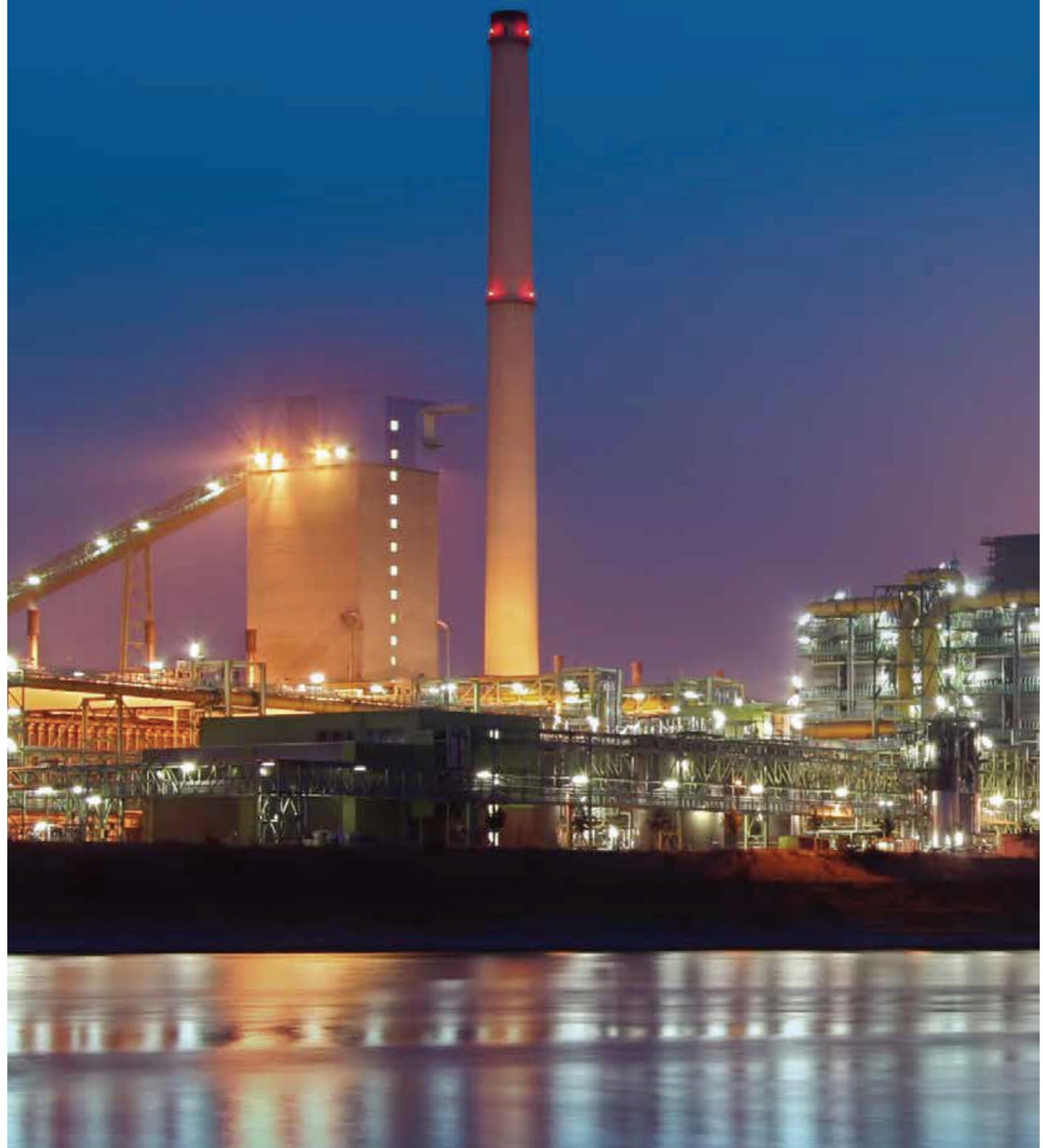
Type	External dimension			Internal dimension			Windows	Mounting	
	A	B	C	A'	B'	C'		D	E
EJB 12R	216	130	106	178	86	59		220	144
EJB 12A	216	130	162	178	86	115		220	144
EJB 14R	420	150	143	367	104	95		424	159
EJB 23R	337	217	212	274	164	166		333	219
EJB 110	371	371	233	311	311	179		327	327
EJB 120	474	370	233	414	311	177		430	327
EJB 120M3	474	371	233	414	311	177	110x75	430	327
EJB 120M4	474	371	233	414	311	177	180x140	430	327
EJB 121...	474	371	305	414	311	249		430	327
EJB 130	577	371	233	517	311	177		533	327
EJB 131...	577	371	305	517	311	249		533	327
EJB 240	680	474	233	619	414	175		636	430
EJB 241...	680	474	305	619	414	247	255x230	636	430
EJB 241M1	680	474	305	619	414	247		636	430



# EJB flameproof enclosures

## Elements

	Degree of protection Ex. Certification	IP65 acc, EN60529 ATEX EEx d IIB, GB Ex d IIB
	<b>Description</b>	<b>Code</b>
	<b>Push-button with 1NO + 1NC contacts block:</b>	<b>Qty.</b>
	Sensitive push-button + Labels «White», «I», «0», «STOP», «START»	NOR 000 001 170 004
	Sensitive push-button locked by padlock in pressed position + Labels «White», «I», «0», «STOP», «START»	NOR 000 001 170 005
	Sensitive push-button locked by padlock in depressed position + Labels «White», «I», «0», «STOP», «START»	NOR 000 001 170 006
	Mushroom sensitive push-button + Labels «0», «STOP», «OFF», «Red», and «Yellow»	NOR 000 001 170 007
	Mushroom retained push-button + Labels «0», «STOP», «OFF», «Red», and «Yellow»	NOR 000 001 170 008
	Mushroom retained push-button and locked by padlock + Labels «0», «STOP», «OFF», «Red», and «Yellow»	NOR 000 001 170 009
	Key push-button	NOR 000 001 170 010
	Mushroom key push-button	NOR 000 001 170 011
	Sensitive push-button bottom box + Label «RESET»	NOR 000 001 170 012
	<b>Contact blocks</b>	
	1NO	NOR 000 001 170 013
	1NC	NOR 000 001 170 014
	<b>Pack Labels</b>	
	1 Label of each inscription «II», «Arrow», «ON», «RESET», «TEST», «Green», «Red», «Yellow» and «Black»	NOR 000 001 170 015
	<b>Signal lamps</b>	
	Direct lamp 240V + Lens «White», «Amber», «Red», «Yellow» and «Green» + Lampholder + 3W lamp	NOR 000 001 170 016
	Direct lamp 130V + Lens «White», «Amber», «Red», «Yellow» and «Green» + Lampholder + 2.6W lamp	NOR 000 001 170 017
	Direct lamp 24V + Lens «White», «Amber», «Red», «Yellow» and «Green» + Lampholder + 1.2W lamp	NOR 000 001 170 018
	Indirect lamp by trafo 380-400/6V + Lens «White», «Amber», «Red», «Yellow» and «Green» + Lampholder + 1.2W lamp	NOR 000 001 170 019
	Direct LED 230V + Lens «White», «Amber», «Red», «Yellow» and «Green» + Lampholder	NOR 000 001 170 116
	Direct LED 130V + Lens «White», «Amber», «Red», «Yellow» and «Green» + Lampholder	NOR 000 001 170 117
	Direct LED 24V + Lens «White», «Amber», «Red», «Yellow» and «Green» + Lampholder	NOR 000 001 170 118
	<b>Control switches</b> , locked by padlock + Label	
	Reversed «0-1», 2P, 12A + Rotary handle	NOR 000 001 170 020
	Reversed «0-1», 2P, 25A + Rotary handle	NOR 000 001 170 021
	Reversed «0-1», 3P, 25A + Rotary handle	NOR 000 001 170 022
	Reversed «1-2», 1P, 12A + Rotary handle	NOR 000 001 170 023
	Reversed «1-2», 2P, 12A + Rotary handle	NOR 000 001 170 024
	Reversed «1-0-2», 1P, 12A + Rotary handle	NOR 000 001 170 025
	Reversed «1-0-2», 2P, 12A + Rotary handle	NOR 000 001 170 026
	Reversed «0-1», 2P, 12A + Rotary handle	NOR 000 001 170 027
	Reversed «0-1-M», 2P, 12A + Rotary handle	NOR 000 001 170 028
	<b>Rotatory handly bottom enclosure locked by padlock</b>	
	Actuator for 25A <63A switch	NOR 000 001 170 029
	Actuator for 63A <100A switch	NOR 000 001 170 030
	Actuator for 100A <250A switch	NOR 000 001 170 031
	Actuator for 250A 1000A switch	NOR 000 001 170 032
	<b>Neutral label for switches</b>	
	Label 60 x 60	NOR 000 001 170 033
	Label 70 x 70	NOR 000 001 170 034
	Label 85 x 85	NOR 000 001 170 035
	<b>Special actuators</b>	
	Acutuator for MCB of 1P-ABB + Label	NOR 000 001 170 933
	Acutuator for MCB Multipole-ABB + Label	NOR 000 001 170 925
	Acutuator for MCB of 1P-M&G + Label	NOR 000 001 170 600
	Acutuator for MCB Multipole-M&G + Label	NOR 000 001 170 569
	Acutuator for MCB POWER + Label	NOR 000 001 170 565
	<b>Bushings<sup>1)</sup></b>	
	3/4" NPT 3P + N + PE 4x10mm <sup>2</sup> + 1x6mm <sup>2</sup> 50A	NOR 000 001 170 892
	1" NPT 3P + N + PE 4x16mm <sup>2</sup> + 1x10mm <sup>2</sup> 75A	NOR 000 001 170 909
	1 1/2" NPT 3P + N+PE 4x50mm <sup>2</sup> + 1x10mm <sup>2</sup> 150A	NOR 000 001 170 917
	<b>Bus-bars</b>	
	>350A, 3P + N + T+control 19x1.5mm <sup>2</sup> application in size 1	NOR 000 001 170 036
	>350A <500A, 3P + N + T + control 19x1.5mm <sup>2</sup> application in size 1	NOR 000 001 170 037
	>500A <630A, 3P (2 bars per phase) + N + T + control 19x1.5mm <sup>2</sup> application size 2	NOR 000 001 170 038
	>630A <800A, 3P (2 bars per phase) + N + T + control 19x1.5mm <sup>2</sup> application size 2	NOR 000 001 170 039
	<b>Windows</b>	
	60 x 60mm type: M 6060	NOR 000 001 170 000
	75 x 75mm type: M 7575	NOR 000 001 170 001
	110 x 50mm type: M 11050	NOR 000 001 170 002
	110 x 75mm type: M 11075	NOR 000 001 170 003
	<b>End bars cover</b>	
		NOR 000 001 170 154



# Plugs & receptacles

## Contents

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# Ex-plugs and receptacles

10 A to 125 A

Plastic version for Zone 1 and Zone 21

## A good connection

Providing electrical energy there, where it is most needed – even in hazardous areas for the Zones 1, 2, 21 and 22.

Non-stationary electrical apparatus have generally high requirements on the energy/power supply. Robust plugs and receptacles as well as a high chemical resistance are at the first glance very important.

Electrical reliability is a must not only for all connectivity products.

A high safety standard, a steady hold and faultless contacting even under vibration or the effects of an aggressive atmospheric environment are the basis for a secure and reliable utilisation.

CEAG plugs and receptacles offer more, apart from the proven technology, this product series is defined by its innovative details. For example, the very efficient cable strain relief or the new coding system of the various versions offers different solutions for a secure and problem free utilization in all areas.

Just to round the product off, the user in the normal industrial sector becomes exactly the same product advantages. Robust industrial versions fulfil all requirements appertaining to mechanical and chemical durability. For the stationary repair power supplying in hazardous explosive areas, there is a specially conceived version available that fulfils all the necessary safety requirements. Used in a module sense, individual solutions are no problem at all.

The CEAG wall socket for instance can be mounted on to the pre-installed mounting frame without having to use tools – installation without a hot work permit.

Apart from the plugs and receptacles for the European market, we also have plugs and sockets extra for the US market, which are in accordance to all of the necessary standards UL and safety protection systems used there. The available standard range used here, are the 20 A, 30 A, 60 A and 100 A.

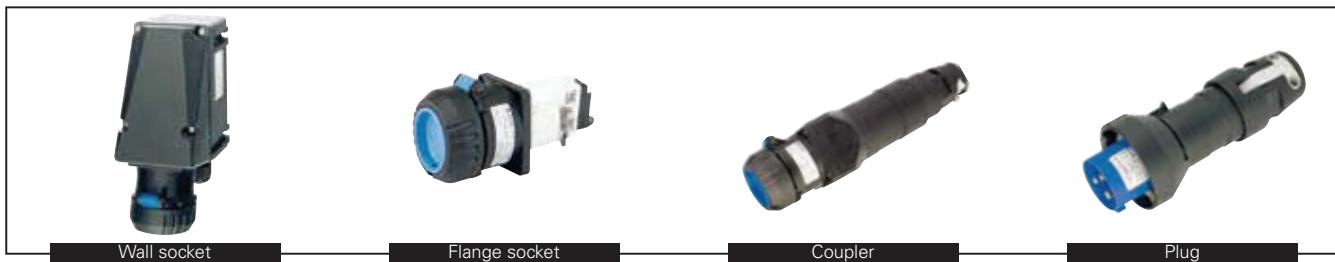
**International approvals.**

**4**

- Nickel-plated contacts
- Low insertion force
- Safety standard IP66 applies also in the plugged-in state
- Full AC-3 switching ability
- Self-cleaning lamellar contacts, low transition resistance
- All-pole on/off switching
- Easy plugging



# 16A 3-pole, 4-pole and 5-pole up to 690 V



## Technical data

### Ex-plugs and receptacles acc. to IEC 60309-1/2 16A

#### Marking accd. to 2014/34/EU

Wall socket, plug, coupler: II 2G / Ex db eb [ia] IIC / IIB+H2 T6  
II 2 D Ex IIIC / IIIB T80 Db  
Flange socket: II 2G Ex db eb IIC / IIB+H2 Gb  
II 2 D Ex tb IIIC Db

#### EC-Type Examination Certificate

Wall socket, plug, coupler: BVS 17 ATEX E 053 X  
Flange socket: BVS 15 ATEX E 101 U

#### IECEx Certificate of Conformity

Wall socket, plug, coupler: IECEX BVS 17.0045X  
Flange socket: IECEX BVS 15.0088U

#### EAC (TR)

1EX D E [IA] IIC/IIB T6 GB X  
EXTB IIIC T80°C DB X

#### Permissible ambient temperature

-55 °C to + 55 °C

#### Rated voltage

up to 415 V, (3-pole) / 690 V, (4-pole) / 690 V, (5-pole) AC

#### Rated current

16 A

#### Frequency

up to 400 Hz

#### Rated making / Rated breaking capacity AC-3

Ue 250 V / Ie 16 A (3-pole)

#### accd. EN 60947-3

Ue 690 V / Ie 16 A (4-pole)

Ue 500 V / Ie 16 A (5-pole)

#### External back-up fuse, max.

without therm. protection: 16 A  
with therm. protection: 35 A gG (rated current 16 A set to)

#### Protection class

I

#### Degree of protection accd. to EN 60529

IP66

#### Enclosure colour

black

#### Wall socket

##### Cable entry

1 x M25 cable gland, 1 x M25 plastic Ex-screw plug or  
2 x metal thread M20 with plastic Ex-screw plug

##### Connecting terminals

2 x 1.5 – 4.0 mm<sup>2</sup>

##### Enclosure material

Glass-fibre reinforced polyester

#### Plug

##### Cable entry

Ø 8 – 18 mm (3-pole) / Ø 8 – 21 mm (4-pole) / 12 – 21 mm (5-pole)

##### Connecting terminals

1 x 1.0 – 4.0 mm<sup>2</sup>

##### Enclosure material

Polyamide

#### Coupler

##### Cable entry

Ø 8 – 19 mm (3-pole) / Ø 8 – 21 mm (4-pole) / 12 – 21 mm (5-pole)

##### Connecting terminals

1 x 1.5 – 4.0 mm<sup>2</sup>

##### Enclosure material

Polyamide

#### Flange socket

##### Connecting terminals

2 x 1.5 – 4.0 mm<sup>2</sup>

##### Enclosure material

Polyamide

Plug install protected against higher mechanical risk 4J under -40°C.

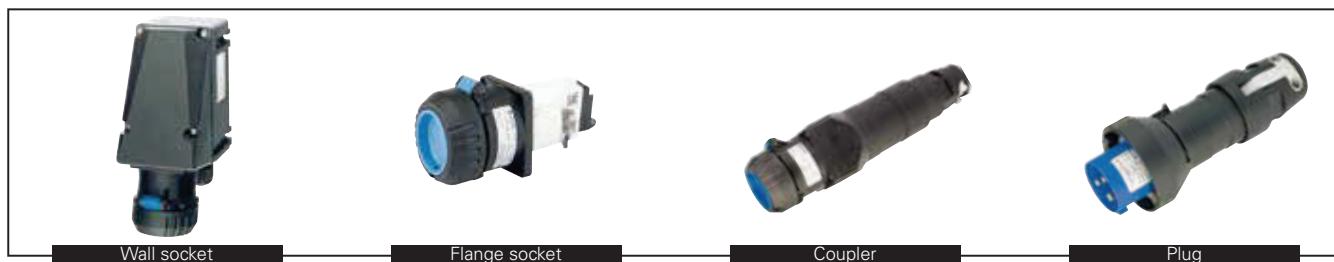
# 16A 3-pole, 4-pole and 5-pole up to 690 V



## Ordering details

Voltage	h	Type	Aux. contact	Cable entry	Weight	Extended temp IIB+H2 -55 °C up to +45 °C (16 A) IIC -20 °C up to +55 °C (10 A)	Standard temp IIC -20 °C up to +55 °C (16 A)	Order No.
<b>Type 16A 3pol</b>								
110 -130V	4 h	Wall socket	-	KU	1.2 kg		X	GHG5114304R0001
		Wall socket	-	GE	1.2 kg		X	GHG5114304R0002
		Wall socket	-	GE	1.2 kg	X		GHG5114304R0102
		Wall socket	-	ME	1.3 kg		X	GHG5114304R3001
		Wall socket	-	ME	1.3 kg	X		GHG5114304R3101
		Wall socket	-	GM	1.3 kg		X	GHG5114304R3003
		Wall socket	-	GM	1.3 kg	X		GHG5114304R3103
		Flange socket	-		0.4 kg		X	GHG5118304R0001
		Flange socket	-		0.4 kg	X		GHG5118304R0101
		Coupler	-		0.7 kg		X	GHG5113304R0001
		Plug	-		0.35 kg	X		GHG5117304R0001
<b>Type 16A 3pol</b>								
200-250 V	6 h	Wall socket	-	KU	1.2 kg		X	GHG5114306R0001
		Wall socket	-	GE	1.2 kg		X	GHG5114306R0002
		Wall socket	-	GE	1.2 kg	X		GHG5114306R0102
		Wall socket	-	ME	1.3 kg		X	GHG5114306R3001
		Wall socket	-	ME	1.3 kg	X		GHG5114306R3101
		Wall socket	-	GM	1.3 kg		X	GHG5114306R3003
		Wall socket	-	GM	1.3 kg	X		GHG5114306R3103
		Flange socket	-		0.4 kg		X	GHG5118306R0001
		Flange socket	-		0.4 kg	X		GHG5118306R0101
		Coupler	-		0.7 kg		X	GHG5113306R0001
		Plug	-		0.35 kg	X		GHG5117306R0001
<b>Type 16 A 4-pole</b>								
200-250 V	9 h	Wall socket	-	KU	1.2 kg		X	GHG5114409R0001
		Wall socket	-	ME	1.3 kg		X	GHG5114409R3001
		Wall socket	-	ME	1.3 kg	X		GHG5114409R3101
		Wall socket	-	GM	1.3 kg		X	GHG5114409R3003
		Wall socket	-	GM	1.3 kg	X		GHG5114409R3103
		Flange socket	-		1.0 kg		X	GHG5118409R0001
		Flange socket	-		1.0 kg	X		GHG5118409R0101
		Coupler	-		1.7 kg		X	GHG5113409R0001
		Plug	-		0.35 kg	X		GHG5117409R0001
380-415V	6 h	Wall socket	-	KU	1.2 kg		X	GHG5114406R0001
		Wall socket	-	ME	1.3 kg		X	GHG5114406R3001
		Wall socket	-	ME	1.3 kg	X		GHG5114406R3101
		Wall socket	-	GM	1.3 kg		X	GHG5114406R3003
		Wall socket	-	GM	1.3 kg	X		GHG5114406R3103
		Flange socket	-		1.0 kg		X	GHG5118406R0001
		Flange socket	-		1.0 kg	X		GHG5118406R0101
		Coupler	-		1.7 kg		X	GHG5113406R0001
		Plug	-		0.35 kg	X		GHG5117406R0001

# 16A 3-pole, 4-pole and 5-pole up to 690 V



## Ordering details

Voltage	h	Type	Aux. contact	Cable entry	Weight	Extended temp IIB+H2 -55 °C up to +45 °C (16 A) IIC -20 °C up to +55 °C (10 A)	Standard temp IIC -20 °C up to +55 °C (16 A)	Order No.
<b>Type 16A 4pol</b>								
480-500V	7 h	Wall socket	-	KU	1.2 kg		X	GHG5114407R0001
		Wall socket	-	ME	1.3 kg		X	GHG5114407R3001
		Wall socket	-	ME	1.3 kg	X		GHG5114407R3101
		Flange socket	-		1.0 kg		X	GHG5118407R0001
		Flange socket	-		1.0 kg	X		GHG5118407R0101
		Coupler	-		1.7 kg		X	GHG5113407R0001
		Plug			0.35 kg	X		GHG5117407R0001
600-690V	5 h	Wall socket	-	KU	1.4 kg		X	GHG5114405R0001
		Wall socket	-	ME	1.5 kg		X	GHG5114405R3001
		Wall socket	-	ME	1.5 kg	X		GHG5114405R3101
		Flange socket	-		1.0 kg		X	GHG5118405R0001
		Flange socket	-		1.0 kg	X		GHG5118405R0101
		Coupler	-		1.7 kg		X	GHG5113405R0001
		Plug			0.35 kg	X		GHG5117405R0001
<b>Type 16A 5pol</b>								
200-250V	6 h	Wall socket	-	KU	1.2 kg		X	GHG5114506R0001
		Wall socket	-	ME	1.3 kg		X	GHG5114506R3001
		Wall socket	-	ME	1.3 kg	X		GHG5114506R3101
		Wall socket	-	GM	1.3 kg		X	GHG5114506R3003
		Wall socket	-	GM	1.3 kg	X		GHG5114506R3103
380-415V		Flange socket	-		1.0 kg		X	GHG5118506R0001
		Flange socket	-		1.0 kg	X		GHG5118506R0101
		Coupler	-		1.7 kg		X	GHG5113506R0001
		Plug			0.35 kg	X		GHG5117506R0001

Other voltage ranges and versions available on request

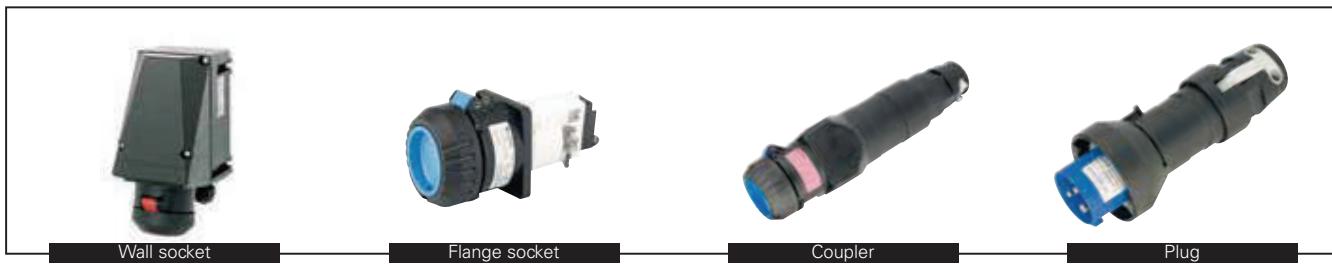
KU = 1 x plastic cable glands M25, 1 x M25 plastic Ex-screw plug

ME = 2 x metal thread M20

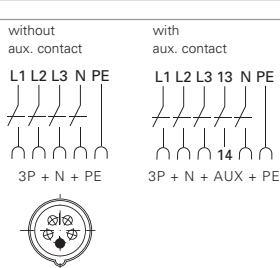
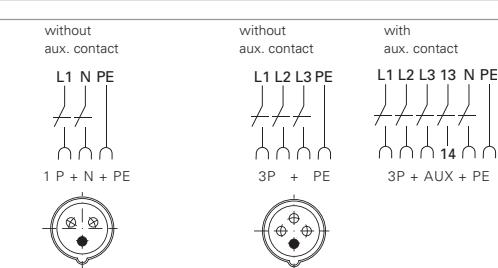
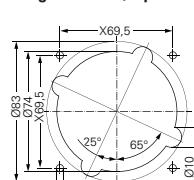
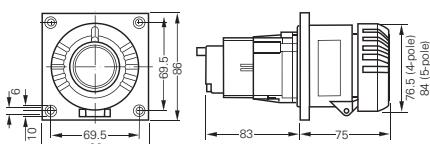
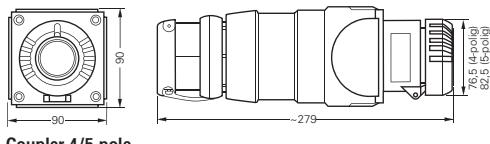
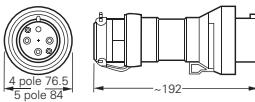
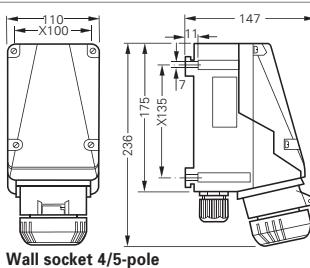
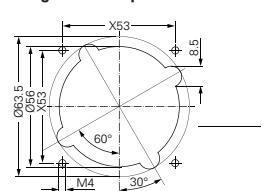
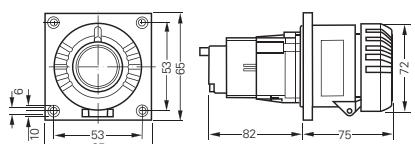
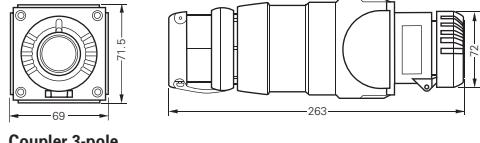
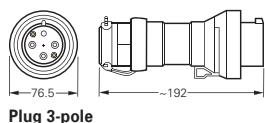
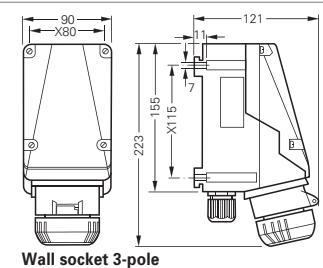
GM = 2 x metal thread M20 with screw plug, with external earth bolt M6 GE = 2x plastic thread

M20 without gland/screw plug

# 16A 3-pole, 4-pole and 5-pole up to 690 V

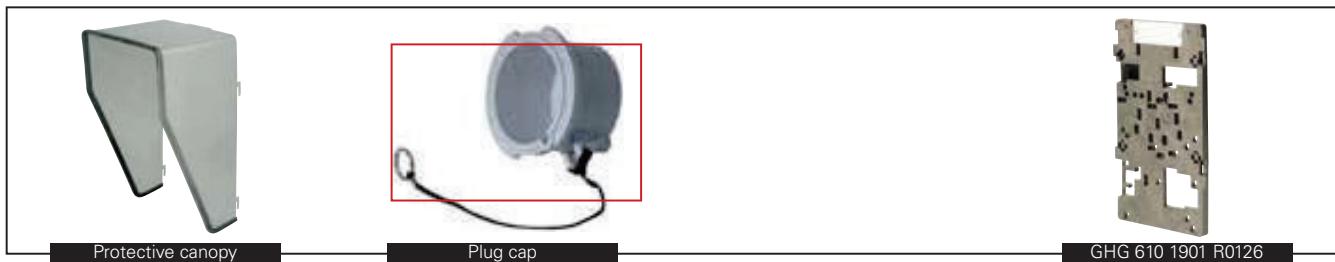


## Dimension drawing | wiring diagram



Dimensions in mm

# 16A 3-pole, 4-pole and 5-pole up to 690 V



## Accessories

### Mounting plates for wall sockets 16 A

Type	Application	Fixing method	Order No.
Size 4	for wall mounting	snap on	GHG 610 1953 R0126
Size 4	for trellis mounting	snap on	GHG 610 1953 R0126
Size 4	for pipe mounting	snap on	GHG 610 1953 R0130

### Plug cap for plugs 16 A

Type	Order No.
Plug 16 A 3-pole	GHG 510 1901 R0001
Plug 16 A 4-pole	GHG 510 1901 R0002
Plug 16 A 5-pole	GHG 510 1901 R0003

### Accessories for mounting plates

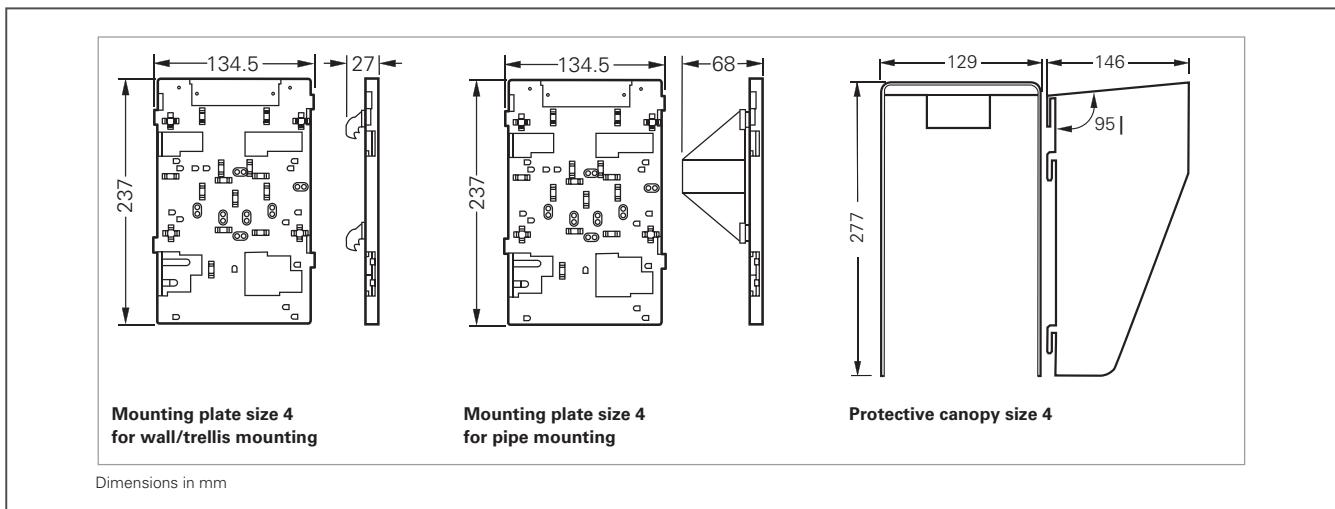
Type	OU	Order No.
Mounting set for pipes 1" ( $\varnothing$ 27 - 30 mm) for mounting plates with pipe fixing	10	GHG 610 1953 R0020

Please pay attention that only order units (OU) according to the Ordering Information can be delivered.

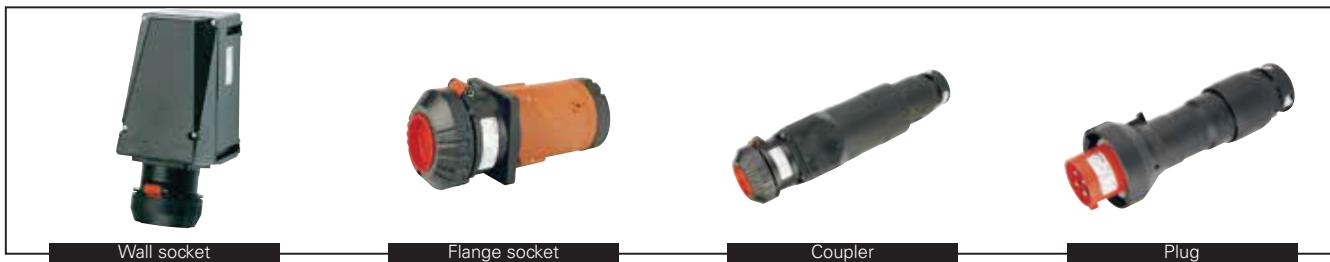
### Protective canopy for mounting plate

Type	Application	Order No.
Size 4	for mounting plate size 4, snap on	GHG 610 1955 R0107

## Dimension



# 32 A 4/5-pole up to 690 V



## Technical data

### Ex-plugs and receptacles acc. to IEC 60309-1/2

<b>Marking accd. to 2014/34/EU</b>	Wall socket, plug, coupler: II 2G / Ex db eb IIC / IIB T5 Gb II 2 D Ex tb IIIC T80°C Db
<b>Flange socket:</b>	II 2G Ex db eb IIC / IIB Gb II 2 D Ex tb IIIC Db
<b>EC-Type Examination Certificate</b>	Wall socket, plug, coupler: BVS 21 ATEX E 001 X Flange socket: BVS 20 ATEX E 090 U
<b>IECEx Certificate of Conformity</b>	Wall socket, plug, coupler: IECEx BVS 21.0002X Flange socket: IECEx BVS 20.0072 U
<b>Marking accd. to IECEx</b>	Ex db eb IIC/IIB T5 Gb Ex tb IIIC T80°C Db
<b>EAC (TR)</b>	1EX d e [ia] IIC/IIB T6 Gb X Ex tb IIIC T80°C Db X
<b>Permissible ambient temperature</b>	Wall socket, plug: IIB -55°C up to +55°C Wall socket, plug: IIC -45°C up to +55°C Coupler: IIC -25°C up to +55°C Flange socket: IIB -55°C up to +80°C Flange socket: IIC -45°C up to +80°C
<b>Rated voltage</b>	up to 690 V (AC)
<b>Rated current</b>	32 A
<b>Frequency</b>	up to 400 Hz
<b>Rated making / Rated breaking capacity AC-3 accd. EN 60947-3</b>	Ue 690 V / Ie 32 A
<b>External back up fuse</b>	without thermal protection: 35 A with thermal protection: 50 A gG (rated current 32 A set to)
<b>Protection class</b>	I
<b>Degree of protection accd. to EN 60529</b>	IP66
<b>Enclosure colour</b>	black
<b>Wall socket</b>	
<b>Cable entry/enclosure drilling</b>	1 x M40 cable gland, 1 x M40 plastic Ex-screw plug or 2 x M32 metal thread with 2 plastic Ex-screw plug
<b>Connecting terminals</b>	2 x 4 - 10 mm <sup>2</sup>
<b>Enclosure material</b>	glass-fibre reinforced polyester
<b>Plug</b>	
<b>Cable entry</b>	Ø 12 - 28 mm
<b>Connecting terminals</b>	2.5 - 6 mm <sup>2</sup>
<b>Enclosure material</b>	Polyamide
<b>Coupler</b>	
<b>Cable entry</b>	Ø 12 - 28 mm
<b>Connecting terminals</b>	2 x 4 - 10 mm <sup>2</sup>
<b>Enclosure material</b>	Polyamide
<b>Flange socket</b>	
<b>Connecting terminals</b>	2 x 4 - 10 mm <sup>2</sup>
<b>Enclosure material</b>	Polyamide

# 32 A 4/5-pole up to 690 V



## Ordering details

Voltage	h	Type	Aux. contact	Cable entry	Weight approx.	Order No.
<b>Type 32 A 4-pole</b>						
200-250 V	9 h	Wall socket	–	KU	2.3 kg	GHG 512 4409 R0001
		Wall socket	–	ME	2.4 kg	GHG 512 4409 R3001
		Wall socket	–	GM	2.3 kg	GHG 512 4409 R3003
		Flange socket			1.0 kg	GHG 512 8409 R0001
		Coupler			1.55 kg	GHG 512 3409 R0001
		Plug			0.55 kg	GHG 512 7409 R0001
380-415 V	6 h	Wall socket	–	KU	2.3 kg	GHG 512 4406 R0001
		Wall socket	–	ME	2.4 kg	GHG 512 4406 R3001
		Wall socket	yes	KH	2.3 kg	GHG 512 4406 R0501
		Wall socket	–	GM	2.4 kg	GHG 512 4406 R3003
		Flange socket			1.0 kg	GHG 512 8406 R0001
		Coupler			1.55 kg	GHG 512 3406 R0001
480-500 V	7 h	Wall socket	–	KU	2.3 kg	GHG 512 4407 R0001
		Wall socket	–	ME	2.4 kg	GHG 512 4407 R3001
		Wall socket	yes	KH	2.3 kg	GHG 512 4407 R0501
		Flange socket			1.0 kg	GHG 512 8407 R0001
		Coupler			1.55 kg	GHG 512 3407 R0001
		Plug			0.55 kg	GHG 512 7407 R0001
600-690 V	5 h	Wall socket	–	KU	1.8 kg	GHG 512 4405 R0001
		Wall socket	–	ME	2.4 kg	GHG 512 4405 R3001
		Wall socket	yes	KH	2.3 kg	GHG 512 4405 R0501
		Flange socket			1.0 kg	GHG 512 8405 R0001
		Coupler			1.55 kg	GHG 512 3405 R0001
		Plug			0.55kg	GHG 512 7405 R0001
<b>Type 32 A 5-pole</b>						
200-250 V	6 h	Wall socket	–	KU	2.3 kg	GHG 512 4506 R0001
		Wall socket	–	ME	2.4 kg	GHG 512 4506 R3001
		Wall socket	yes	KH	2.3 kg	GHG 512 4506 R0501
		Wall socket	–	GM	2.4 kg	GHG 512 4506 R3003
		Flange socket			1.0 kg	GHG 512 8506 R0001
		Coupler			1.6 kg	GHG 512 3506 R0001
		Plug			0.6 kg	GHG 512 7506 R0001

Other voltage ranges and versions available on request

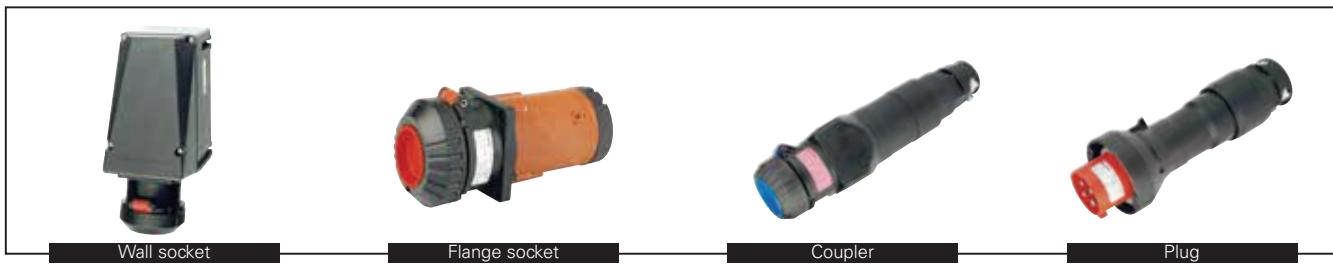
KU = 1 x plastic cable glands M40, 1 x M40 plastic Ex-screw plug

KH = 1 x plastic cable glands M40, 1 x plastic cable glands M25, with aux. contact

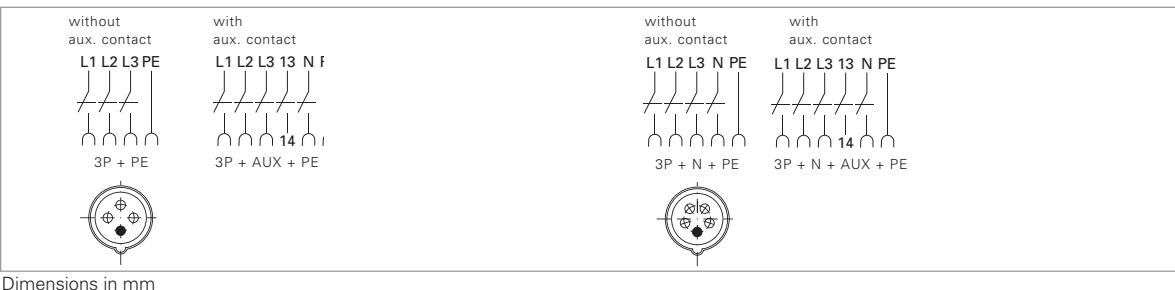
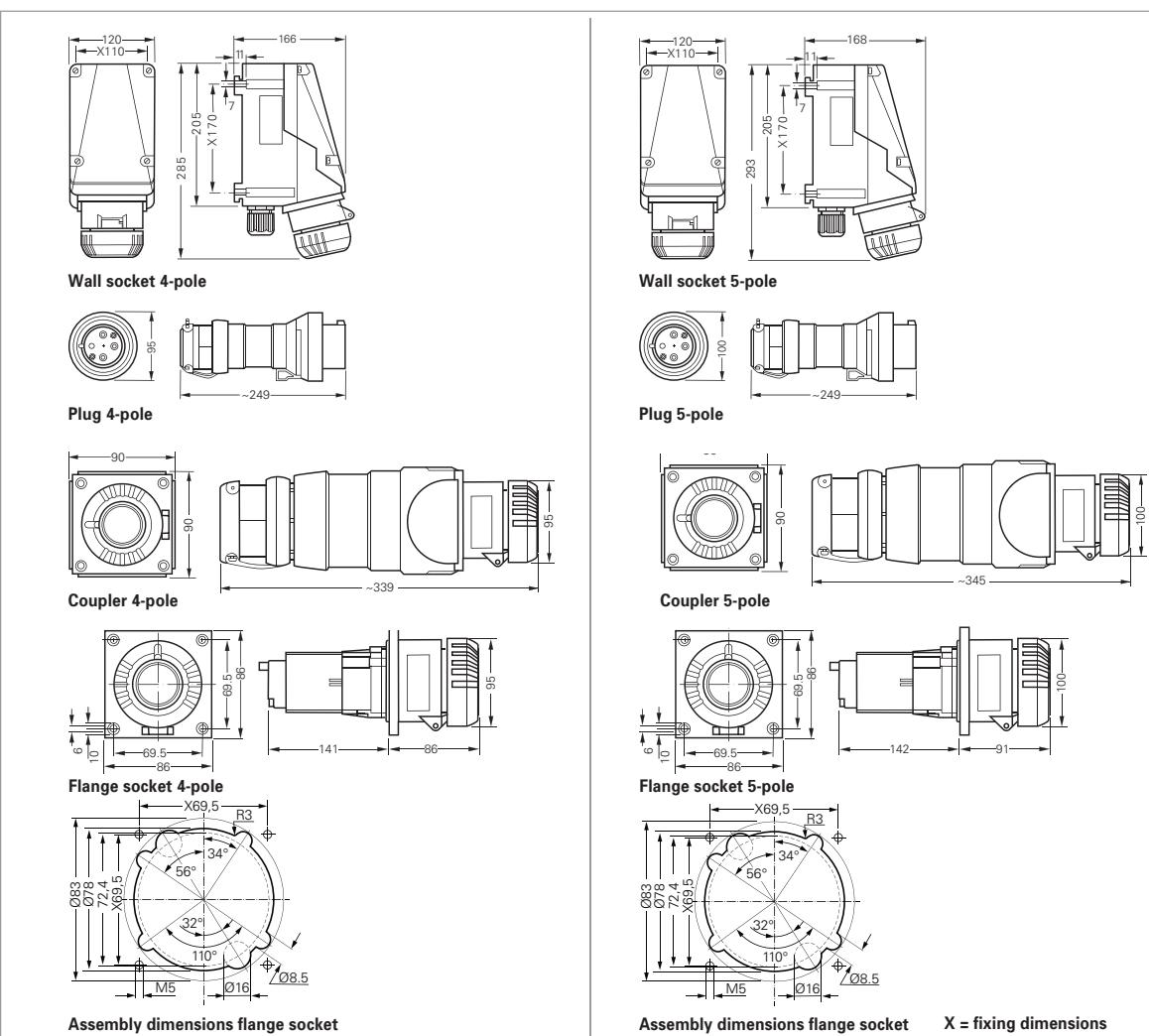
ME = 2 x metal thread M32 with plastic Ex-screw plug

GM = 2 x metal thread M32 with screw plug, with external earth bolt M6

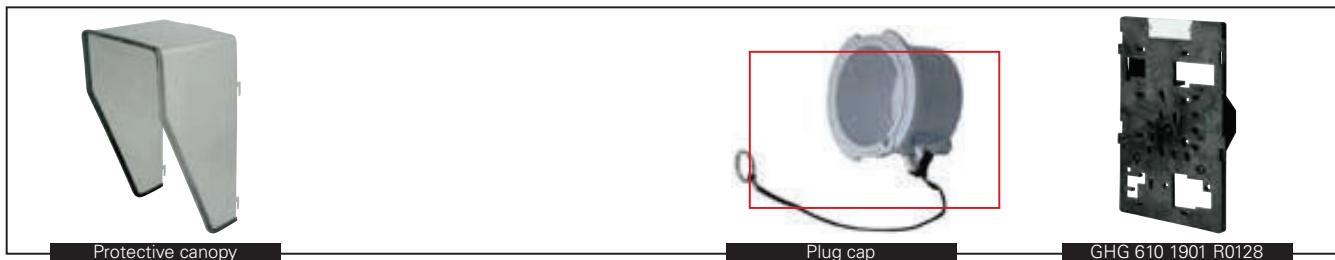
# 32A 4-pole up to 690 V | 32A 5-pole up to 415 V



## Dimension drawing | wiring diagram



# 32A 4-pole up to 690 V | 32A 5-pole up to 415 V



## Accessories

### Mounting plates for wall sockets 32 A

Type	Application	Fixing method	Order No.
Size 5	for wall mounting	snap on	GHG 610 1953 R0128
Size 5	for trellis mounting	snap on	GHG 610 1953 R0128
Size 5	for pipe mounting	snap on	GHG 610 1953 R0132

### Plug cap for plugs 32 A

Type	Order No.
Plug 32 A 3-pole/4-pole	GHG 510 1901 R0004
Plug 32 A 5-pole	GHG 510 1901 R0005

### Accessories for mounting plates

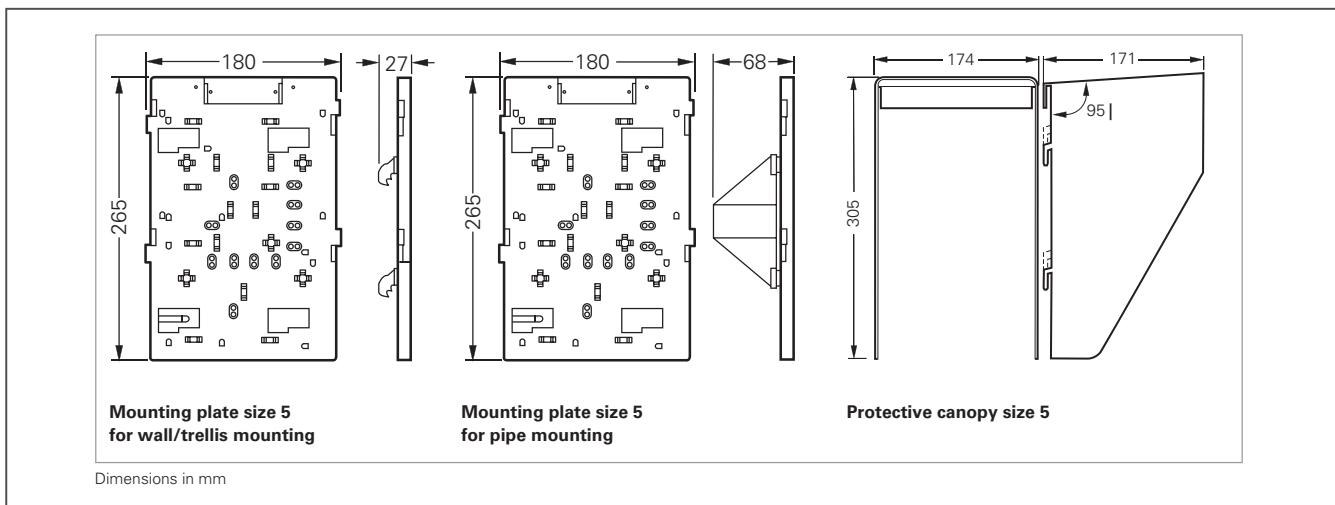
Type	OU	Order No.
Mounting set for pipes 1" ( $\varnothing$ 27 - 30 mm) for mounting plates with pipe fixing	10	GHG 610 1953 R0020

Please pay attention that only order units (OU) according to the Ordering Information can be delivered.

### Protective canopy for mounting plate

Type	Application	Order No.
Size 5	for mounting plate size 5, snap on	GHG 610 1955 R0108

## Dimension



# 63 A 4/5-pole up to 690 V



## Technical data

### Ex-plugs and receptacles acc. to IEC 60309-1/2 up to 690 V

<b>Marking accd. to 2014/34/EU</b>	Ex II 2G Ex db eb IIC/IIB T5 Gb Ex II 2D Ex tb IIIC T80°C Db
<b>Marking accd. to 2014/34/EU</b>	Ex db eb IIC/IIB T5 Gb Ex tb IIIC T80°C Db
<b>EC-Type Examination Certificate</b>	BVS 17 ATEX E 073 X
<b>IECEx Certificate of Conformity</b>	IECEEx BVS 17.0062X
<b>Permissible ambient temperature</b>	-55 °C to + 55 °C <sup>3)</sup>
<b>Rated voltage</b>	690 V AC (4-pole) / 500V AC (5-pole)
<b>Rated current</b>	63 A
<b>Frequency</b>	up to 400 Hz
<b>Rated making / Rated breaking capacity</b>	Ue 690 V / Ie 63 A
<b>AC-3 accd. EN 60947-3</b>	
<b>External back up fuse</b>	without therm. protection: 63 A with therm. protection: 80 A gG (rated current 63 A set to)
<b>Protection class</b>	I
<b>Degree of protection accd. to EN 60529</b>	IP66
<b>Enclosure colour</b>	black
<b>Wall socket</b>	
<b>Cable entry/enclosure drilling</b>	1 x M50 cable gland, 1 x M50 plastic Ex-screw plug or 2 x M40 metal thread with plastic Ex-screw plug
<b>Connecting terminals</b>	2 x 4 - 25 mm <sup>2</sup> / with cable lug <sup>1)</sup> 1 x 35 mm <sup>2</sup>
<b>Enclosure material</b>	glass-fibre reinforced polyester
<b>Plug</b>	
<b>Cable gland</b>	Ø 19 - 34 mm
<b>Connecting terminals</b>	1 x 4 - 16 mm <sup>2</sup> / 1 x 25 mm <sup>2</sup> with pin cable lug <sup>2)</sup>
<b>Enclosure material</b>	Polyamide

<sup>1)</sup> use supplied cable lugs

<sup>2)</sup> see accessories

<sup>3)</sup> Wall socket install protected against higher mechanical risk 4J under -40°C.

# 63 A 4/5-pole up to 690 V



## Ordering details

Voltage	h	Aux. contact	Cable entry	Type	IIB / IIC low temp -55 °C up to +40/+55 °C	IIC high temp -20 °C up to +55 °C	Weight approx.	Order No.
<b>Type 63 A 4-pole</b>								
200-250 V	9	-	KU	Wall socket	X	8.1 kg	GHG514 4409 R0001	
		-	ME	Wall socket	X	8.2 kg	GHG514 4409 R3001	
		-	ME	Wall socket	X	8.2 kg	GHG514 4409 R3101	
		-	Plug	Plug	X	0.9 kg	GHG514 7409 R0001	
380-415 V	6	-	KU	Wall socket	X	8.1 kg	GHG514 4406 R0001	
		-	ME	Wall socket	X	8.2 kg	GHG514 4406 R3001	
		-	ME	Wall socket	X	8.2 kg	GHG514 4406 R3101	
		-	GM	Wall socket	X	8.2 kg	GHG514 4406 R3003	
		-	GM	Wall socket	X	8.2 kg	GHG514 4406 R3103	
480-500 V	7	-	KU	Wall socket	X	8.1 kg	GHG514 4407 R0001	
		-	ME	Wall socket	X	8.2 kg	GHG514 4407 R3001	
		-	ME	Wall socket	X	8.2 kg	GHG514 4407 R3101	
		-	GM	Wall socket	X	8.2 kg	GHG514 4407 R3003	
		-	GM	Wall socket	X	8.2 kg	GHG514 4407 R3103	
		-	Plug	Plug	X	0.9 kg	GHG514 7407 R0001	
600-690	5	-	KU	Wall socket	X	8.1 kg	GHG514 4405 R0001	
		-	ME	Wall socket	X	8.2 kg	GHG514 4405 R3002	
		-	ME	Wall socket	X	8.2 kg	GHG514 4405 R3102	
		-	Plug	Plug	X	0.9 kg	GHG514 7405 R0001	
<b>Type 63 A 5-pole</b>								
200-250 V	6	-	KU	Wall socket	X	8.1 kg	GHG514 4506 R0001	
		-	ME	Wall socket	X	8.2 kg	GHG514 4506 R3001	
380-415 V	6	-	ME	Wall socket	X		GHG514 4506 R3101	
		-	GM	Wall socket	X	8.2 kg	GHG514 4506 R3006	
		-	GM	Wall socket	X	8.2 kg	GHG514 4506 R3106	
		-	Plug	Plug	X	0.9 kg	GHG514 7506 R0001	

other voltage ranges and versions, e.g. with aux. contact, on request

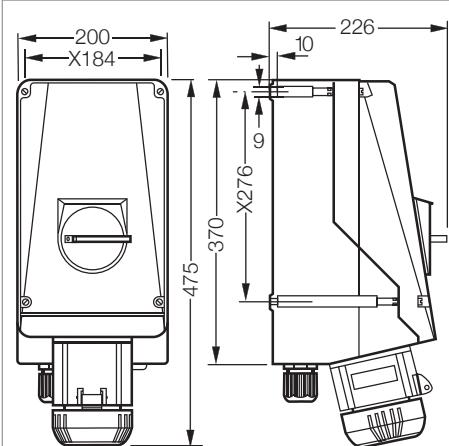
KU = 1 x plastic cable glands M40 cable gland, 1 x M40 plastic Ex-screw plug

ME = 2 x metal thread M32 with plastic Ex-screw plug

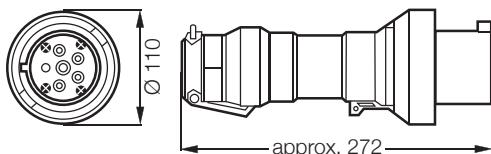
# 63A 4- and 5-pole up to 690 V



**Dimension drawing | wiring diagram**

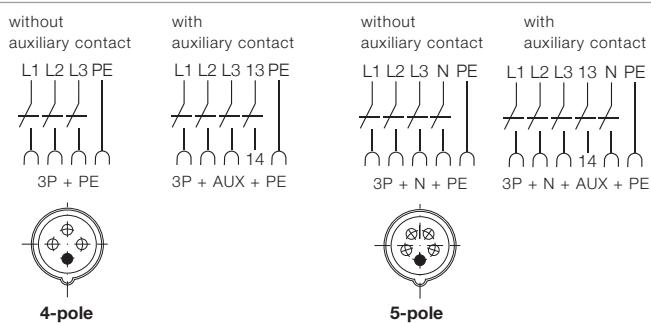


Wall socket 4/5-pole



Plug 4/5-pole

X = Fixing dimensions



Dimensions in mm

# 125 A 4/5-pole up to 690 V



## Technical data

Ex-plugs and receptacles acc. to IEC 60309-1/2	
<b>Marking accd. to 2014/34/EU</b>	Ex II 2 G Ex de IIC T6 / Ex II 2 D Ex tD A21 IP66 T80 °C
<b>EC-Type Examination Certificate</b>	PTB 01 ATEX 1069
<b>IECEx Certificate of Conformity</b>	IECEx BKI 04.0005
<b>Marking accd. to IECEx</b>	Ex ed IIC T6
<b>Permissible ambient temperature</b>	-20 °C to + 40 °C <sup>1)</sup>
<b>Rated voltage</b>	690 V
<b>Rated current</b>	125 A
<b>Frequency</b>	up to 400 Hz
<b>Rated making / Rated breaking capacity</b>	Ue 690 V / Ie 125 A
<b>AC-3 accd. EN 60947-3</b>	
<b>External back up fuse</b>	without therm. protection: 125 A with therm. protection: 160 A gG (rated current 125 A set to)
<b>Protection class</b>	I
<b>Degree of protection accd. to EN 60529</b>	IP66
<b>Enclosure colour</b>	black
<b>Wall socket</b>	
<b>Cable entry/enclosure drilling</b>	1 x M63 cable gland, 1 x M63 plastic Ex-screw plug or 2 x M50 metal thread with 2 plastic Ex-screw plug
<b>Connecting terminals</b>	2 x 4 - 70 mm <sup>2</sup> / with ring cable lug <sup>2)</sup> 1 x 120 mm <sup>2</sup>
<b>Enclosure material</b>	glass-fibre reinforced polyester
<b>Plug</b>	
<b>Cable entry</b>	Ø 31 - 55 mm
<b>Connecting terminals</b>	1 x 4 - 35 mm <sup>2</sup> / with pin cable lug <sup>3)</sup> 1 x 50 mm <sup>2</sup>
<b>Enclosure material</b>	Polyamide

<sup>1)</sup> extended temperature range on request

<sup>2)</sup> use supplied cable lugs

<sup>3)</sup> see accessories

# 125A 4- and 5-pole up to 690 V



## Ordering information

Voltage	h	Type	Auxiliary contact	Cable entries	Weight approx.	Order No.
<b>Type 125 A 4-pole</b>						
200-250 V	9h	Wall socket	–	KU	12.3 kg	GHG 515 4409 R0001
		Wall socket	–	ME	12.5 kg	GHG 515 4409 R3001
		Wall socket	yes	KH	12.5 kg	GHG 515 4409 R0501
		Plug			0.9 kg	GHG 515 7409 R0001
380-415 V	6h	Wall socket	–	KU	12.3 kg	GHG 515 4406 R0001
		Wall socket	–	ME	12.5 kg	GHG 515 4406 R3001
		Wall socket	yes	KH	12.5 kg	GHG 515 4406 R0501
		Wall socket	–	GM	8.2 kg	GHG 515 4406 R3003
		Plug			0.9 kg	GHG 515 7406 R0001
480-500 V	7h	Wall socket	–	KU	12.3 kg	GHG 515 4407 R0001
		Wall socket	–	ME	12.5 kg	GHG 515 4407 R3001
		Wall socket	yes	KH	12.5 kg	GHG 515 4407 R0501
		Wall socket	–	GM	8.2 kg	GHG 515 4407 R3002
		Plug			0.9 kg	GHG 515 7407 R0001
600-690 V	5h	Wall socket	–	KU	12.3 kg	GHG 515 4405 R0001
		Wall socket	–	ME	12.5 kg	GHG 515 4405 R3001
		Wall socket	yes	KH	12.5 kg	GHG 515 4405 R0501
		Wall socket	–	GM	8.2 kg	GHG 515 4405 R3002
		Plug			0.9 kg	GHG 515 7405 R0001
<b>Type 125 A 5-pole</b>						
200-250 V	6h	Wall socket	–	KU	13.0 kg	GHG 515 4506 R0001
380-415 V		Wall socket	–	ME	13.2 kg	GHG 515 4506 R3001
		Wall socket	yes	KH	13.2 kg	GHG 515 4506 R0501
		Wall socket	–	GM	8.2 kg	GHG 515 4506 R3005
		Plug			1.2 kg	GHG 515 7506 R0001

## Accessories

4

Type	OU	Order No.
Plug cap 4-pole/5-pole	1	GHG 510 1901 R0007
Set of ring cable lug 70/120 mm <sup>2</sup> for wall socket (je 4 + 1 pcs.)	1	GHG 260 1911 R0004

Other voltage ranges and versions available on request

KU = 1 x plastic cable glands M63 for Ø 27-48 mm, 1 x M40 plastic Ex-screw plug

KH = 1 x plastic cable glands M63 for Ø 27-48 mm,

1 x plastic cable glands M25 for Ø 8 - 17 mm, with aux. contact

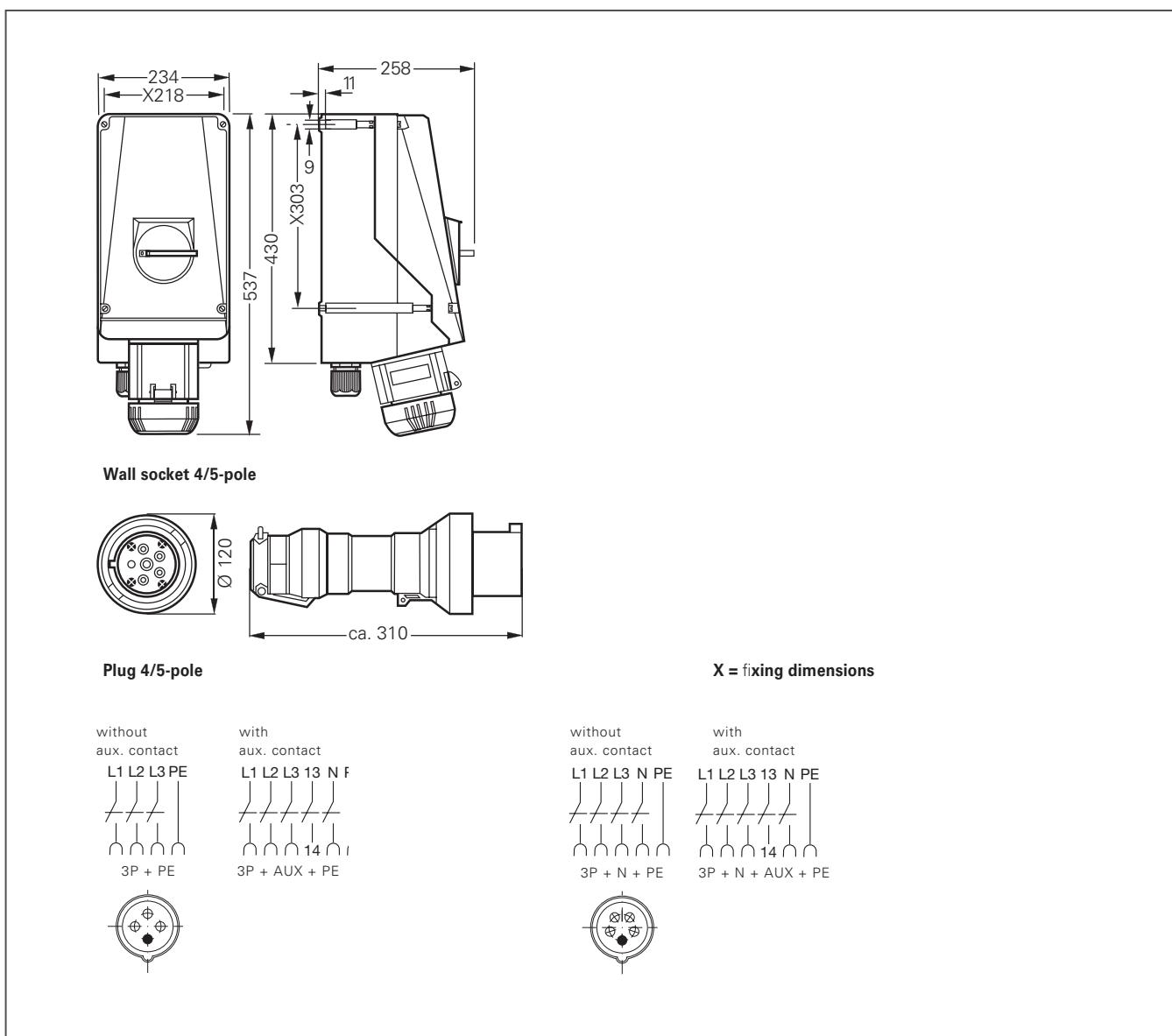
ME = 2 x metal thread M50 with plastic Ex-screw plug

GM = 2 x metal thread M50 with screw plug, with external earth bolt M8

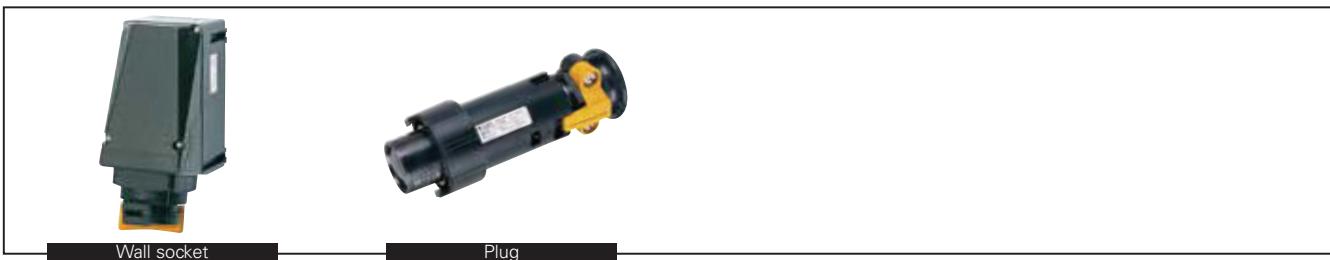
# 125 A 4/5-pole up to 690 V



Dimension drawing | Wiring diagram



# 10A 21-pole up to 250 V



## Technical data

### Ex-plugs and receptacles, 21-pole

<b>Marking to 94/9/EC</b>	Ex II 2 G Ex e IIT6 / Ex II 3 D Ex tD A22 IP54 T80 °C <sup>1)</sup>
<b>EC-Type examination certificate</b>	PTB 00 ATEX 1109
<b>Permissible ambient temperature</b>	-20 °C to + 40 °C
<b>Rated voltage</b>	250 V AC
<b>Rated current</b>	10 A
<b>Frequency</b>	up to 400 Hz
<b>External back up fuse</b>	without therm. protection: 10 A with therm. protection: 16 A gL (rated current 10 A set to)
<b>Insulation class</b>	I
<b>Degree of protection accd. EN 60529</b>	IP65
<b>Enclosure colour</b>	Black
<b>Wall socket</b>	
<b>Cable glands/enclosure drilling</b>	1 x M40 Ø 17 - 28 mm, 1 x M32 metal thread with Ex-screw plugs plastic
<b>Connecting terminals</b>	1 x 1.0 - 2.5 mm <sup>2</sup>
<b>Enclosure material</b>	Glass-fibre reinforced polyester
<b>Plug</b>	
<b>Cabel glands</b>	Ø 19 - 28 mm
<b>Connecting terminals</b>	1 x 1.0 - 2.5 mm <sup>2</sup> crimp or solder connection <sup>2)</sup>
<b>Enclosure material</b>	Polyamide

<sup>1)</sup> See manufacturers declaration 091 for non conductive dusts

<sup>2)</sup> Please use appropriate crimp tool

# 10A 21-pole up to 250 V



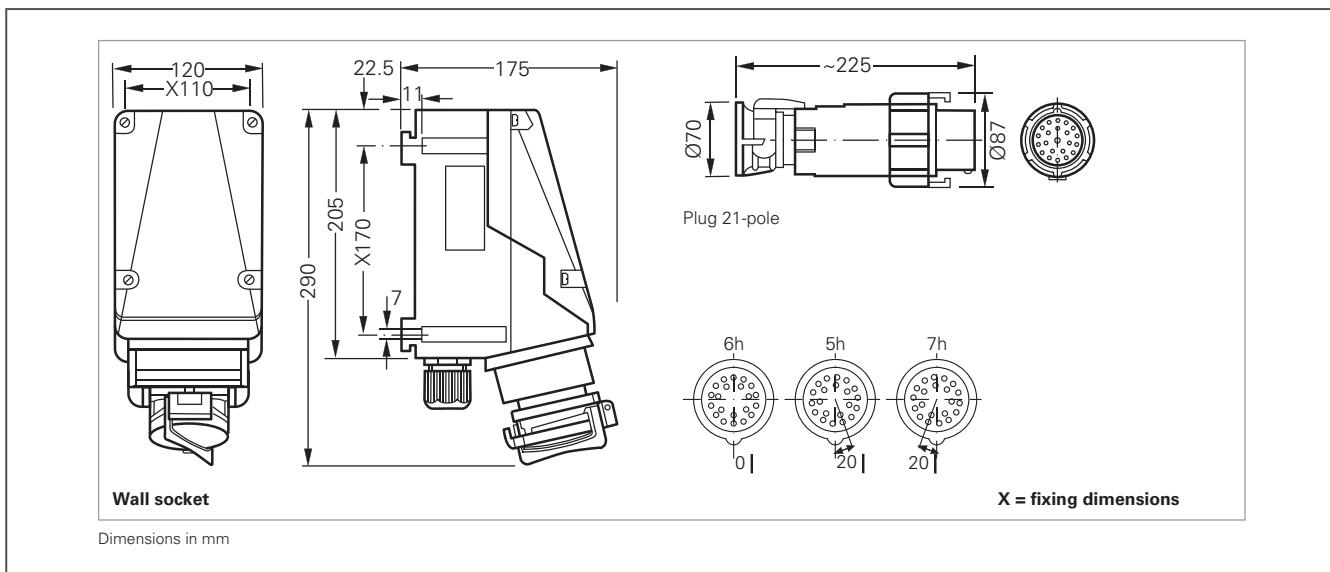
## Ordering information

Type	h	Cable entry	Weigh	Order No.
<b>Type 10 A 21-pole</b>				
Wall socket	5 h	KU	1.8 kg	GHG 511 4905 R0001
Wall socke	5 h	ME	1.9 kg	GHG 511 4905 R3001
Plug	5 h		0.7 kg	GHG 591 2201 R0001
Wall socket	6 h	KU	1.8 kg	GHG 511 4906 R0001
Wall socket	6 h	ME	1.9 kg	GHG 511 4906 R3001
Plug	6 h		0.7 kg	GHG 591 2201 R0002
Wall socket	7 h	KU	1.8 kg	GHG 511 4907 R0001
Wall socket	7 h	ME	1.9 kg	GHG 511 4907 R3001
Plug	7 h		0.7 kg	GHG 591 2201 R0003

Type	Application	Fixing method	Order No.
<b>Accessories</b>			
Plug cap 21-pole			GHG 530 1935 R0008
Mounting plate size 5	for wall mounting	snapp on	GHG 610 1953 R0128
Mounting plate size 5	for trellis mounting	snapp on	GHG 610 1953 R0128
Mounting plate size 5	for pipe mounting	snapp on	GHG 610 1953 R0132
Socket bushes 1 set = 7 pcs.			GHG 590 1301 R0102
Plug pins 1 set = 7 pcs.			GHG 590 1302 R0102
Ex-Crimping tool for sockets and pins			GHG 590 1902 R0001
Dismanteling tool for sockets and pins			GHG 590 1903 R0001

KU = 1 x plastic cable glands M40 for Ø 17-28 mm  
ME = 1 x metal thread M32 with Ex-screw plug plastic

## Dimension drawing | coding



# 20A 7-pole up to 500 V



## Technical data

### Ex-plugs and receptacles, 7-pole

<b>Marking to 94/9/EC</b>	Ex II 2 G Ex ed IIC T6/T5 / Ex II 3 D Ex tD A22 IP54 T80 °C <sup>1)</sup>
<b>EC-Type examination certificate</b>	PTB 00 ATEX 1109
<b>Permissible ambient temperature</b>	-20 °C to + 40 °C
<b>Rated voltage</b>	500 V
<b>Rated current</b>	16 A (T6) / 20 A (T5)
<b>Frequency</b>	up to 400 Hz
<b>Rated making/rated breaking capacity AC-3 accd. EN 60947-3</b>	Ue 500 V / le 10 A Ue 250 V / le 16 A
<b>External back up fuse</b>	without therm. protection: 16 A with therm. protection: 25 A gL (rated current 16/20 A set to)
<b>Insulation class</b>	I
<b>Degree of protection accd. EN 60529</b>	IP66
<b>Enclosure colour</b>	Black
<b>Wall socket</b>	
<b>Cable glands/enclosure drilling</b>	2 x M40 Ø 17 - 28 mm, 1 Ex screw plugs plastic or 2 x M32 metal thread with 2 Ex screw plugs plastic
<b>Connecting terminals</b>	2 x 1.5 - 4 mm <sup>2</sup>
<b>Enclosure material</b>	Glass-fibre reinforced polyester
<b>Plug</b>	
<b>Cable glands</b>	Ø 9 - 17 mm
<b>Connecting terminals</b>	1 x 1.0 - 2.5 mm <sup>2</sup> crimped or soldered connection <sup>2)</sup>
<b>Enclosure material</b>	Polyamide

<sup>1)</sup> See manufacturers declaration 091 for non conductive dusts

<sup>2)</sup> Please use appropriate crimp tool

# 20A 7-pole up to 500 V



## Ordering information

Type	h	Cable entry	Weight	Order No.
<b>Type 20 A 7-pole</b>				
Wall socket 7-pole	6 h	KU	2.2 kg	GHG 511 4706 R0001
Wall socket 7-pole	6 h	ME	2.3 kg	GHG 511 4706 R3001
Plug 7-pole	6 h		0.3 kg	GHG 592 2001 R0002
Wall socket 6-pole + PE	7 h	KU	2.2 kg	GHG 511 4707 R0003
Wall socket 6-pole + PE	7 h	ME	2.3 kg	GHG 511 4707 R3003
Plug 6-pole + PE	7 h		0.3 kg	GHG 592 2001 R0022

Type	Application	Fixing method	Order No.
<b>Accessories</b>			
Plug cap 7-pole			GHG 540 1935 R0002
Mounting plate size 5	for wall mounting	snapp on	GHG 610 1953 R0128
Mounting plate size 5	for trellis mounting	snapp on	GHG 610 1953 R0128
Mounting plate size 5	for pipe mounting	snapp on	GHG 610 1953 R0132
Socket bushes 1 set = 7 pcs.			GHG 590 1301 R0102
Plug ins 1 set = 7 pcs.			GHG 590 1302 R0102
Crimping tool for sockets and pins			GHG 590 1902 R0001
Dismanteling tool for sockets and pins			GHG 590 1903 R0001

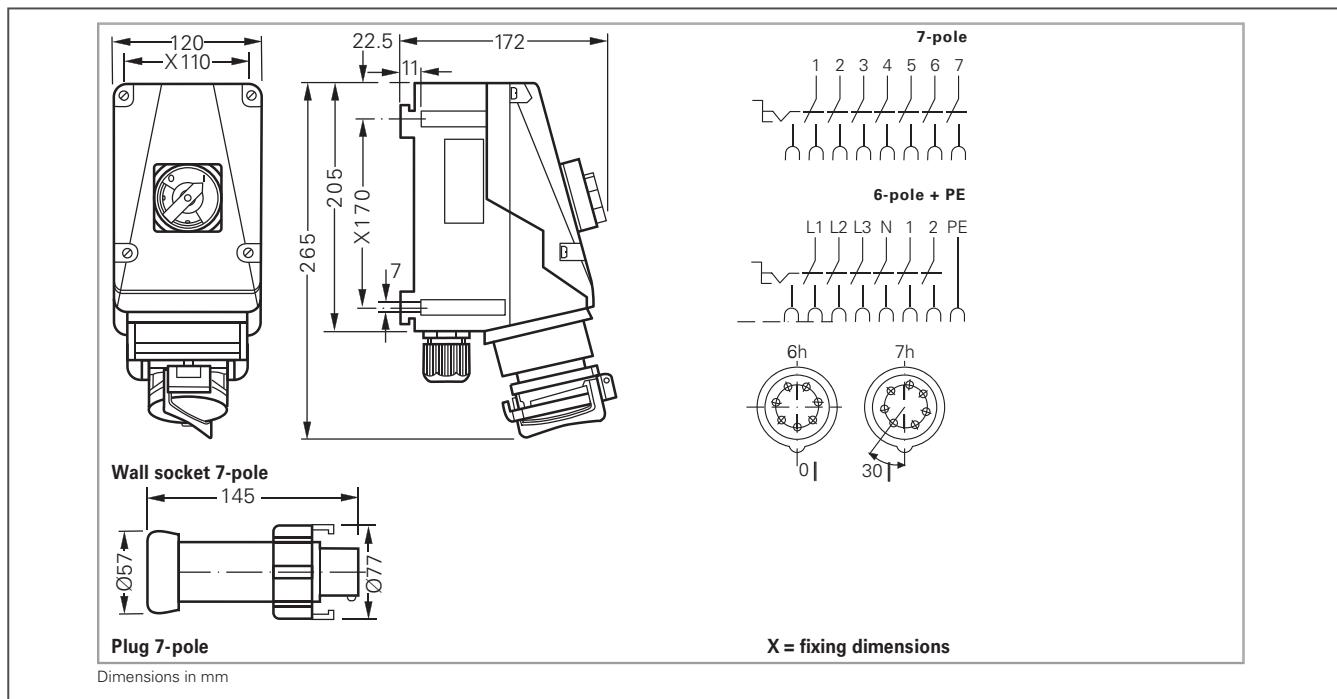
Other voltage ranges and versions available on request.

KU = 1 x plastic cable glands M40 Ø 17-28 mm, 1 x M40 with Ex-screw plug plastic

ME = 2 x metal thread M32 with Ex-screw plug plastic

Fixing material and accessories see page G.30.

## Dimension drawing | wiring diagram



# Roughneck single conductor connectors

## Applications

- Roughneck™ plugs and receptacles are built to take heavy abuse while providing a simple, secure and safe connection
- Roughneck products are designed specifically for oil and gas drilling applications

## Certifications and compliances

### Standard model:

- cURus: E73864
- NEMA 3
- CE marked

### Hazardous rated model:

- Class I, Zone 2, AEx ec IIC Gc
- Ex ec IIC Gc
- Class I, Division 2, Groups A, B, C, D
- II 3 G Ex ec IIC Gc
- In-line connector:  
Ta = -25°C to +55°C

Panel mount:

Ta = -40°C to +55°C

- IP54
- IECEx UL 19.0012U
- DEMKO 19 ATEX 2182U

### Standards:

- IEC 60079-0, 7th Edition
- IEC 60079-7, 5th Edition
- CENELEC EN 60079-0:2018
- CENELEC EN 60079-7:2015
- UL60079-0; UL60079-7; UL121201
- CSA C22.2 No. 60079-0; CSA C22.2 No. 60079-7

## Standard materials

- Insulator – rubber
- Receptacle shell – epoxy powder coated aluminum alloy
- Hardware – stainless steel
- Contact – copper

## Electrical ratings

### Standard E1049

#### Ampacity rating – 40°C ambient

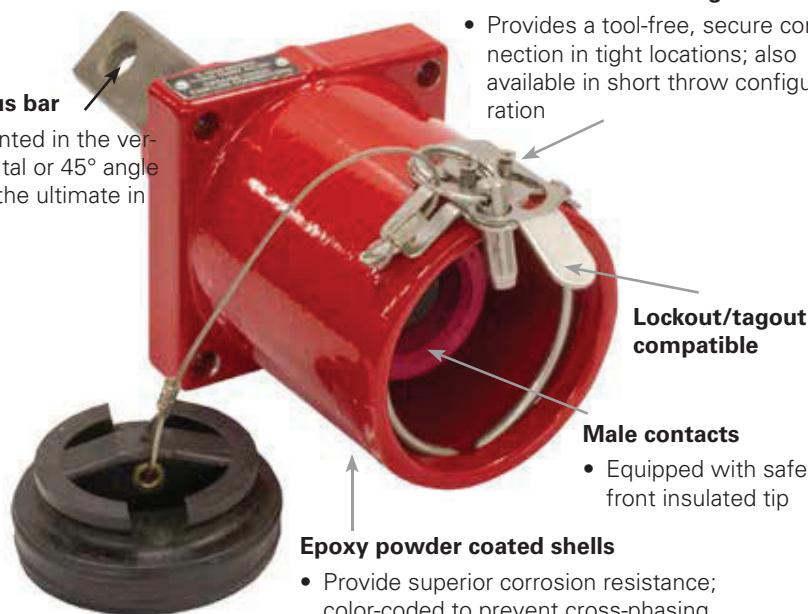
Cable size	90°C <sup>1)</sup>	125°C <sup>1)</sup>
4/0	405A	510A
262 MCM	455A	567A
313 MCM	513A	636A
444 MCM	642A	796A
535 MCM	724A	898A
646 MCM	814A	1009A
777 MCM	916A	1135A

### Hazardous rated E1049X

#### Ampacity rating – 55°C ambient

Cable size	125°C <sup>2)</sup>
313 MCM	636A
444 MCM	750A
535 MCM	815A
646 MCM	920A
777 MCM	1030A

## Features – receptacle:



4

## E1015 ground lug

- Enables user to terminate ground wire to the shell of the E1049 receptacle
- cURus pending



## Ball check pin

- Locks latch in place for additional protection in high vibration environments
- Optional on rotating latch



## Colored couplers

- Available in epoxy powder coat



1) Conductor temperature shall not exceed these ratings.

2) Conductor temperature shall not exceed these ratings. Products are to only be used with copper Type P or TC-er cable; cable range of 313-777 MCM.

# Roughneck single conductor connectors

## Features – plug:

### Male contacts

- Equipped with Cam-Lok's safe front insulated tip



### Specially plated copper contacts

- Provide minimum resistance and heating

### Easy alignment



- Insulator slots allow for easy alignment of contact drive pins and internal locking mechanism

### Contact stamp



- All contacts marked with cable size and crimp die

## Available colors – plugs, receptacles and couplers:

Ten colors are available to provide easy circuit identification when mating plugs with receptacles. Color coding helps prevent reverse phasing on AC circuits or cross-polarization on DC circuits to assure correct rotation of motors while providing for operator safety.



# Roughneck E1049 male and female plugs

Cable size 313 MCM

1000V AC/DC, up to 636A continuous

## Hex crimp or solder connection

### Features:

- Contacts machined from solid copper and specially plated for corrosion resistance and superior conductivity
- Color-coded rubber insulator provides quick visual identification of circuit and phase connections
- Watertight insulators provide maximum protection
- Male and female contacts are assembled to cable with standard crimp tools
- Drive pins on contacts securely lock it to the insulator
- Male contacts are equipped with safe front insulated tip

### Standard materials:

- Insulator – rubber
- Receptacle shell – epoxy powder coated aluminum alloy
- Hardware – stainless steel
- Contact – copper

## Ordering information:

### Male plugs



E1049-34

Connection type and wire size	Color	Cat. #		Cat. #	Cat. #
		Complete male connector	Insulator		
		Standard	Hazardous	Standard	Hazardous
	Black	E1049-31	E1049X-31	A201106-1	A201106X-1
	Yellow	E1049-32	E1049X-32	A201106-2	A201106X-2
	Red	E1049-33	E1049X-33	A201106-3	A201106X-3
Hexagon crimp or solder	Orange	E1049-34	E1049X-34	A201106-4	A201106X-4
	Green	E1049-35	E1049X-35	A201106-5	A201106X-5
	White	E1049-36	E1049X-36	A201106-6	A201106X-6
	Blue	E1049-37	E1049X-37	A201106-7	A201106X-7
	Brown	E1049-38	E1049X-38	A201106-8	A201106X-8
	Purple	E1049-39	E1049X-39	A201106-20	A201106X-20
	Gray	E1049-40	E1049X-40	A201106-21	A201106X-21

Standard  
A201107-4

Hazardous  
A201107X-4

### Female plugs



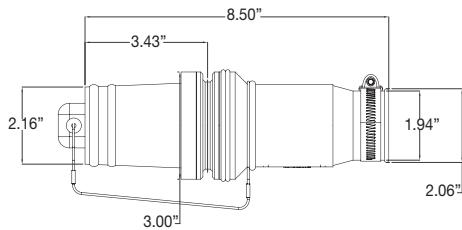
E1049-82

Connection type and wire size	Color	Cat. #		Cat. #	Cat. #
		Complete female connector	Insulator		
		Standard	Hazardous	Standard	Hazardous
	Black	E1049-80	E1049X-80	A201100-1	A201100X-1
	Yellow	E1049-81	E1049X-81	A201100-2	A201100X-2
	Red	E1049-82	E1049X-82	A201100-3	A201100X-3
Hexagon crimp or solder	Orange	E1049-83	E1049X-83	A201100-4	A201100X-4
	Green	E1049-84	E1049X-84	A201100-5	A201100X-5
	White	E1049-85	E1049X-85	A201100-6	A201100X-6
	Blue	E1049-86	E1049X-86	A201100-7	A201100X-7
	Brown	E1049-87	E1049X-87	A201100-8	A201100X-8
	Purple	E1049-88	E1049X-88	A201100-25	A201100X-25
	Gray	E1049-89	E1049X-89	A201100-26	A201100X-26

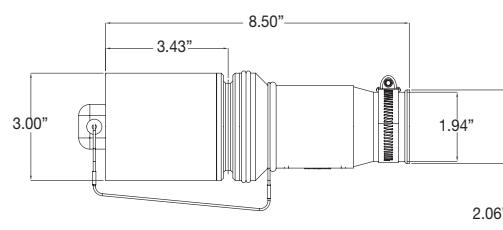
Standard  
A201103-4

Hazardous  
A201103X-4

### Dimensions:



Male connector



Female connector

#### Standard E1049

Ampacity rating - 40°C ambient

Cable size 90°C<sup>1)</sup> 125°C<sup>1)</sup>  
313 MCM 513A 636A

#### Hazardous E1049X

Ampacity rating - 55°C ambient

Cable size 125°C<sup>1)</sup>  
313 MCM 636A

<sup>1)</sup> Conductor temperature shall not exceed these ratings. Products are to only be used with copper Type P or TC-er cable; cable range of 313-777 MCM.

# Roughneck E1049 male and female plugs

Cable size 444 MCM

1000V AC/DC, up to 796A continuous

## Hex crimp or solder connection

### Features:

- Contacts machined from solid copper and specially plated for corrosion resistance and superior conductivity
- Color-coded rubber insulator provides quick visual identification of circuit and phase connections
- Watertight insulators provide maximum protection
- Male and female contacts are assembled to cable with standard crimp tools
- Drive pins on contacts securely lock it to the insulator
- Male contacts are equipped with safe front insulated tip

### Standard materials:

- Insulator – rubber
- Receptacle shell – epoxy powder coated aluminum alloy
- Hardware – stainless steel
- Contact – copper

## Ordering information:

### Male plugs



E1049-210

Connection type and wire size	Color	Cat. # Complete male connector		Cat. # Insulator	Cat. # Contact assembly
		Standard	Hazardous		
Hexagon crimp or solder  444 MCM	Black	E1049-201	E1049X-201	A201106-1	A201106X-1
	Yellow	E1049-202	E1049X-202	A201106-2	A201106X-2
	Red	E1049-203	E1049X-203	A201106-3	A201106X-3
	Orange	E1049-204	E1049X-204	A201106-4	A201106X-4
	Green	E1049-205	E1049X-205	A201106-5	A201106X-5
	White	E1049-206	E1049X-206	A201106-6	A201106X-6
	Blue	E1049-207	E1049X-207	A201106-7	A201106X-7
	Brown	E1049-208	E1049X-208	A201106-8	A201106X-8
	Purple	E1049-209	E1049X-209	A201106-20	A201106X-20
	Gray	E1049-210	E1049X-210	A201106-21	A201106X-21

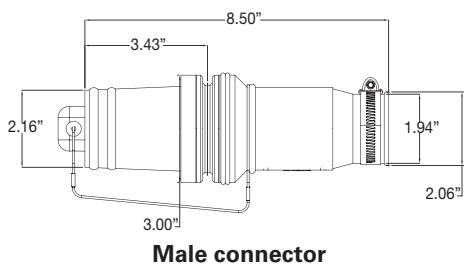
### Female plugs



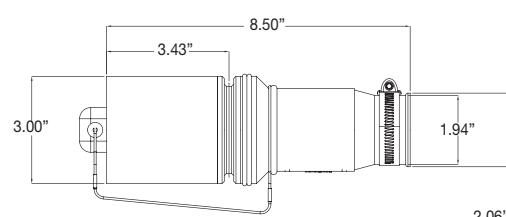
E1049-256

Connection type and wire size	Color	Cat. # Complete female connector		Cat. # Insulator	Cat. # Contact assembly
		Standard	Hazardous		
Hexagon crimp or solder  444 MCM	Black	E1049-250	E1049X-250	A201100-1	A201100X-1
	Yellow	E1049-251	E1049X-251	A201100-2	A201100X-2
	Red	E1049-252	E1049X-252	A201100-3	A201100X-3
	Orange	E1049-253	E1049X-253	A201100-4	A201100X-4
	Green	E1049-254	E1049X-254	A201100-5	A201100X-5
	White	E1049-255	E1049X-255	A201100-6	A201100X-6
	Blue	E1049-256	E1049X-256	A201100-7	A201100X-7
	Brown	E1049-257	E1049X-257	A201100-8	A201100X-8
	Purple	E1049-258	E1049X-258	A201100-25	A201100X-25
	Gray	E1049-259	E1049X-259	A201100-26	A201100X-26

### Dimensions:



Male connector



Female connector

#### Standard E1049

Ampacity rating – 40°C ambient

Cable size    90°C<sup>1)</sup>    125°C<sup>1)</sup>  
444 MCM    642A    796A

#### Hazardous E1049X

Ampacity rating – 55°C ambient

Cable size    125°C<sup>1)</sup>  
444 MCM    750A

1) Conductor temperature shall not exceed these ratings. Products are to only be used with copper Type P or TC-er cable; cable range of 313-777 MCM.

# Roughneck E1049 male and female plugs

Cable size 535 MCM  
1000V AC/DC, up to 898A continuous

## Roughneck E1049 hex crimp or solder

### Features:

- Contacts machined from solid copper and specially plated for corrosion resistance and superior conductivity
- Color-coded rubber insulator provides quick visual identification of circuit and phase connections
- Watertight insulators provide maximum protection
- Male and female contacts are assembled to cable with standard crimp tools
- Drive pins on contacts securely lock it to the insulator
- Male contacts are equipped with safe front insulated tip

### Ordering information:

#### Male plugs



E1049-10

Connection type and wire size	Color	Cat. # Complete male connector		Cat. # Insulator		Cat. # Contact assembly
		Standard	Hazardous	Standard	Hazardous	
Hexagon crimp or solder 535 MCM	Black	E1049-1	E1049X-1	A201106-1	A201106X-1	Standard A201107-1
	Yellow	E1049-2	E1049X-2	A201106-2	A201106X-2	
	Red	E1049-3	E1049X-3	A201106-3	A201106X-3	
	Orange	E1049-4	E1049X-4	A201106-4	A201106X-4	
	Green	E1049-5	E1049X-5	A201106-5	A201106X-5	
	White	E1049-6	E1049X-6	A201106-6	A201106X-6	
	Blue	E1049-7	E1049X-7	A201106-7	A201106X-7	
	Brown	E1049-8	E1049X-8	A201106-8	A201106X-8	
	Purple	E1049-9	E1049X-9	A201106-20	A201106X-20	
	Gray	E1049-10	E1049X-10	A201106-21	A201106X-21	

#### Female plugs

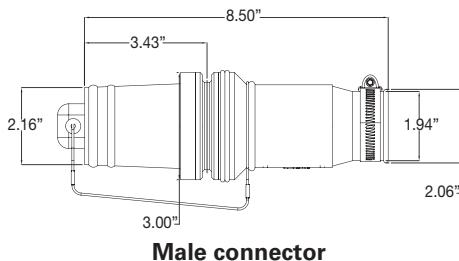


E1049-58

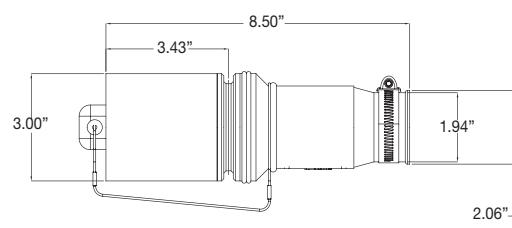
Connection type and wire size	Color	Cat. # Complete female connector		Cat. # Insulator		Cat. # Contact assembly
		Standard	Hazardous	Standard	Hazardous	
Hexagon crimp or solder 535 MCM	Black	E1049-50	E1049X-50	A201100-1	A201100X-1	Standard A201103-1
	Yellow	E1049-51	E1049X-51	A201100-2	A201100X-2	
	Red	E1049-52	E1049X-52	A201100-3	A201100X-3	
	Orange	E1049-53	E1049X-53	A201100-4	A201100X-4	
	Green	E1049-54	E1049X-54	A201100-5	A201100X-5	
	White	E1049-55	E1049X-55	A201100-6	A201100X-6	
	Blue	E1049-56	E1049X-56	A201100-7	A201100X-7	
	Brown	E1049-57	E1049X-57	A201100-8	A201100X-8	
	Purple	E1049-58	E1049X-58	A201100-25	A201100X-25	
	Gray	E1049-59	E1049X-59	A201100-26	A201100X-26	

### Dimensions:

4



Male connector



Female connector

#### Standard E1049

Ampacity rating - 40°C ambient

Cable size	90°C <sup>1)</sup>	125°C <sup>1)</sup>
535 MCM	724A	898A

#### Hazardous E1049X

Ampacity rating - 55°C ambient

Cable size	125°C <sup>1)</sup>
535 MCM	815A

<sup>1)</sup> Conductor temperature shall not exceed these ratings. Products are to only be used with copper Type P or TC-er cable; cable range of 313-777 MCM.

# Roughneck E1049 male and female plugs

Cable size 646 MCM  
1000V AC/DC, up to 1009A continuous

## Hex crimp or solder connection

### Features:

- Contacts machined from solid copper and specially plated for corrosion resistance and superior conductivity
- Color-coded rubber insulator provides quick visual identification of circuit and phase connections
- Watertight insulators provide maximum protection
- Male and female contacts are assembled to cable with standard crimp tools
- Drive pins on contacts securely lock it to the insulator
- Male contacts are equipped with safe front insulated tip

### Standard materials:

- Insulator – rubber
- Receptacle shell – epoxy powder coated aluminum alloy
- Hardware – stainless steel
- Contact – copper

## Ordering information:

### Male plugs



E1049-14

Connection type and wire size	Color	Cat. # Complete male connector		Cat. # Insulator	Cat. # Contact assembly
		Standard	Hazardous		
Hexagon crimp or solder 646 MCM	Black	E1049-11	E1049X-11	A201106-1	A201106X-1
	Yellow	E1049-12	E1049X-12	A201106-2	A201106X-2
	Red	E1049-13	E1049X-13	A201106-3	A201106X-3
	Orange	E1049-14	E1049X-14	A201106-4	A201106X-4
	Green	E1049-15	E1049X-15	A201106-5	A201106X-5
	White	E1049-16	E1049X-16	A201106-6	A201106X-6
	Blue	E1049-17	E1049X-17	A201106-7	A201106X-7
	Brown	E1049-18	E1049X-18	A201106-8	A201106X-8
	Purple	E1049-19	E1049X-19	A201106-20	A201106X-20
	Gray	E1049-20	E1049X-20	A201106-21	A201106X-21

Standard  
A201107-2

Hazardous  
A201107X-2

### Female plugs



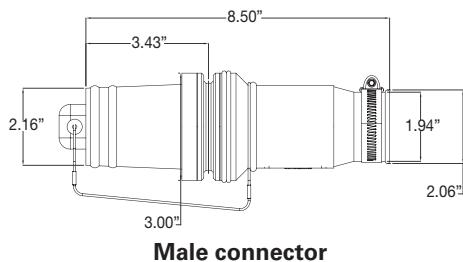
E1049-64

Connection type and wire size	Color	Cat. # Complete female connector		Cat. # Insulator	Cat. # Contact assembly
		Standard	Hazardous		
Hexagon crimp or solder 646 MCM	Black	E1049-60	E1049X-60	A201100-1	A201100X-1
	Yellow	E1049-61	E1049X-61	A201100-2	A201100X-2
	Red	E1049-62	E1049X-62	A201100-3	A201100X-3
	Orange	E1049-63	E1049X-63	A201100-4	A201100X-4
	Green	E1049-64	E1049X-64	A201100-5	A201100X-5
	White	E1049-65	E1049X-65	A201100-6	A201100X-6
	Blue	E1049-66	E1049X-66	A201100-7	A201100X-7
	Brown	E1049-67	E1049X-67	A201100-8	A201100X-8
	Purple	E1049-68	E1049X-68	A201100-25	A201100X-25
	Gray	E1049-69	E1049X-69	A201100-26	A201100X-26

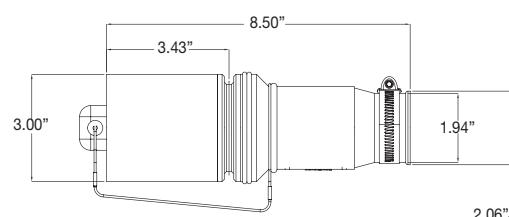
Standard  
A201103-2

Hazardous  
A201103X-2

### Dimensions:



Male connector



Female connector

#### Standard E1049

Ampacity rating - 40°C ambient

Cable size      90°C<sup>1)</sup>      125°C<sup>1)</sup>  
646 MCM      814A      1009A

#### Hazardous E1049X

Ampacity rating - 55°C ambient

Cable size      125°C<sup>1)</sup>  
646 MCM      920A

1) Conductor temperature shall not exceed these ratings. Products are to only be used with copper Type P or TC-er cable; cable range of 313-777 MCM.

# Roughneck E1049 male and female plugs

Cable size 777 MCM

1000V AC/DC, up to 1135A continuous

## Hex crimp or solder connection

### Features:

- Contacts machined from solid copper and specially plated for corrosion resistance and superior conductivity
- Color-coded rubber insulator provides quick visual identification of circuit and phase connections
- Watertight insulators provide maximum protection
- Male and female contacts are assembled to cable with standard crimp tools
- Drive pins on contacts securely lock it to the insulator
- Male contacts are equipped with safe front insulated tip

### Ordering information:

#### Male plugs



E1049-29

Connection type and wire size	Color	Cat. # Complete male connector		Cat. # Insulator	Cat. # Contact assembly
		Standard	Hazardous		
Hexagon crimp or solder	Black	E1049-21	E1049X-21	A201106-1	A201106X-1
	Yellow	E1049-22	E1049X-22	A201106-2	A201106X-2
	Red	E1049-23	E1049X-23	A201106-3	A201106X-3
	Orange	E1049-24	E1049X-24	A201106-4	A201106X-4
	Green	E1049-25	E1049X-25	A201106-5	A201106X-5
	White	E1049-26	E1049X-26	A201106-6	A201106X-6
	Blue	E1049-27	E1049X-27	A201106-7	A201106X-7
	Brown	E1049-28	E1049X-28	A201106-8	A201106X-8
	Purple	E1049-29	E1049X-29	A201106-20	A201106X-20
	Gray	E1049-30	E1049X-30	A201106-21	A201106X-21

#### Female plugs

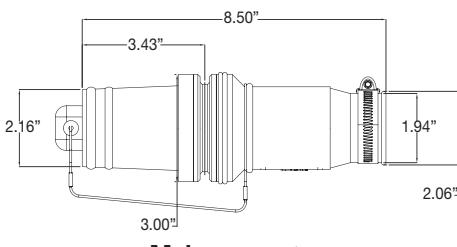


E1049-76

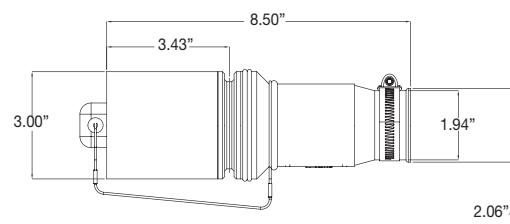
Connection type and wire size	Color	Cat. # Complete female connector		Cat. # Insulator	Cat. # Contact assembly
		Standard	Hazardous		
Hexagon crimp or solder	Black	E1049-70	E1049X-70	A201100-1	A201100X-1
	Yellow	E1049-71	E1049X-71	A201100-2	A201100X-2
	Red	E1049-72	E1049X-72	A201100-3	A201100X-3
	Orange	E1049-73	E1049X-73	A201100-4	A201100X-4
	Green	E1049-74	E1049X-74	A201100-5	A201100X-5
	White	E1049-75	E1049X-75	A201100-6	A201100X-6
	Blue	E1049-76	E1049X-76	A201100-7	A201100X-7
	Brown	E1049-77	E1049X-77	A201100-8	A201100X-8
	Purple	E1049-78	E1049X-78	A201100-25	A201100X-25
	Gray	E1049-79	E1049X-79	A201100-26	A201100X-26

### Dimensions:

4



Male connector



Female connector

#### Standard E1049

Ampacity rating - 40°C ambient

Cable size      90°C<sup>1)</sup>      125°C<sup>1)</sup>  
777 MCM      916A      1135A

#### Hazardous E1049X

Ampacity rating - 55°C ambient

Cable size      125°C<sup>1)</sup>  
777 MCM      1030A

1) Conductor temperature shall not exceed these ratings. Products are to only be used with copper Type P or TC-er cable; cable range of 313-777 MCM.

# Roughneck E1049 receptacles

Cable size 313-777 MCM

1000V AC/DC, up to 1135A continuous

## Single and double hole bus bar – rotating latch

### Features:

- Colored-coded receptacle housings are designed to provide easy circuit identification
- Epoxy powder shell coating provides superior corrosion resistance
- Receptacle housing allows bus bar positioning at vertical, horizontal and 45° to ease cable routing
- Receptacle assembly provides 360° mounting capabilities
- Ten standard colors available
- Locking device is lockout compatible
- Dust cover is secured to the receptacle housing
- Stainless steel hardware
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

### Ordering information:

#### Male double hole bus bar



**E1049-1808X-BK**

Color	Cat. # Complete assembly		Cat. # Housing assembly		Cat. # Contact assembly	
	Standard	Hazardous	Standard	Hazardous	Standard	Hazardous
Black	<b>E1049-1808X-BK</b>	E1049X-1808X-BK	3326695-1	3326695X-1	A201099-9	A201099X-9
Yellow	<b>E1049-1809X-Y</b>	E1049X-1809X-Y	3326695-2	3326695X-2	A201099-10	A201099X-10
Red	<b>E1049-1810X-R</b>	E1049X-1810X-R	3326695-3	3326695X-3	A201099-11	A201099X-11
Orange	<b>E1049-1811X-OR</b>	E1049X-1811X-OR	3326695-4	3326695X-4	A201099-12	A201099X-12
Green	<b>E1049-1812X-G</b>	E1049X-1812X-G	3326695-5	3326695X-5	A201099-13	A201099X-13
White	<b>E1049-1813X-W</b>	E1049X-1813X-W	3326695-6	3326695X-6	A201099-14	A201099X-14
Blue	<b>E1049-1814X-BL</b>	E1049X-1814X-BL	3326695-7	3326695X-7	A201099-15	A201099X-15
Brown	<b>E1049-1815X-BR</b>	E1049X-1815X-BR	3326695-8	3326695X-8	A201099-16	A201099X-16
Purple	<b>E1049-1818X-PR</b>	E1049X-1818X-PR	3326695-9	3326695X-9	A201099-19	A201099X-19
Gray	<b>E1049-1819X-GY</b>	E1049X-1819X-GY	3326695-10	3326695X-10	A201099-20	A201099X-20

#### Male single hole bus bar

Color	Cat. # Complete assembly		Cat. # Housing assembly		Cat. # Contact assembly	
	Standard	Hazardous	Standard	Hazardous	Standard	Hazardous
Black	<b>E1049-1800X-BK</b>	E1049X-1800X-BK	3326695-1	3326695X-1	A201099-1	A201099X-1
Yellow	<b>E1049-1801X-Y</b>	E1049X-1801X-Y	3326695-2	3326695X-2	A201099-2	A201099X-2
Red	<b>E1049-1802X-R</b>	E1049X-1802X-R	3326695-3	3326695X-3	A201099-3	A201099X-3
Orange	<b>E1049-1803X-OR</b>	E1049X-1803X-OR	3326695-4	3326695X-4	A201099-4	A201099X-4
Green	<b>E1049-1804X-G</b>	E1049X-1804X-G	3326695-5	3326695X-5	A201099-5	A201099X-5
White	<b>E1049-1805X-W</b>	E1049X-1805X-W	3326695-6	3326695X-6	A201099-6	A201099X-6
Blue	<b>E1049-1806X-BL</b>	E1049X-1806X-BL	3326695-7	3326695X-7	A201099-7	A201099X-7
Brown	<b>E1049-1807X-BR</b>	E1049X-1807X-BR	3326695-8	3326695X-8	A201099-8	A201099X-8
Purple	<b>E1049-1816X-PR</b>	E1049X-1816X-PR	3326695-9	3326695X-9	A201099-17	A201099X-17
Gray	<b>E1049-1817X-GY</b>	E1049X-1817X-GY	3326695-10	3326695X-10	A201099-18	A201099X-18

#### Standard E1049

##### Ampacity rating - 40°C ambient

Cable size	90°C <sup>1)</sup>	125°C <sup>1)</sup>
4/0	405A	510A
262 MCM	455A	567A
313 MCM	513A	636A
444 MCM	642A	796A
535 MCM	724A	898A
646 MCM	814A	1009A
777 MCM	916A	1135A

#### Hazardous E1049X

##### Ampacity rating - 55°C ambient

Cable size	125°C <sup>2)</sup>
313 MCM	636A
444 MCM	750A
535 MCM	815A
646 MCM	920A
777 MCM	1030A

1) Conductor temperature shall not exceed these ratings.

2) Conductor temperature shall not exceed these ratings. Products are to only be used with copper Type P or TC-er cable; cable range of 313-777 MCM.

# Roughneck E1049 receptacles

Cable size 313-777 MCM  
1000V AC/DC, up to 1135A continuous

## Single and double hole bus bar – rotating latch (continued)

### Ordering information (continued):

#### Female double hole bus bar



E1049-1835X-R

Color	Cat. # Complete assembly		Cat. # Housing assembly		Cat. # Contact assembly	
	Standard	Hazardous	Standard	Hazardous	Standard	Hazardous
Black	E1049-1833X-BK	E1049X-1833X-BK	3326695-1	3326695X-1	A201108-9	A201108X-9
Yellow	E1049-1834X-Y	E1049X-1834X-Y	3326695-2	3326695X-2	A201108-10	A201108X-10
Red	E1049-1835X-R	E1049X-1835X-R	3326695-3	3326695X-3	A201108-11	A201108X-11
Orange	E1049-1836X-OR	E1049X-1836X-OR	3326695-4	3326695X-4	A201108-12	A201108X-12
Green	E1049-1837X-G	E1049X-1837X-G	3326695-5	3326695X-5	A201108-13	A201108X-13
White	E1049-1838X-W	E1049X-1838X-W	3326695-6	3326695X-6	A201108-14	A201108X-14
Blue	E1049-1839X-BL	E1049X-1839X-BL	3326695-7	3326695X-7	A201108-15	A201108X-15
Brown	E1049-1840X-BR	E1049X-1840X-BR	3326695-8	3326695X-8	A201108-16	A201108X-16
Purple	E1049-1822X-PR	E1049X-1822X-PR	3326695-9	3326695X-9	A201108-19	A201108X-19
Gray	E1049-1823X-GY	E1049X-1823X-GY	3326695-10	3326695X-10	A201108-20	A201108X-20

Note: Receptacle assembly catalog numbers include the insulator, receptacle housing, gasket and dust cover. Dust cover receptacle (male or female) catalog number: A201113-5.

#### Female single hole bus bar

Color	Cat. # Complete assembly		Cat. # Housing assembly		Cat. # Contact assembly	
	Standard	Hazardous	Standard	Hazardous	Standard	Hazardous
Black	E1049-1825X-BK	E1049X-1825X-BK	3326695-1	3326695X-1	A201108-1	A201108X-1
Yellow	E1049-1826X-Y	E1049X-1826X-Y	3326695-2	3326695X-2	A201108-2	A201108X-2
Red	E1049-1827X-R	E1049X-1827X-R	3326695-3	3326695X-3	A201108-3	A201108X-3
Orange	E1049-1828X-OR	E1049X-1828X-OR	3326695-4	3326695X-4	A201108-4	A201108X-4
Green	E1049-1829X-G	E1049X-1829X-G	3326695-5	3326695X-5	A201108-5	A201108X-5
White	E1049-1830X-W	E1049X-1830X-W	3326695-6	3326695X-6	A201108-6	A201108X-6
Blue	E1049-1831X-BL	E1049X-1831X-BL	3326695-7	3326695X-7	A201108-7	A201108X-7
Brown	E1049-1832X-BR	E1049X-1832X-BR	3326695-8	3326695X-8	A201108-8	A201108X-8
Purple	E1049-1820X-PR	E1049X-1820X-PR	3326695-9	3326695X-9	A201108-17	A201108X-17
Gray	E1049-1821X-GY	E1049X-1821X-GY	3326695-10	3326695X-10	A201108-18	A201108X-18

Note: Receptacle assembly catalog numbers include the insulator, receptacle housing, gasket and dust cover. Dust cover receptacle (male or female) catalog number: A201113-5.

# Roughneck E1049 receptacles

Cable size 313-777 MCM

1000V AC/DC, up to 1135A continuous

## Single and double hole bus bar – short throw latch

### Features:

- Colored-coded receptacle housings are designed to provide easy circuit identification
- Epoxy powder shell coating provides superior corrosion resistance
- Receptacle housing allows bus bar positioning at vertical, horizontal and 45° to ease cable routing
- Receptacle assembly provides 360° mounting capabilities
- Ten standard colors available
- Locking device is lockout compatible
- Dust cover is secured to the receptacle housing
- Stainless steel hardware
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

### Standard materials:

- Insulator – rubber
- Receptacle shell – epoxy powder coated aluminum alloy
- Hardware – stainless steel
- Contact – copper

### Ordering information:

#### Male double hole bus bar



**E1049-1814ST-BL**

Color	Cat. # Complete assembly		Cat. # Housing assembly		Cat. # Contact assembly	
	Standard	Hazardous	Standard	Hazardous	Standard	Hazardous
Black	E1049-1808ST-BK	E1049X-1808ST-BK	3326695-1ST	3326695X-1ST	A201099-9	A201099X-9
Yellow	E1049-1809ST-Y	E1049X-1809ST-Y	3326695-2ST	3326695X-2ST	A201099-10	A201099X-10
Red	E1049-1810ST-R	E1049X-1810ST-R	3326695-3ST	3326695X-3ST	A201099-11	A201099X-11
Orange	E1049-1811ST-OR	E1049X-1811ST-OR	3326695-4ST	3326695X-4ST	A201099-12	A201099X-12
Green	E1049-1812ST-G	E1049X-1812ST-G	3326695-5ST	3326695X-5ST	A201099-13	A201099X-13
White	E1049-1813ST-W	E1049X-1813ST-W	3326695-6ST	3326695X-6ST	A201099-14	A201099X-14
Blue	E1049-1814ST-BL	E1049X-1814ST-BL	3326695-7ST	3326695X-7ST	A201099-15	A201099X-15
Brown	E1049-1815ST-BR	E1049X-1815ST-BR	3326695-8ST	3326695X-8ST	A201099-16	A201099X-16
Purple	E1049-1818ST-PR	E1049X-1818ST-PR	3326695-9ST	3326695X-9ST	A201099-19	A201099X-19
Gray	E1049-1819ST-GY	E1049X-1819ST-GY	3326695-10ST	3326695X-10ST	A201099-20	A201099X-20

#### Male single hole bus bar

Color	Cat. # Complete assembly		Cat. # Housing assembly		Cat. # Contact assembly	
	Standard	Hazardous	Standard	Hazardous	Standard	Hazardous
Black	E1049-1800ST-BK	E1049X-1800ST-BK	3326695-1ST	3326695X-1ST	A201099-1	A201099X-1
Yellow	E1049-1801ST-Y	E1049X-1801ST-Y	3326695-2ST	3326695X-2ST	A201099-2	A201099X-2
Red	E1049-1802ST-R	E1049X-1802ST-R	3326695-3ST	3326695X-3ST	A201099-3	A201099X-3
Orange	E1049-1803ST-OR	E1049X-1803ST-OR	3326695-4ST	3326695X-4ST	A201099-4	A201099X-4
Green	E1049-1804ST-G	E1049X-1804ST-G	3326695-5ST	3326695X-5ST	A201099-5	A201099X-5
White	E1049-1805ST-W	E1049X-1805ST-W	3326695-6ST	3326695X-6ST	A201099-6	A201099X-6
Blue	E1049-1806ST-BL	E1049X-1806ST-BL	3326695-7ST	3326695X-7ST	A201099-7	A201099X-7
Brown	E1049-1807ST-BR	E1049X-1807ST-BR	3326695-8ST	3326695X-8ST	A201099-8	A201099X-8
Purple	E1049-1816ST-PR	E1049X-1816ST-PR	3326695-9ST	3326695X-9ST	A201099-17	A201099X-17
Gray	E1049-1817ST-GY	E1049X-1817ST-GY	3326695-10ST	3326695X-10ST	A201099-18	A201099X-18

Note: Receptacle assembly catalog numbers include the insulator, receptacle housing, gasket and dust cover. Dust cover receptacle (male or female) catalog number: A201113-5.

#### Standard E1049

##### Ampacity rating – 40°C ambient

Cable size	90°C <sup>1)</sup>	125°C <sup>1)</sup>
4/0	405A	510A
262 MCM	455A	567A
313 MCM	513A	636A
444 MCM	642A	796A
535 MCM	724A	898A
646 MCM	814A	1009A
777 MCM	916A	1135A

#### Hazardous E1049X

##### Ampacity rating – 55°C ambient

Cable size	125°C <sup>2)</sup>
313 MCM	636A
444 MCM	750A
535 MCM	815A
646 MCM	920A
777 MCM	1030A

1) Conductor temperature shall not exceed these ratings.

2) Conductor temperature shall not exceed these ratings. Products are to only be used with copper Type P or TC-er cable; cable range of 313-777 MCM.

# Roughneck E1049 receptacles

Cable size 313-777 MCM

1000V AC/DC, up to 1135A continuous

Single and double hole bus bar – short throw latch (continued)

Ordering information (continued):

## Female double hole bus bar



E1049-1833ST-BK

Color	Cat. # Complete assembly		Cat. # Housing assembly		Cat. # Contact assembly	
	Standard	Hazardous	Standard	Hazardous	Standard	Hazardous
Black	E1049-1833ST-BK	E1049X-1833ST-BK	3326695-1ST	3326695X-1ST	A201108-9	A201108X-9
Yellow	E1049-1834ST-Y	E1049X-1834ST-Y	3326695-2ST	3326695X-2ST	A201108-10	A201108X-10
Red	E1049-1835ST-R	E1049X-1835ST-R	3326695-3ST	3326695X-3ST	A201108-11	A201108X-11
Orange	E1049-1836ST-OR	E1049X-1836ST-OR	3326695-4ST	3326695X-4ST	A201108-12	A201108X-12
Green	E1049-1837ST-G	E1049X-1837ST-G	3326695-5ST	3326695X-5ST	A201108-13	A201108X-13
White	E1049-1838ST-W	E1049X-1838ST-W	3326695-6ST	3326695X-6ST	A201108-14	A201108X-14
Blue	E1049-1839ST-BL	E1049X-1839ST-BL	3326695-7ST	3326695X-7ST	A201108-15	A201108X-15
Brown	E1049-1840ST-BR	E1049X-1840ST-BR	3326695-8ST	3326695X-8ST	A201108-16	A201108X-16
Purple	E1049-1822ST-PR	E1049X-1822ST-PR	3326695-9ST	3326695X-9ST	A201108-19	A201108X-19
Gray	E1049-1823ST-GY	E1049X-1823ST-GY	3326695-10ST	3326695X-10ST	A201108-20	A201108X-20

Note: Receptacle assembly catalog numbers include the insulator, receptacle housing, gasket and dust cover. Dust cover receptacle (male or female) catalog number: A201113-5.

## Female single hole bus bar

Color	Cat. # Complete assembly		Cat. # Housing assembly		Cat. # Contact assembly	
	Standard	Hazardous	Standard	Hazardous	Standard	Hazardous
Black	E1049-1825ST-BK	E1049X-1825ST-BK	3326695-1ST	3326695X-1ST	A201108-1	A201108X-1
Yellow	E1049-1826ST-Y	E1049X-1826ST-Y	3326695-2ST	3326695X-2ST	A201108-2	A201108X-2
Red	E1049-1827ST-R	E1049X-1827ST-R	3326695-3ST	3326695X-3ST	A201108-3	A201108X-3
Orange	E1049-1828ST-OR	E1049X-1828ST-OR	3326695-4ST	3326695X-4ST	A201108-4	A201108X-4
Green	E1049-1829ST-G	E1049X-1829ST-G	3326695-5ST	3326695X-5ST	A201108-5	A201108X-5
White	E1049-1830ST-W	E1049X-1830ST-W	3326695-6ST	3326695X-6ST	A201108-6	A201108X-6
Blue	E1049-1831ST-BL	E1049X-1831ST-BL	3326695-7ST	3326695X-7ST	A201108-7	A201108X-7
Brown	E1049-1832ST-BR	E1049X-1832ST-BR	3326695-8ST	3326695X-8ST	A201108-8	A201108X-8
Purple	E1049-1820ST-PR	E1049X-1820ST-PR	3326695-9ST	3326695X-9ST	A201108-17	A201108X-17
Gray	E1049-1821ST-GY	E1049X-1821ST-GY	3326695-10ST	3326695X-10ST	A201108-18	A201108X-18

Note: Receptacle assembly catalog numbers include the insulator, receptacle housing, gasket and dust cover. Dust cover receptacle (male or female) catalog number: A201113-1.

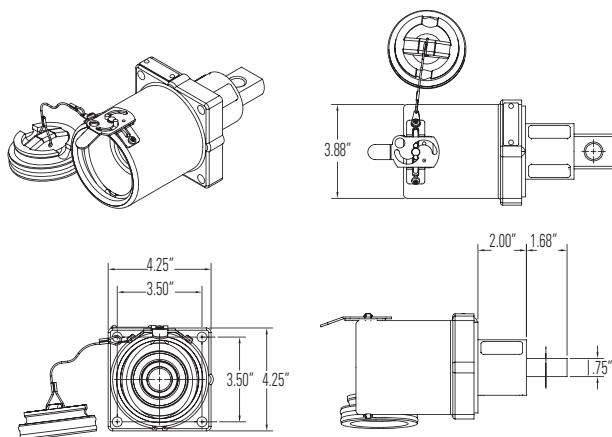
# Roughneck E1049 plugs and receptacles

## Accessories (ordered separately):

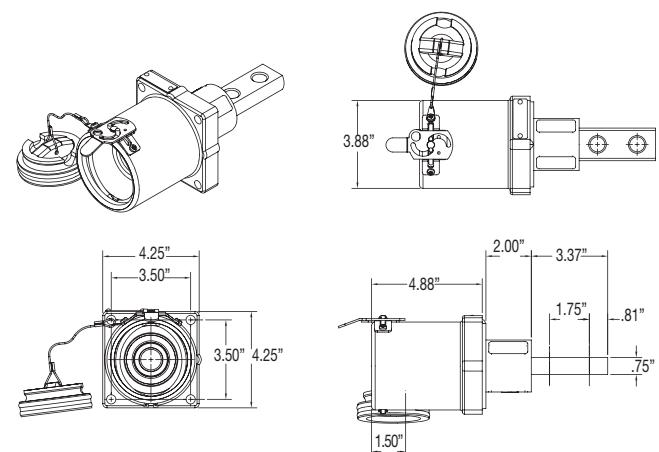
Cat. #	Description
201115	Gasket for receptacle housing (E1049 standard)
K1318428	Gasket for receptacle housing (E1049X hazardous)
319735-1	Neoprene vulcanizing tape
A201103-9	4/0-262 MCM female contact
A201107-9	4/0-262 MCM male contact
A201113-1	Receptacle dust cover – short throw
A201114-4	Dust cover for female plug, black
A201113-5	Receptacle dust cover – rotating latch
A201113-6	Dust cover for male plug, black
E1015GND	E1015 ground lug
K1318353	Ball check pin
K3326821-1	In-line coupler repair kit
K3318296	Receptacle repair kit – rotating latch
K3326821-2	Receptacle repair kit – short throw

Cat. #	Color	Description
Standard	Hazardous	
A201096-1	A20109X-1	Anodized aluminum
A201096-1-BK	A201096X-1-BK	Black
A201096-1-Y	A201096X-1-Y	Yellow
A201096-1-R	A201096X-1-R	Red
A201096-1-OR	A201096X-1-OR	Orange
A201096-1-G	A201096X-1-G	Green
A201096-1-W	A201096X-1-W	White
A201096-1-BL	A201096X-1-BL	Blue
A201096-1-BR	A201096X-1-BR	Brown
A201096-1-PR	A201096X-1-PR	Purple
A201096-1-GY	A201096-X1-GY	Gray

## Dimensions:

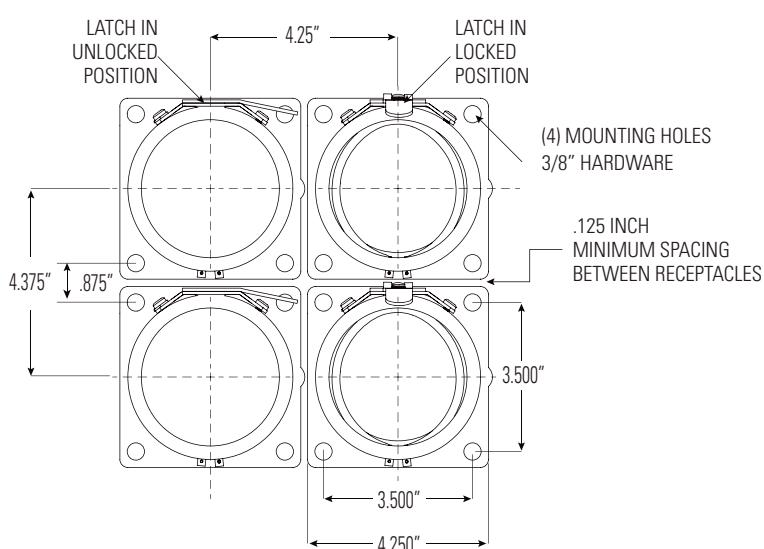


Receptacle single hole



Receptacle double hole

**Receptacle housing mounting pattern** (rotating latch)  
(0.125" minimum spacing required between receptacles)



# CEX multi-pin and single-pole connectors

For hazardous areas

## Applications:

- Heavy duty control and instrumentation
- Single-pole power for hazardous areas

## Certifications and compliances:

- CE marked
- AEx listed for U.S. Ex Zone 1 applications (ETL)
- Listed for Canada Ex Zone 1 applications (ETL)
- ATEX Group II Category 2 certified (ETL)
- IECEx Zone 1 certified (ETL)

## Environmental ratings:

- NEMA 4X, 6P; IP66, IP68
- Ambient temperature: certified for use from -60°C to +55°C

## Standard materials and finishes:

- Contacts – silver plated copper, crimp style; multi-lam style contacts on single poles
- Shells – high tensile strength aluminum; hard anodic coating per MIL-A-8625, Type III, black color
- Inserts – rigid inserts: thermoplastic; resilient inserts: silicone rubber



## Application standards:

Property	Standard
Flameproof enclosure	IEC60079-1
Increased safety	IEC60079-7
Dust ignition protection	IEC60079-31
Impact resistance	IEC60079-0
Dielectric test	IEC60079-7
Ingress	EN60529
Contact retention	MIL STD 1344

## Electrical ratings:

### Overview of shell options with voltage ratings

Shell size	No. of contacts	Contact size	Voltage rating
12	3-10	16-10 AWG	A, D
16	4-37	16-8 AWG	A, D
20	7-68	16-8 AWG	A, B, D, E
24	37-58	16-12 AWG	A, D
C24	1	313-777 MCM	1000V

## NEC service voltage ratings

NEC ratings		
Service voltage	Non-circuit breaking	Circuit breaking
	DC volts RMS	AC volts RMS
A	250	240
D	600	600
E	600	600
B	600	600

## Contact amperage ratings

Contact size	Non-circuit breaking current rating at 55°C <sup>1)</sup>
16 AWG	18
12 AWG	30
10 AWG	40
8 AWG	55
4 AWG	73
1/0 AWG	130
4/0 AWG	198
313 MCM	502
444 MCM	722
535 MCM	815
777 MCM	1030

Consult the NEC General Wiring Guidelines, Article 310 prior to installing cable. Guidelines around wire temperature rating, ambient temperature correction factors and the number of conductors may limit the maximum amperage of the individual conductors.

1) Cable current rating must meet or exceed the ratings of the contacts to utilize connector at fully rated current.

# CEX multi-pin and single-pole connectors

For hazardous areas

## Potting compound specifications:

### Specifications

The CEX product line is certified with Chico LiquidSeal, a proprietary formula that enables the customer to install product within a wide ambient temperature range (10°C to +30°C). Typical gel times average approximately 2 hours or less, enabling quick installation (see gel times below).

Within controlled environments, Epoxies Etc. flame retardant epoxy resin may also be used (model #50-3150 RFR with Catalyst 190 or model #50-3149 RFRBK with Catalyst 192).

All potted CEX product ships direct to the customer in a kit with the required amount of compound and does not require a separate compound order.

For full assembly and potting instructions, please reference installation instructions (IF 1683) prior to assembly.

The following CEX product types require potting compound during installation.

### CEX potted connectors (compound ships with connector):

- CEX 17-1: panel mount adapters
- CEX 13-2/4: plugs with mechanical clamp or basketweave
- CEX 15-2/4: connectors with mechanical clamp or basketweave option

Alternative gland options can be used in place of potting compound on the plugs and connectors.

### CEX gland connectors (no compound required):

- CEX 13-3: plug with Eex d gland
- CEX 15-3: connector with Eex d gland
- CEX 17-3: connector with Eex d gland and square flange for panel mount option

## Chico LiquidSeal gel time

Gel time (hours) at specific temperatures					
Volume of compound poured (ml)	50°F (10°C)	59°F (15°C)	68°F (20°C)	77°F (25°C)	86°F (30°C)
50	15.0	3.5	2.3	2.0	1.5
150	10.5	2.9	1.8	1.3	0.9
250	6.9	2.1	1.3	0.4	0.6

## Chico LiquidSeal energize time

Energize time (hours) at specific temperatures					
Volume of compound poured (ml)	50°F (10°C)	59°F (15°C)	68°F (20°C)	77°F (25°C)	86°F (30°C)
50	48.0	36.0	24.0	18.0	10.0
150	45.0	33.0	20.0	16.0	6.0
250	39.0	28.0	14.0	10.0	5.0

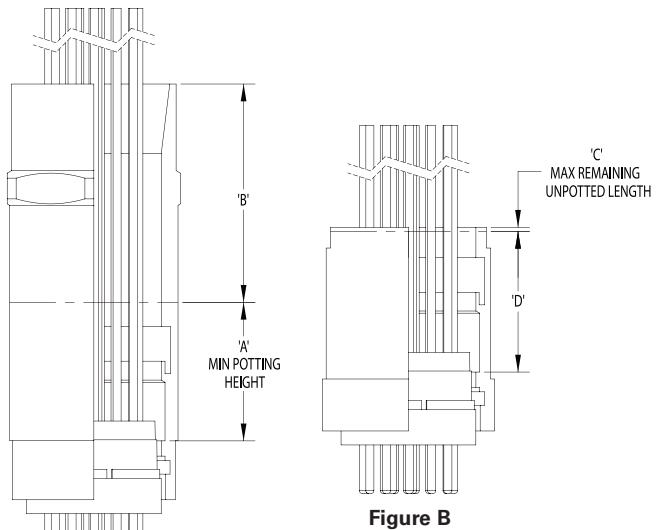


Figure A

Figure B

## Potting compound fill rates

### Cable adapter potting (Figure A)

Shell size	Minimum potting height 'A'	Maximum unpotted length 'B'	Minimum volume (ml)
12	1.7" (42.2 cm)	1.4" (35.6 cm)	33.0
16	1.7" (42.2 cm)	3.4" (86.4 cm)	63.0
20	1.7" (42.2 cm)	3.4" (86.4 cm)	102.0
24	1.7" (42.2 cm)	3.4" (86.4 cm)	181.0
28	1.7" (42.2 cm)	3.4" (86.4 cm)	209.0

### Panel mount potting (Figure B)

Shell size	Minimum potting height 'D'	Maximum unpotted length 'C'	Minimum volume (ml)
12	1.7" (42.2 cm)	0.375" (9.5 cm)	33.0
16	1.7" (42.2 cm)	0.375" (9.5 cm)	63.0
20	1.7" (42.2 cm)	0.375" (9.5 cm)	102.0
24	1.7" (42.2 cm)	0.375" (9.5 cm)	181.0
28	1.7" (42.2 cm)	0.375" (9.5 cm)	209.0



# CEX multi-pin connectors

## 12 shell

### Applications:

- Hazardous location control and instrumentation

### Features:

- Reversible inserts are compatible with all panel mount, in-line, male and female shells
- Exclusive visual mating alignment
- Easily accessible wire terminals
- Ample wiring space within shells
- Reversible 8-point diamond cord grip relieves strain on conductors (patent pending)
- Suited for use with Type P cable
- EX cable glands available through Eaton's Crouse-Hinds Division
- Hexagon shell design with easy wrenching surfaces ensures adequate torquing
- Impact-resistant

### Certifications and compliances:

- CE marked
- AEx listed for U.S. Ex Zone 1 applications (ETL)
- Listed for Canada Ex Zone 1 applications (ETL)
- ATEX Group II Category 2 certified (ETL)
- IECEx Zone 1 certified (ETL)

### Environmental ratings:

- NEMA 4X, 6P; IP66, IP68
- Ambient temperature: certified for use from -60°C to +55°C

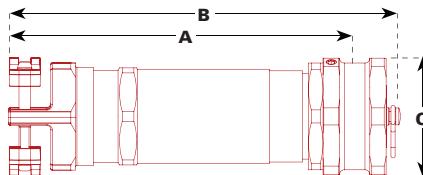
### Standard materials and finishes:

- Contacts – silver plated copper, crimp style
- Shells – high tensile strength aluminum; hard anodic coating per MIL-A-8625, Type III, black color
- Rigid insulators – thermoplastic
- Resilient inserts – silicone rubber



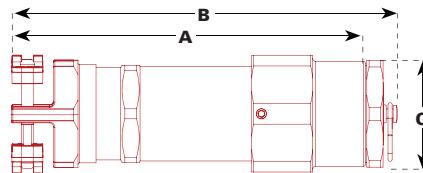
### Dimensions (in inches):

#### Cable mounted receptacle with mechanical clamp



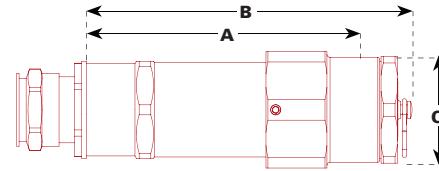
Base Cat. #	A	B	C
Length without cap	Length with cap	Width	
CEX152	7.50	8.13	2.00

#### Cable mounted plug with mechanical clamp



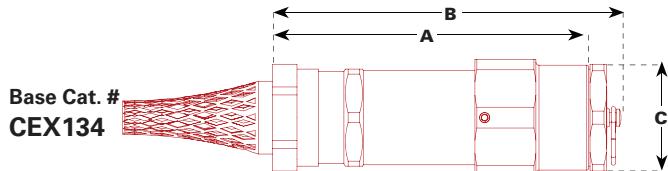
Base Cat. #	A	B	C
Length without cap	Length with cap	Width	
CEX132	7.14	8.00	1.75

#### Cable mounted plug with EX cable gland



Base Cat. #	A	B	C
Length without cap	Length with cap	Width	
CEX133	5.71	6.57	1.75

#### Cable mounted plug with basketweave



Base Cat. #	A	B	C
Length without cap	Length with cap	Width	
CEX134	6.18	7.04	1.75

# CEX multi-pin connectors

12 shell

## Dimensions (in inches) (continued):

### Cable mounted receptacle with EX cable gland

Base Cat. # **CEX153**

A	B	C
Length without cap	Length with cap	Width
6.08	6.71	2.00

### Cable mounted square flange receptacle with mechanical clamp

Base Cat. # **CEX172**

A	B	C	D	Diameter
Length without cap	Length with cap	Width	Ctr. - ctr. mount hole	Mount hole
7.50	8.13	2.00	1.65	0.22

### Cable mounted receptacle with basketweave

Base Cat. # **CEX154**

A	B	C
Length without cap	Length with cap	Width
6.54	7.17	2.00

### Cable mounted square flange receptacle with EX cable gland

Base Cat. # **CEX173**

A	B	C	D	Diameter
Length without cap	Length with cap	Width	Ctr. - ctr. mount hole	Mount hole
6.08	6.71	2.00	1.65	0.22

### Panel mounted receptacle

Base Cat. # **CEX171**

A	B	C	D	Diameter
Length without cap	Length with cap	Width	Ctr. - ctr. mount hole	Mount hole
4.89	5.52	2.00	1.65	0.22

### Cable mounted square flange receptacle with basketweave

Base Cat. # **CEX174**

A	B	C	D	Diameter
Length without cap	Length with cap	Width	Ctr. - ctr. mount hole	Mount hole
6.54	7.17	2.00	1.65	0.22

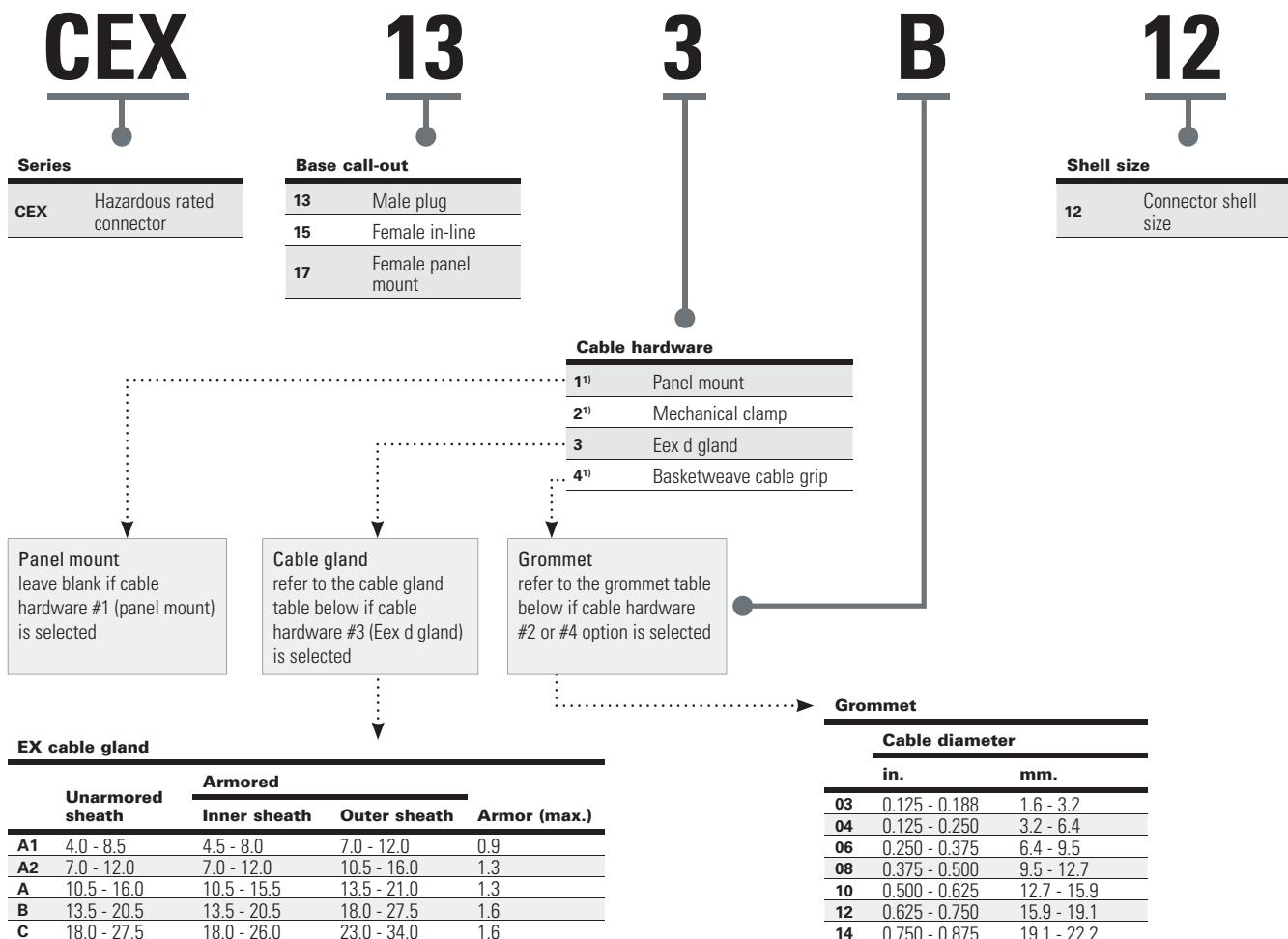
# CEX multi-pin connectors

12 shell

## Ordering information:

Part number example

CEX-133B12-310PN-BS

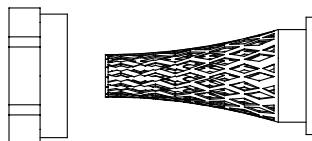


## Contact amperage ratings:

Contact size	Non-circuit breaking current rating at 55°C <sup>2)</sup>
16 AWG	18
12 AWG	30
10 AWG	40

## NEC service voltage ratings:

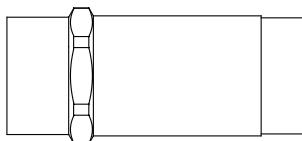
Service voltage	Non-circuit breaking	Circuit breaking
	DC volts RMS	AC volts RMS
A	250	240
D	600	600
E	600	600
B	600	600



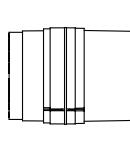
Cable hardware



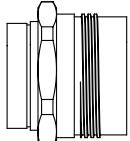
Grommet



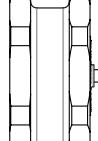
Cable adapter



Insert



Skirt



Environmental cover

1) Includes potting compound.

2) Cable current rating must meet or exceed the ratings of the contacts to utilize connector at fully rated current.

# CEX multi-pin connectors

12 shell

**310**

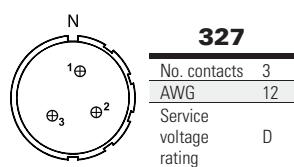
**P**

**N**

**BS**

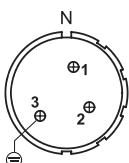
Contact gender	
P	Male pin
S	Female socket
Termination method	
N	Crimp

Alternate key position	
BLANK	0 degrees
Cable gland	
BLANK	Unarmored
BS	Armored and sheathed



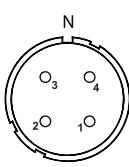
**327**

No. contacts	3
AWG	12
Service voltage rating	D



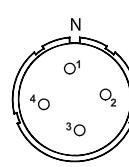
**330<sup>1)</sup>**

No. contacts	3
AWG	12
Service voltage rating	D



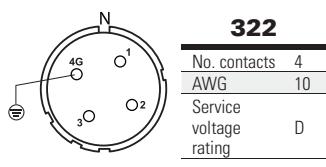
**314**

No. contacts	4
AWG	10
Service voltage rating	D



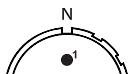
**316**

No. contacts	4
AWG	10
Service voltage rating	D



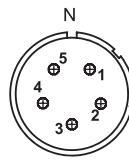
**322**

No. contacts	4
AWG	10
Service voltage rating	D



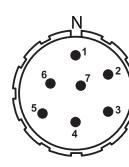
**333**

No. contacts	4
AWG	16
Service voltage rating	D



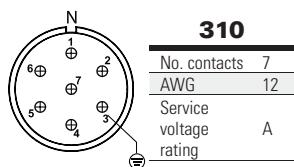
**324**

No. contacts	5
AWG	12
Service voltage rating	D



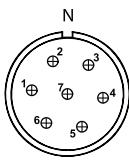
**348**

No. contacts	7
AWG	16
Service voltage rating	A



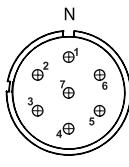
**310**

No. contacts	7
AWG	12
Service voltage rating	A



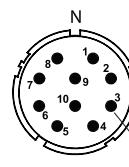
**354**

No. contacts	7
AWG	12
Service voltage rating	A



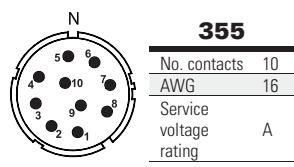
**354D**

No. contacts	7
AWG	12
Service voltage rating	A



**334**

No. contacts	10
AWG	16
Service voltage rating	A



**355**

No. contacts	10
AWG	16
Service voltage rating	A

Contact symbol	○	●	⊕	○	●	⊕	○	●	○	○	○	○	○	○
AWG	18	16	12	10	8	4	1/0	4/0	313 MCM	444 MCM	535 MCM	777 MCM		

1) Made to order item. Contact factory for availability and lead time.

# CEX multi-pin connectors

## 16 shell

### Applications:

- Hazardous location control and instrumentation

### Features:

- Reversible inserts are compatible with all panel mount, in-line, male and female shells
- Exclusive visual mating alignment
- Easily accessible wire terminals
- Ample wiring space within shells
- Reversible 8-point diamond cord grip relieves strain on conductors (patent pending)
- Suited for use with Type P cable
- EX cable glands available through Eaton's Crouse-Hinds Division
- Hexagon shell design with easy wrenching surfaces ensures adequate torquing
- Impact-resistant

### Certifications and compliances:

- CE marked
- AEx listed for U.S. Ex Zone 1 applications (ETL)
- Listed for Canada Ex Zone 1 applications (ETL)
- ATEX Group II Category 2 certified (ETL)
- IECEx Zone 1 certified (ETL)

### Environmental ratings:

- NEMA 4X, 6P; IP66, IP68
- Ambient temperature: certified for use from -60°C to +55°C

### Standard materials and finishes:

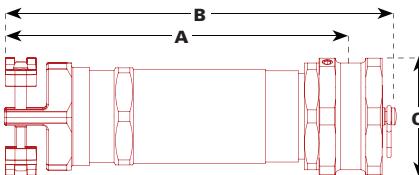
- Contacts – silver plated copper, crimp style
- Shells – high tensile strength aluminum; hard anodic coating per MIL-A-8625, Type III, black color
- Rigid insulators – thermoplastic
- Resilient inserts – silicone rubber



4

### Dimensions (in inches):

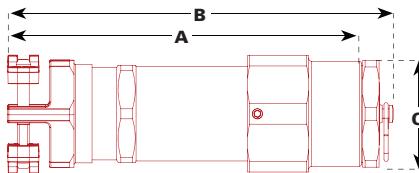
#### Cable mounted receptacle with mechanical clamp



Base Cat. #  
**CEX152**

A	B	C
Length without cap	Length with cap	Width
9.50	10.13	2.50

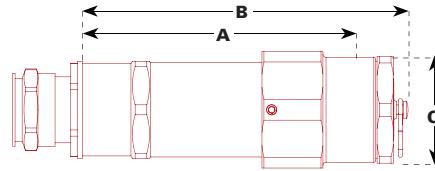
#### Cable mounted plug with mechanical clamp



Base Cat. #  
**CEX132**

A	B	C
Length without cap	Length with cap	Width
9.14	10.00	2.25

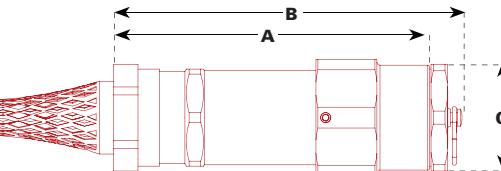
#### Cable mounted plug with EX cable gland



Base Cat. #  
**CEX133**

A	B	C
Length without cap	Length with cap	Width
7.71	8.57	2.25

#### Cable mounted plug with basketweave



Base Cat. #  
**CEX134**

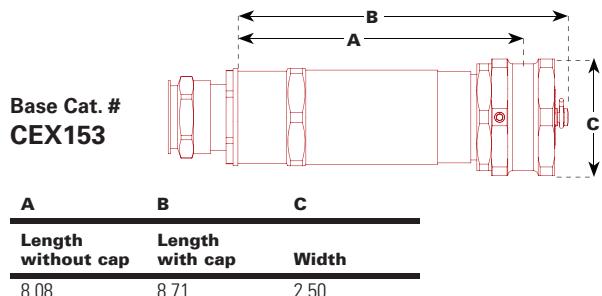
A	B	C
Length without cap	Length with cap	Width
8.18	9.04	2.25

# CEX multi-pin connectors

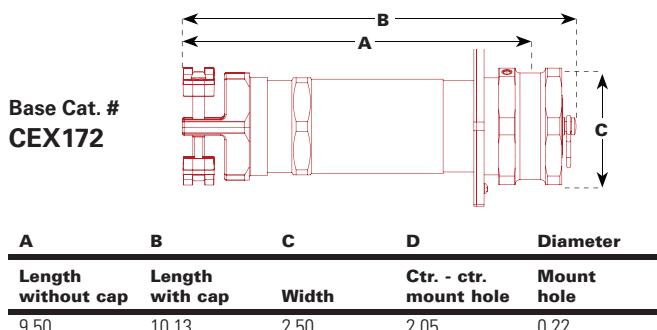
16 shell

## Dimensions (in inches) (continued):

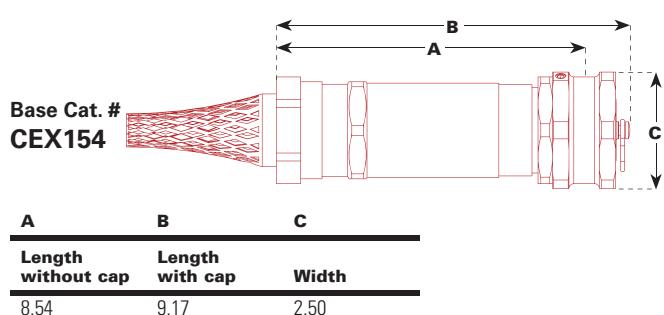
### Cable mounted receptacle with EX gland nut



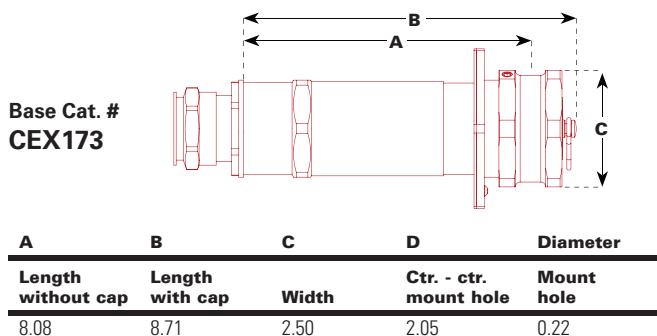
### Cable mounted square flange receptacle with mechanical clamp



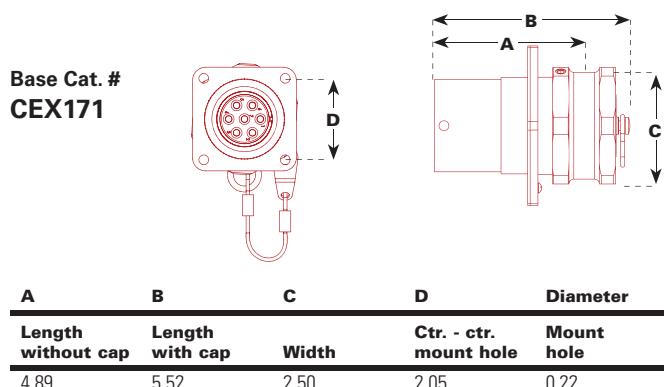
### Cable mounted receptacle with basketweave



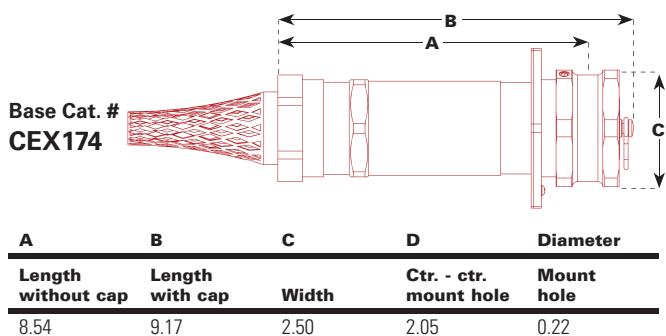
### Cable mounted square flange receptacle with EX cable gland



### Panel mounted receptacle



### Cable mounted square flange receptacle with basketweave



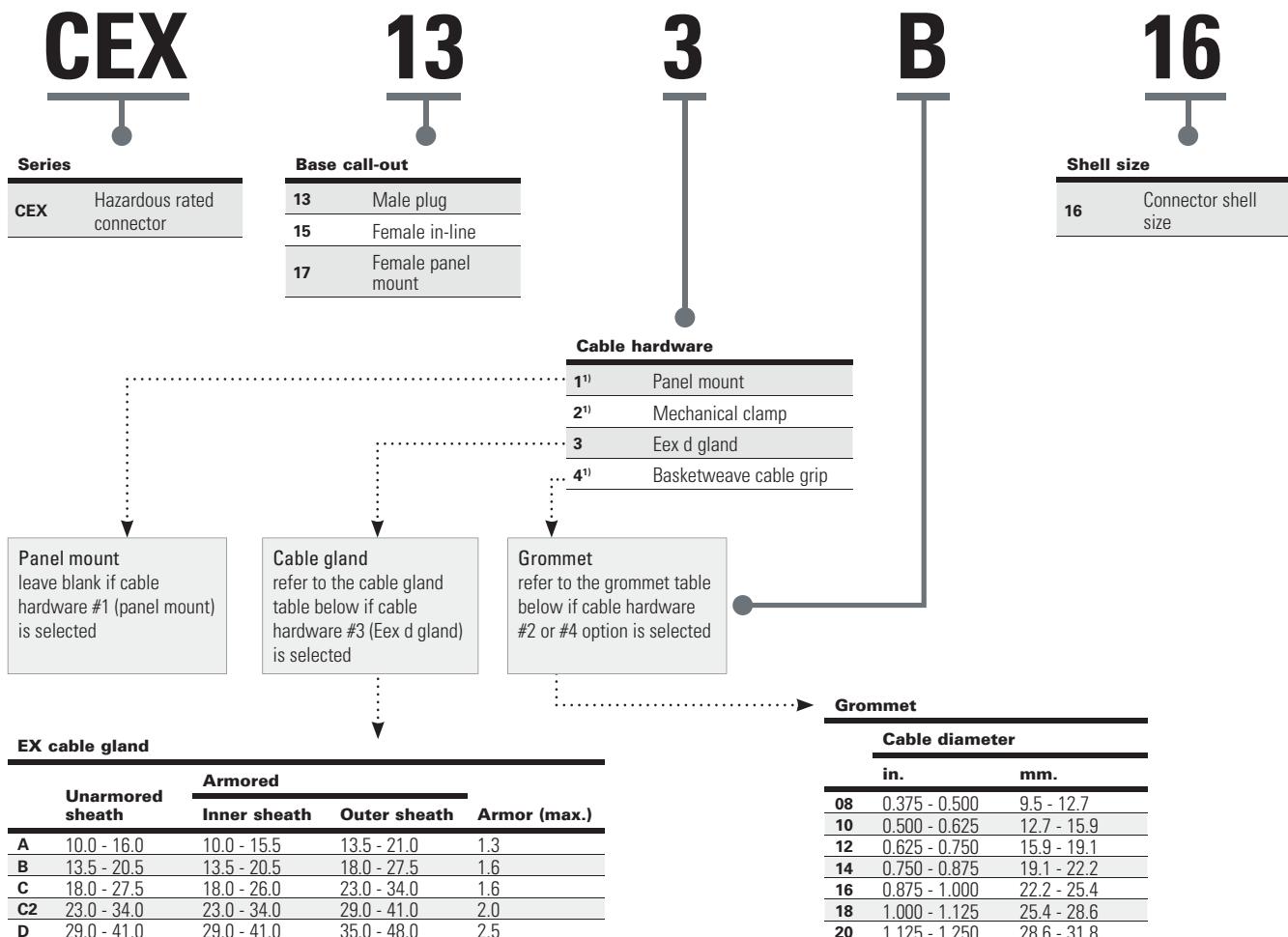
# CEX multi-pin connectors

16 shell

## Ordering information:

Part number example

CEX-133B16-321PN-BS

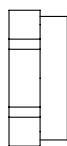


## Contact amperage ratings:

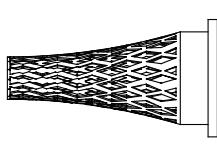
Contact size	Non-circuit breaking current rating at 55°C <sup>2)</sup>
16 AWG	18
12 AWG	30
10 AWG	40
8 AWG	55
4 AWG	73

## NEC service voltage ratings:

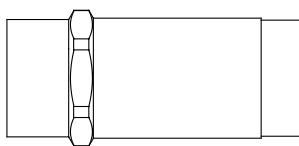
Service voltage	Non-circuit breaking	Circuit breaking
	DC volts RMS	AC volts RMS
A	250	240
D	600	600
E	600	600
B	600	600



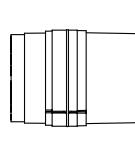
Cable hardware



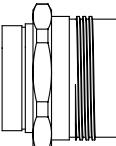
Grommet



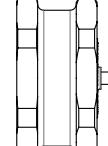
Cable adapter



Insert



Skirt



Environmental cover

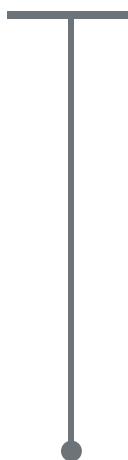
1) Includes potting compound.

2) Cable current rating must meet or exceed the ratings of the contacts to utilize connector at fully rated current.

# CEX multi-pin connectors

16 shell

**321**



**P**

**Contact gender**

<b>P</b>	Male pin
<b>S</b>	Female socket

**Termination method**

<b>N</b>	Crimp
<b>R</b>	Pressure

**N**



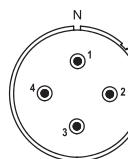
**BS**

**Alternate key position**

<b>BLANK</b>	0 degrees
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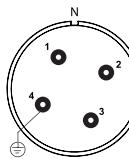
**Cable gland**

<b>BLANK</b>	Unarmored
<b>BS</b>	Armored and sheathed



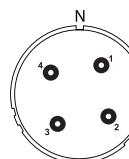
**328**

No. contacts	4
AWG	8
Service voltage rating	D



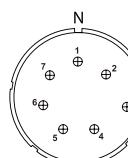
**38**

No. contacts	4
AWG	4
Service voltage rating	D



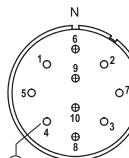
**322**

No. contacts	4
AWG	4
Service voltage rating	D



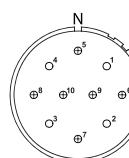
**378**

No. contacts	7
AWG	12
Service voltage rating	D



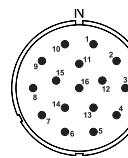
**376**

No. contacts	6	4
AWG	12	10
Service voltage rating	D	



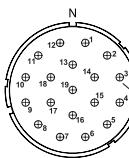
**381**

No. contacts	6	4
AWG	12	10
Service voltage rating	D	



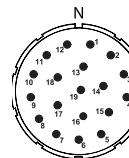
**325**

No. contacts	16
AWG	16
Service voltage rating	D



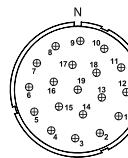
**312**

No. contacts	19
AWG	12
Service voltage rating	A



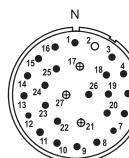
**355**

No. contacts	19
AWG	16
Service voltage rating	A



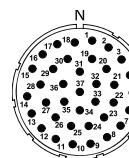
**377**

No. contacts	19
AWG	12
Service voltage rating	A



**335**

No. contacts	24	3
AWG	16	12
Service voltage rating	A	



**321**

No. contacts	37
AWG	16
Service voltage rating	A

Contact symbol

○	●	⊕	○	○	●	⊕	○	○	●	○	○	○	○	○	○	○
AWG	18	16	12	10	8	4	1/0	4/0	313 MCM	444 MCM	535 MCM	777 MCM				

# CEX multi-pin connectors

20 shell

## Applications:

- Hazardous location control and instrumentation

## Features:

- Reversible inserts are compatible with all panel mount, in-line, male and female shells
- Exclusive visual mating alignment
- Easily accessible wire terminals
- Ample wiring space within shells
- Reversible 8-point diamond cord grip relieves strain on conductors (patent pending)
- Suited for use with Type P cable
- EX cable glands available through Eaton's Crouse-Hinds Division
- Hexagon shell design with easy wrenching surfaces ensures adequate torquing
- Impact-resistant

## Certifications and compliances:

- CE marked
- AEx listed for U.S. Ex Zone 1 applications (ETL)
- Listed for Canada Ex Zone 1 applications (ETL)
- ATEX Group II Category 2 certified (ETL)
- IECEx Zone 1 certified (ETL)

## Environmental ratings:

- NEMA 4X, 6P; IP66, IP68
- Ambient temperature: certified for use from -60°C to +55°C

## Standard materials and finishes:

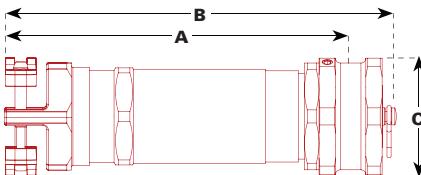
- Contacts – silver plated copper, crimp style
- Shells – high tensile strength aluminum; hard anodic coating per MIL-A-8625, Type III, black color
- Rigid insulators – thermoplastic
- Resilient inserts – silicone rubber



4

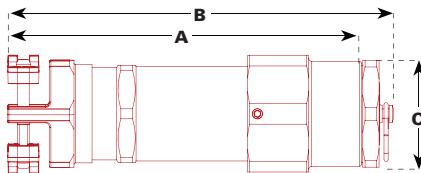
## Dimensions (in inches):

### Cable mounted receptacle with EX cable gland



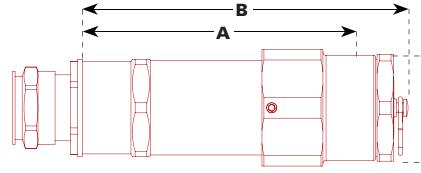
Base Cat. #	A	B	C
Length without cap	Length with cap	Width	
CEX152	9.50	10.13	3.00

### Cable mounted plug with mechanical clamp



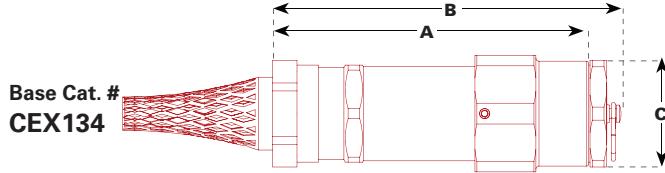
Base Cat. #	A	B	C
Length without cap	Length with cap	Width	
CEX132	9.14	10.00	2.75

### Cable mounted plug with EX cable gland



Base Cat. #	A	B	C
Length without cap	Length with cap	Width	
CEX133	7.71	8.57	2.75

### Cable mounted plug with basketweave



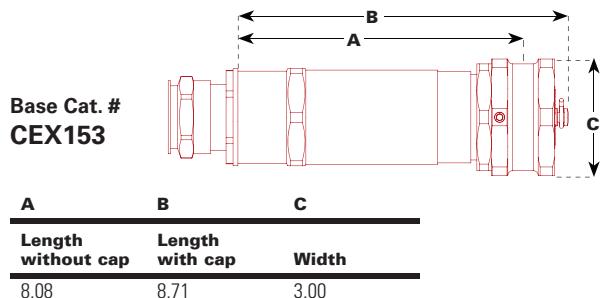
Base Cat. #	A	B	C
Length without cap	Length with cap	Width	
CEX134	8.18	9.04	2.75

# CEX multi-pin connectors

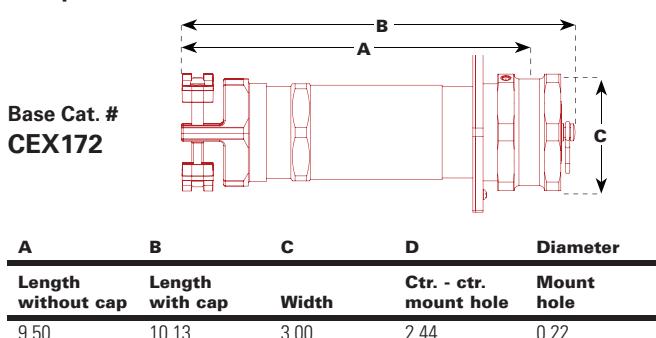
20 shell

## Dimensions (in inches) (continued):

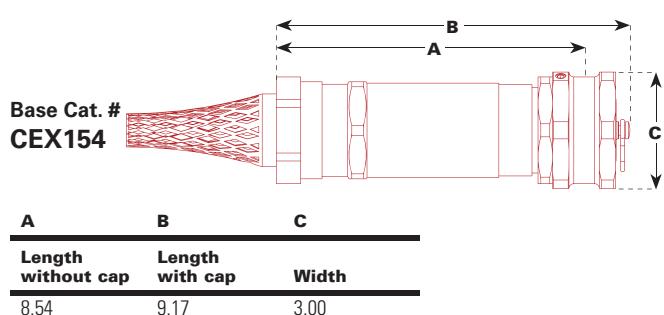
### Cable mounted receptacle with EX cable gland



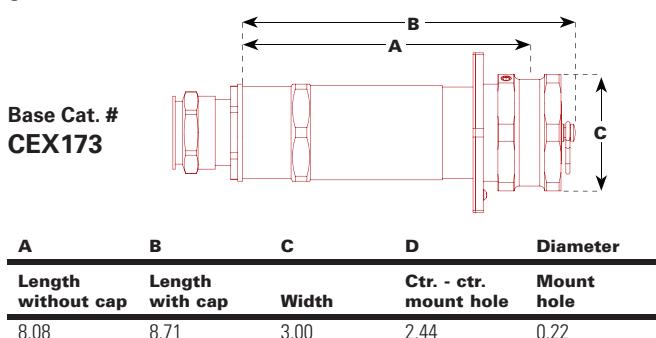
### Cable mounted square flange receptacle with mechanical clamp



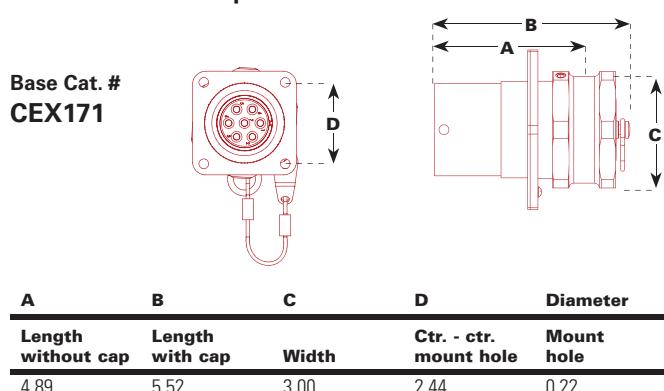
### Cable mounted receptacle with basketweave



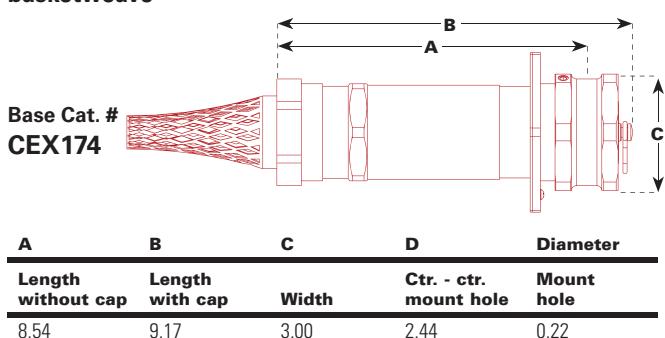
### Cable mounted square flange receptacle with EX cable gland



### Panel mounted receptacle



### Cable mounted square flange receptacle with basketweave



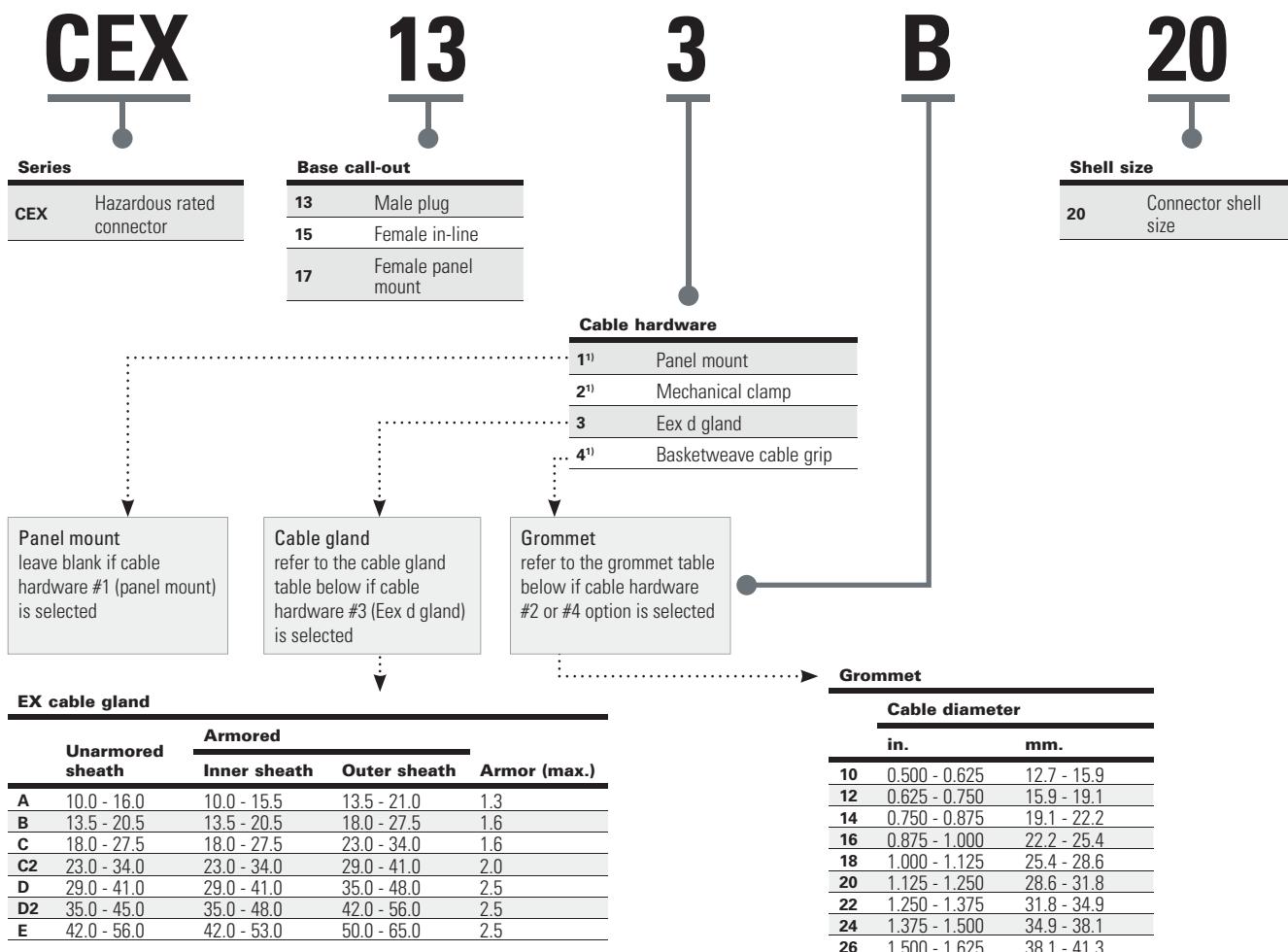
# CEX multi-pin connectors

20 shell

## Ordering information:

Part number example

CEX-133B20-376PN-BS

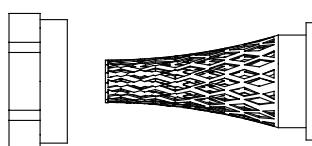


## Contact amperage ratings:

Contact size	Non-circuit breaking current rating at 55°C <sup>2)</sup>
16 AWG	18
12 AWG	30
10 AWG	40
8 AWG	55
4 AWG	73
1/0 AWG	130

## NEC service voltage ratings:

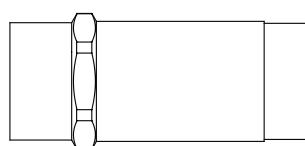
Service voltage	Non-circuit breaking	Circuit breaking
	DC volts RMS	AC volts RMS
A	250	240
D	600	600
E	600	600
B	600	600



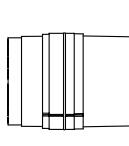
Cable hardware



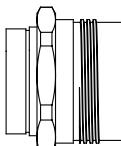
Grommet



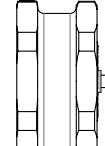
Cable adapter



Insert



Skirt



Environmental cover

1) Includes potting compound.

2) Cable current rating must meet or exceed the ratings of the contacts to utilize connector at fully rated current.

# CEX multi-pin connectors

20 shell

**376**

**P**

**N**

**BS**

**Contact gender**

**P** Male pin

**S** Female socket

**Termination method**

**N** Crimp

**R** Pressure

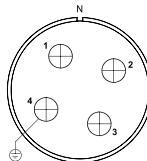
**Alternate key position**

**BLANK** 0 degrees

**Cable gland**

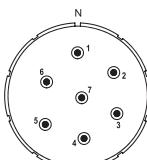
**BLANK** Unarmored

**BS** Armored and sheathed



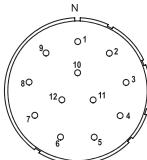
**40**

No. contacts	4
AWG	1/0
Service voltage rating	D



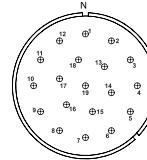
**359<sup>1)</sup>**

No. contacts	7
AWG	8
Service voltage rating	E



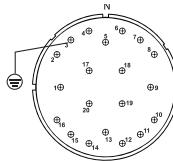
**375**

No. contacts	12
AWG	10
Service voltage rating	D



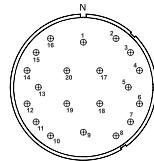
**376**

No. contacts	19
AWG	12
Service voltage rating	D



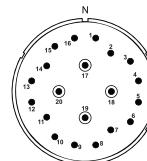
**388**

No. contacts	19
AWG	12
Service voltage rating	D



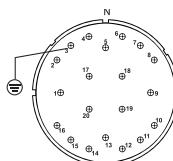
**332**

No. contacts	20
AWG	12
Service voltage rating	B center A outer



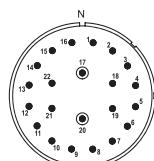
**334**

No. contacts	16
AWG	16
Service voltage rating	D



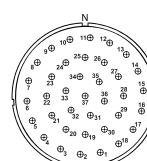
**387**

No. contacts	20
AWG	12
Service voltage rating	B center A outer



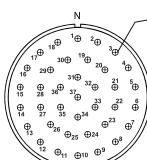
**331<sup>1)</sup>**

No. contacts	20
AWG	8
Service voltage rating	D (16 AWG) E (8 AWG)



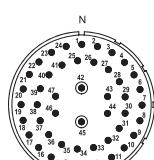
**386**

No. contacts	37
AWG	12
Service voltage rating	A



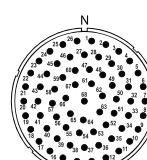
**350**

No. contacts	37
AWG	12
Service voltage rating	A



**354<sup>1)</sup>**

No. contacts	45
AWG	8
Service voltage rating	D (8 AWG) A (16 AWG)



**313**

No. contacts	68
AWG	16
Service voltage rating	A

Contact symbol



AWG

18

16

12

10

8

4

1/0

4/0

313 MCM

444 MCM

535 MCM

777 MCM

1) Made to order item. Contact factory for availability and lead time.

# CEX multi-pin connectors

24 shell

## Applications:

- Hazardous location control and instrumentation

## Features:

- Reversible inserts are compatible with all panel mount, in-line, male and female shells
- Exclusive visual mating alignment
- Easily accessible wire terminals
- Ample wiring space within shells
- Reversible 8-point diamond cord grip relieves strain on conductors (patent pending)
- Suited for use with Type P cable
- EX cable glands available through Eaton's Crouse-Hinds Division
- Hexagon shell design with easy wrenching surfaces ensures adequate torquing
- Impact-resistant

## Certifications and compliances:

- CE marked
- AEx listed for U.S. Ex Zone 1 applications (ETL)
- Listed for Canada Ex Zone 1 applications (ETL)
- ATEX Group II Category 2 certified (ETL)
- IECEx Zone 1 certified (ETL)

## Environmental ratings:

- NEMA 4X, 6P; IP66, IP68
- Ambient temperature: certified for use from -60°C to +55°C

## Standard materials and finishes:

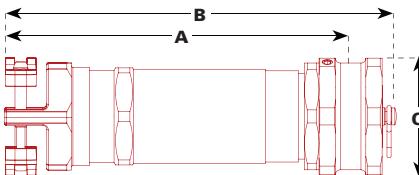
- Contacts – silver plated copper, crimp style
- Shells – high tensile strength aluminum; hard anodic coating per MIL-A-8625, Type III, black color
- Rigid insulators – thermoplastic
- Resilient inserts – silicone rubber



4

## Dimensions (in inches):

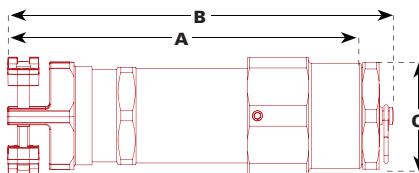
### Cable mounted receptacle with mechanical clamp



Base Cat. #  
**CEX152**

A	B	C
Length without cap	Length with cap	Width
9.50	10.13	3.50

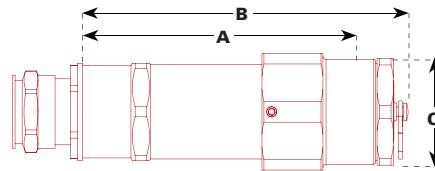
### Cable mounted plug with mechanical clamp



Base Cat. #  
**CEX132**

A	B	C
Length without cap	Length with cap	Width
9.14	10.00	3.25

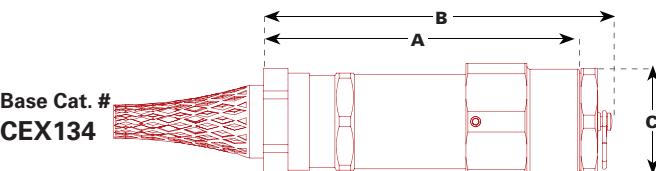
### Cable mounted plug with EX cable gland



Base Cat. #  
**CEX133**

A	B	C
Length without cap	Length with cap	Width
7.71	8.57	3.25

### Cable mounted plug with basketweave



Base Cat. #  
**CEX134**

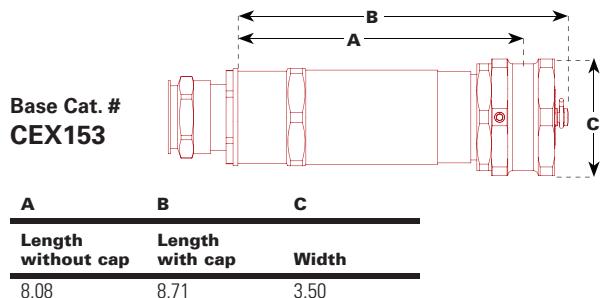
A	B	C
Length without cap	Length with cap	Width
8.18	9.04	3.25

# CEX multi-pin connectors

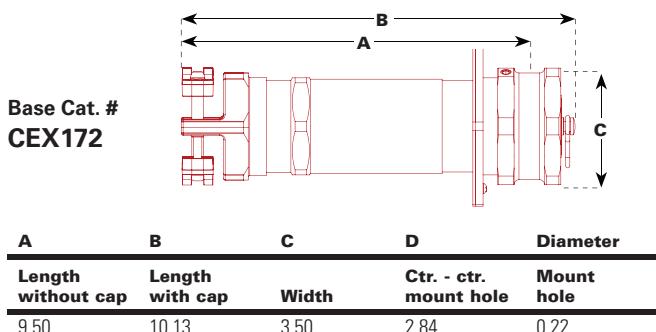
24 shell

## Dimensions (in inches) (continued):

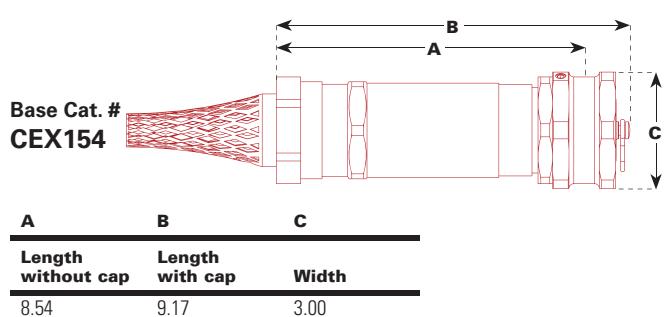
### Cable mounted receptacle with EX cable gland



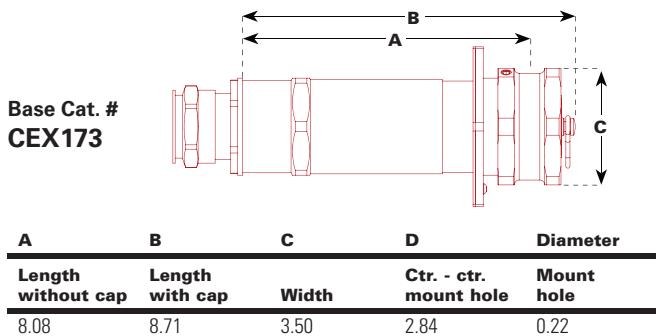
### Cable mounted square flange receptacle with mechanical clamp



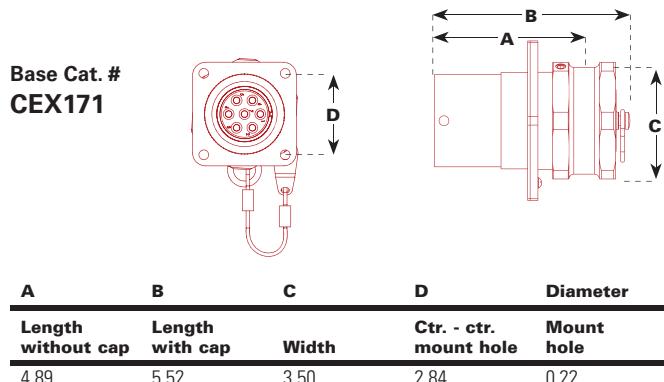
### Cable mounted receptacle with basketweave



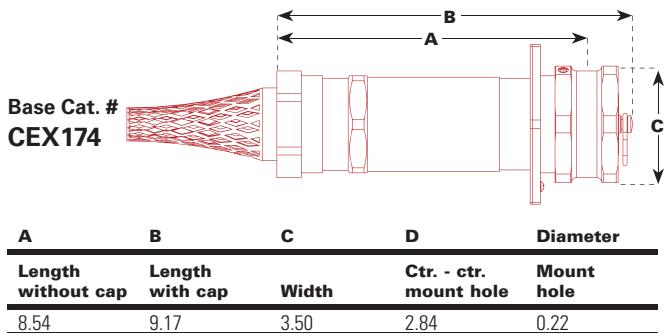
### Cable mounted square flange receptacle with EX cable gland



### Panel mounted receptacle



### Cable mounted square flange receptacle with basketweave



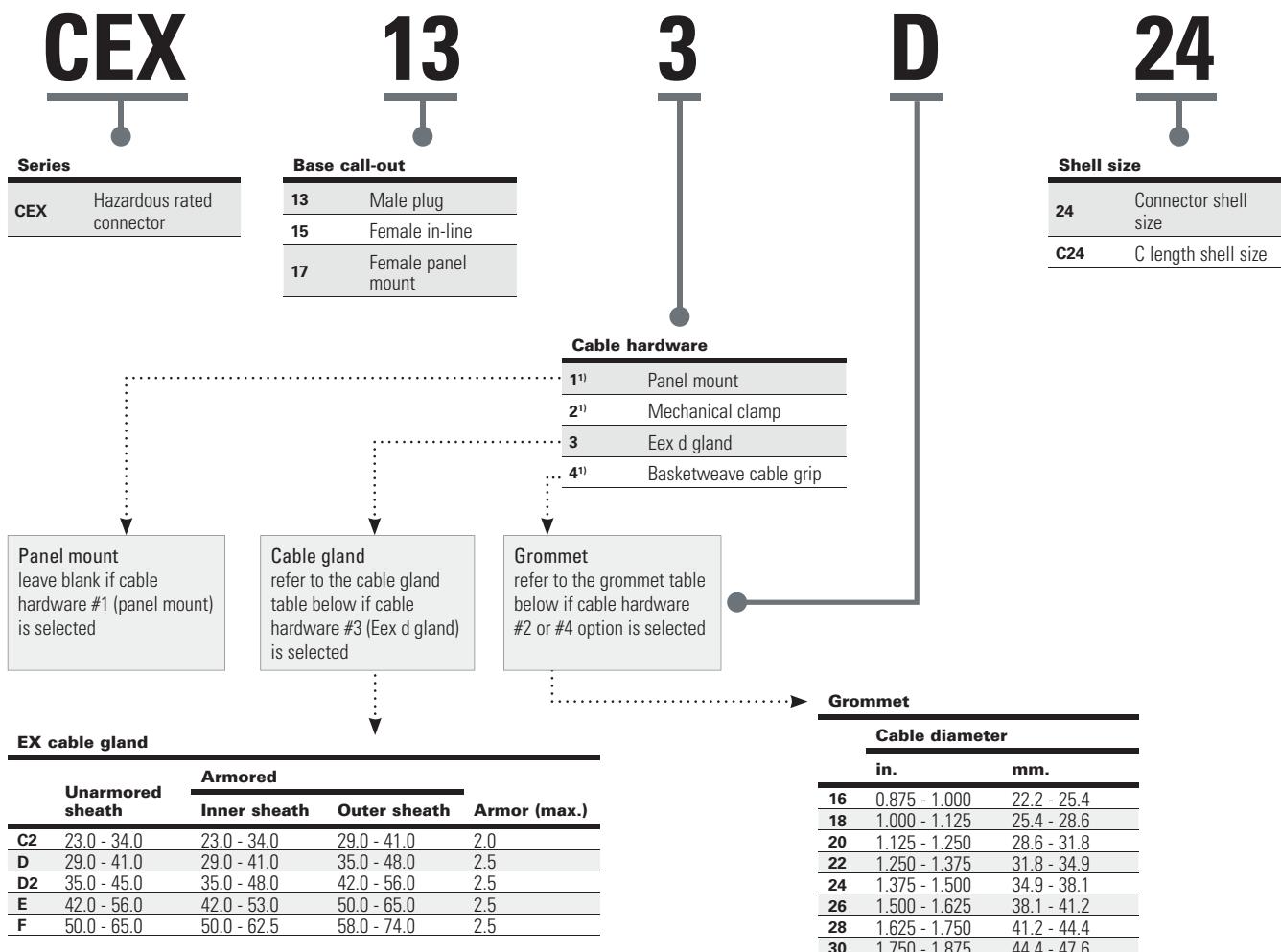
# CEX multi-pin connectors

24 shell

## Ordering information:

Part number example

CEX-133D24-371PN-BS

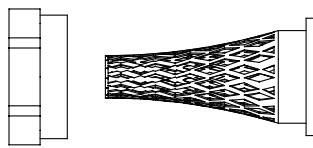


## Contact amperage ratings:

Contact size	Non-circuit breaking current rating at 55°C <sup>2)</sup>
16 AWG	18
12 AWG	30
4/0 AWG	198

## NEC service voltage ratings:

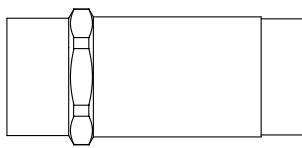
Service voltage	Non-circuit breaking	Circuit breaking
	DC volts RMS	AC volts RMS
A	250	240
D	600	600
E	600	600
B	600	600



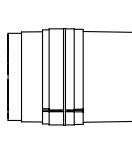
Cable hardware



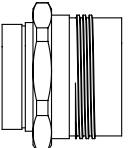
Grommet



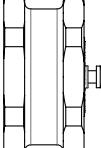
Cable adapter



Insert



Skirt



Environmental cover

1) Includes potting compound.

2) Cable current rating must meet or exceed the ratings of the contacts to utilize connector at fully rated current.

# CEX multi-pin connectors

24 shell

**371**

**P**

**N**

**BS**

**Contact gender**

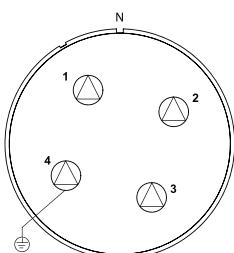
**P** Male pin

**S** Female socket

**Termination method**

**N** Crimp

**R** Pressure



**26**

No. contacts	4
AWG	4/0
Service voltage rating	D

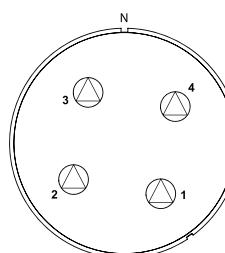
**Alternate key position**

**BLANK** 0 degrees

**Cable gland**

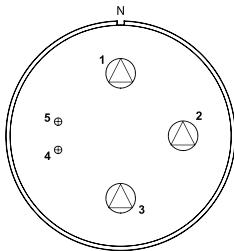
**BLANK** Unarmored

**BS** Armored and sheathed



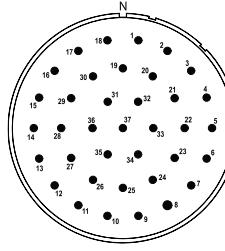
**38**

No. contacts	4
AWG	4/0
Service voltage rating	D



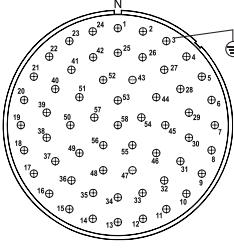
**48<sup>1)</sup>**

No. contacts	2	3
AWG	12	4/0
Service voltage rating	A	D



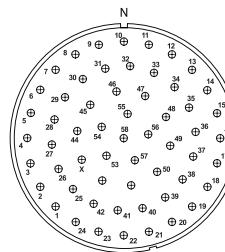
**371**

No. contacts	37
AWG	16
Service voltage rating	D



**352**

No. contacts	58
AWG	12
Service voltage rating	A



**384**

No. contacts	58
AWG	12
Service voltage rating	A

Contact symbol	○	●	⊕	○	◎	●○	○○	△○	○□	○◇	○○	○×
AWG	18	16	12	10	8	4	1/0	4/0	313 MCM	444 MCM	535 MCM	777 MCM

1) Made to order item. Contact factory for availability and lead time.

# CEX multi-pin connectors

28 shell

## Applications:

- Hazardous location control and instrumentation

## Features:

- Reversible inserts are compatible with all panel mount, in-line, male and female shells
- Exclusive visual mating alignment
- Easily accessible wire terminals
- Ample wiring space within shells
- Reversible 8-point diamond cord grip relieves strain on conductors (patent pending)
- Suited for use with Type P cable
- EX cable glands available through Eaton's Crouse-Hinds Division
- Hexagon shell design with easy wrenching surfaces ensures adequate torquing
- Impact-resistant

## Certifications and compliances:

- CE marked
- AEx listed for U.S. Ex Zone 1 applications (ETL)
- Listed for Canada Ex Zone 1 applications (ETL)
- ATEX Group II Category 2 certified (ETL)
- IECEx Zone 1 certified (ETL)

## Environmental ratings:

- NEMA 4X, 6P; IP66, IP68
- Ambient temperature: certified for use from -60°C to +55°C

## Standard materials and finishes:

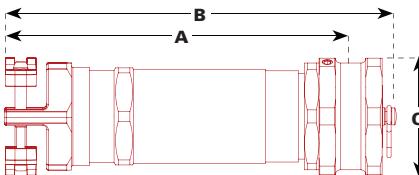
- Contacts – silver plated copper, crimp style
- Shells – high tensile strength aluminum; hard anodic coating per MIL-A-8625, Type III, black color
- Rigid insulators – thermoplastic
- Resilient inserts – silicone rubber



4

## Dimensions (in inches):

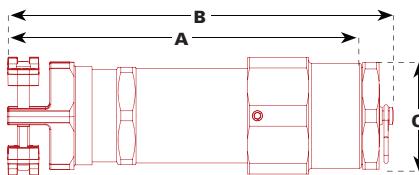
### Cable mounted receptacle with mechanical clamp



Base Cat. #  
**CEX152**

A	B	C
Length without cap	Length with cap	Width
9.50	10.13	3.50

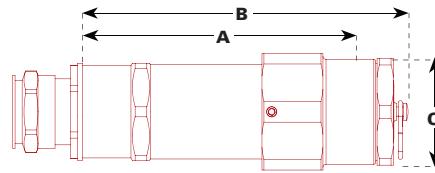
### Cable mounted plug with mechanical clamp



Base Cat. #  
**CEX132**

A	B	C
Length without cap	Length with cap	Width
9.14	10.00	3.25

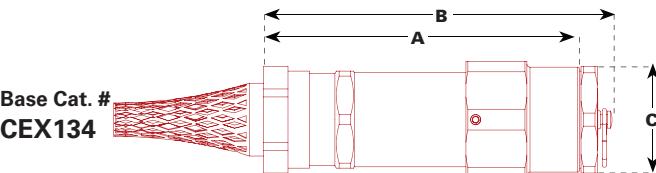
### Cable mounted plug with EX cable gland



Base Cat. #  
**CEX133**

A	B	C
Length without cap	Length with cap	Width
7.71	8.57	3.25

### Cable mounted plug with basketweave



Base Cat. #  
**CEX134**

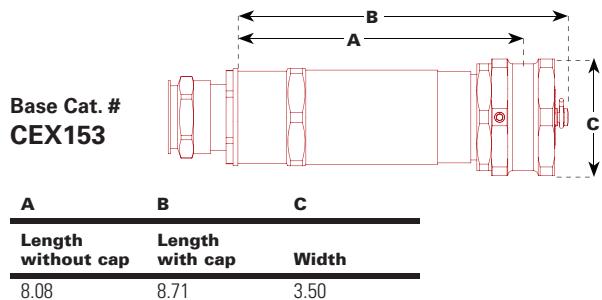
A	B	C
Length without cap	Length with cap	Width
8.18	9.04	3.25

# CEX multi-pin connectors

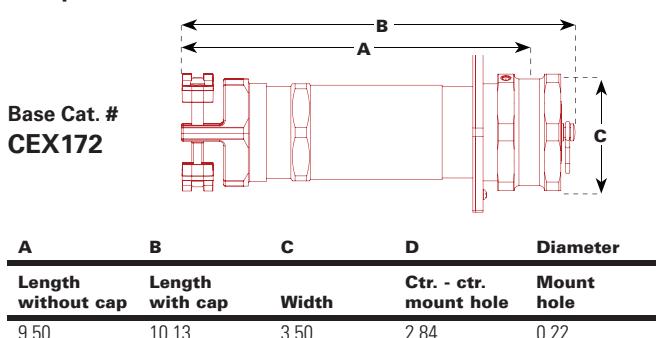
28 shell

## Dimensions (in inches) (continued):

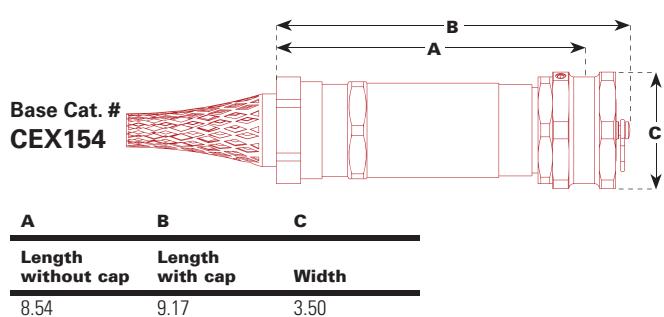
### Cable mounted receptacle with EX cable gland



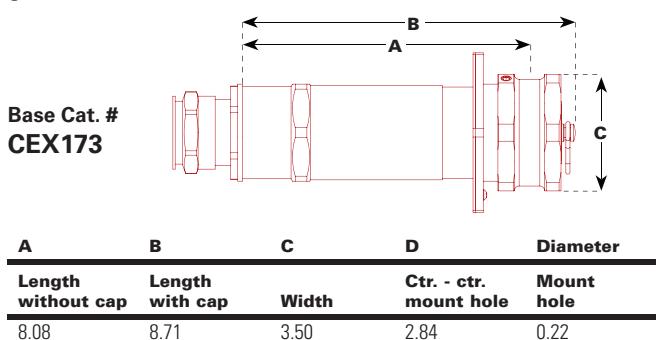
### Cable mounted square flange receptacle with mechanical clamp



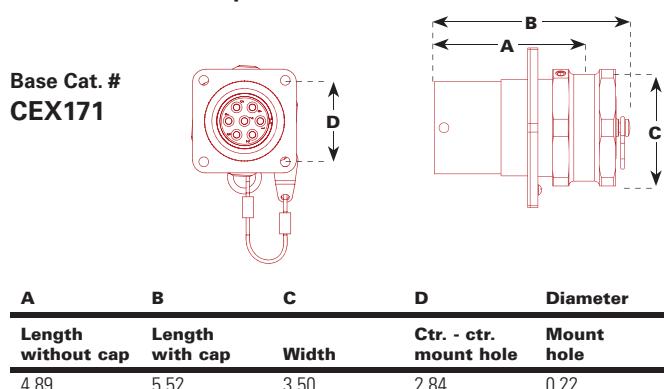
### Cable mounted receptacle with basketweave



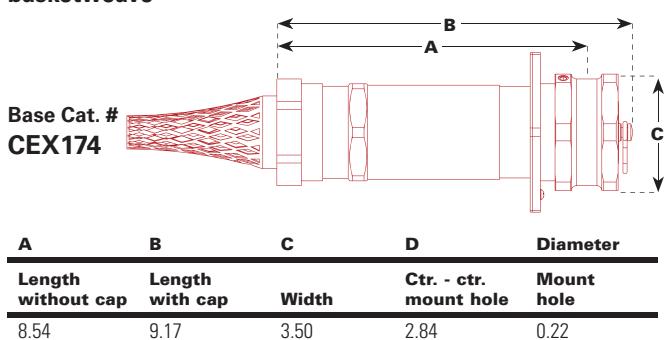
### Cable mounted square flange receptacle with EX cable gland



### Panel mounted receptacle



### Cable mounted square flange receptacle with basketweave



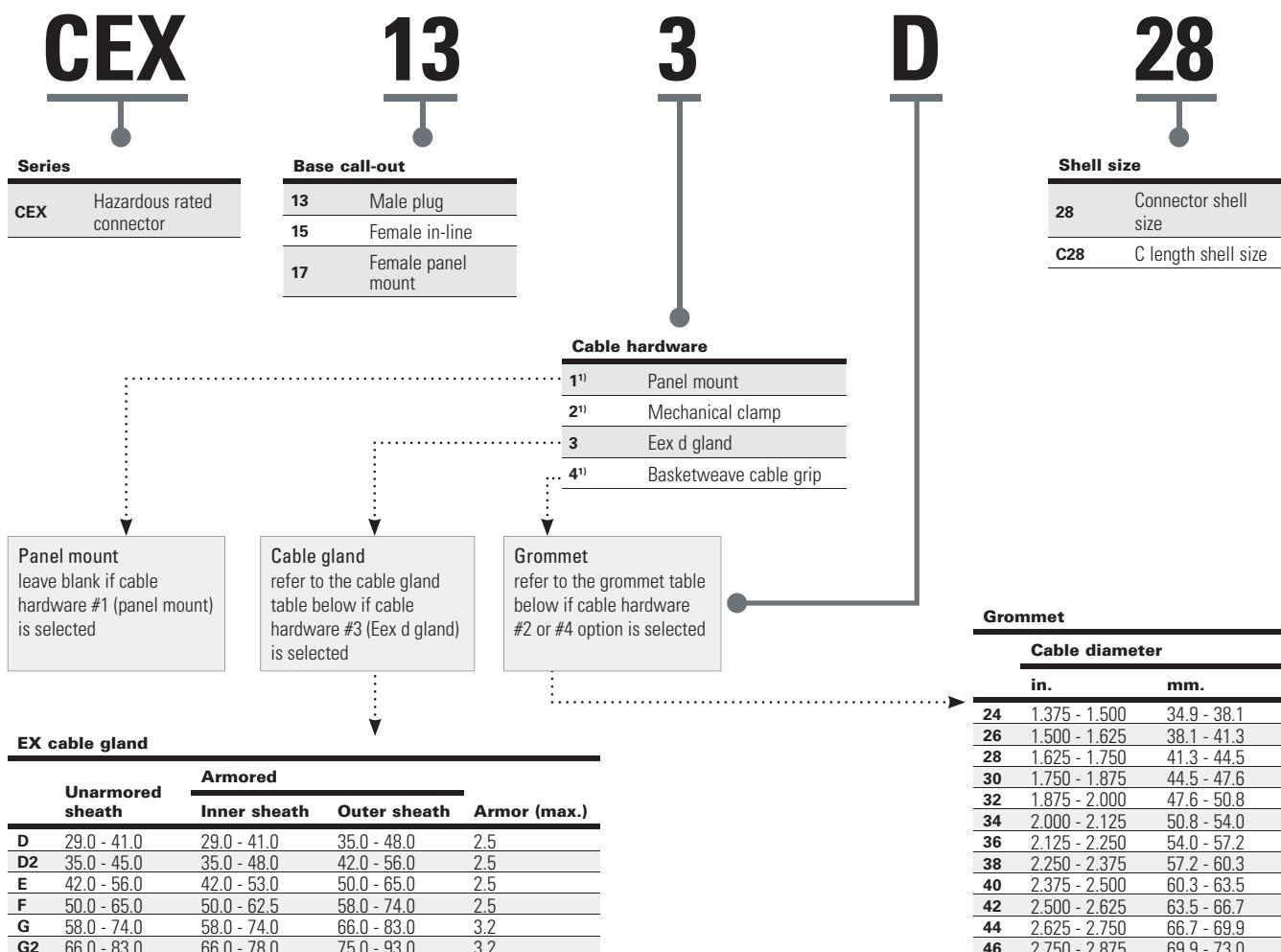
# CEX multi-pin connectors

28 shell

## Ordering information:

Part number example

CEX-133D28-339PN-BS

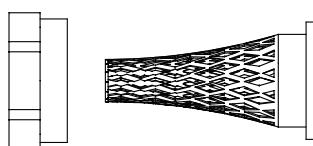


## Contact amperage ratings:

Contact size	Non-circuit breaking current rating at 55°C <sup>2)</sup>
12 AWG	30
10 AWG	40
8 AWG	55
4/0 AWG	198

## NEC service voltage ratings:

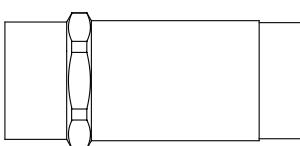
Service voltage	Non-circuit breaking	Circuit breaking
	DC volts RMS	AC volts RMS
A	250	240
D	600	600
E	600	600
B	600	600



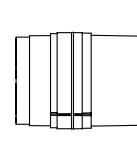
Cable hardware



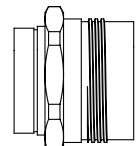
Grommet



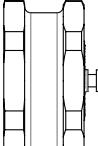
Cable adapter



Insert



Skirt



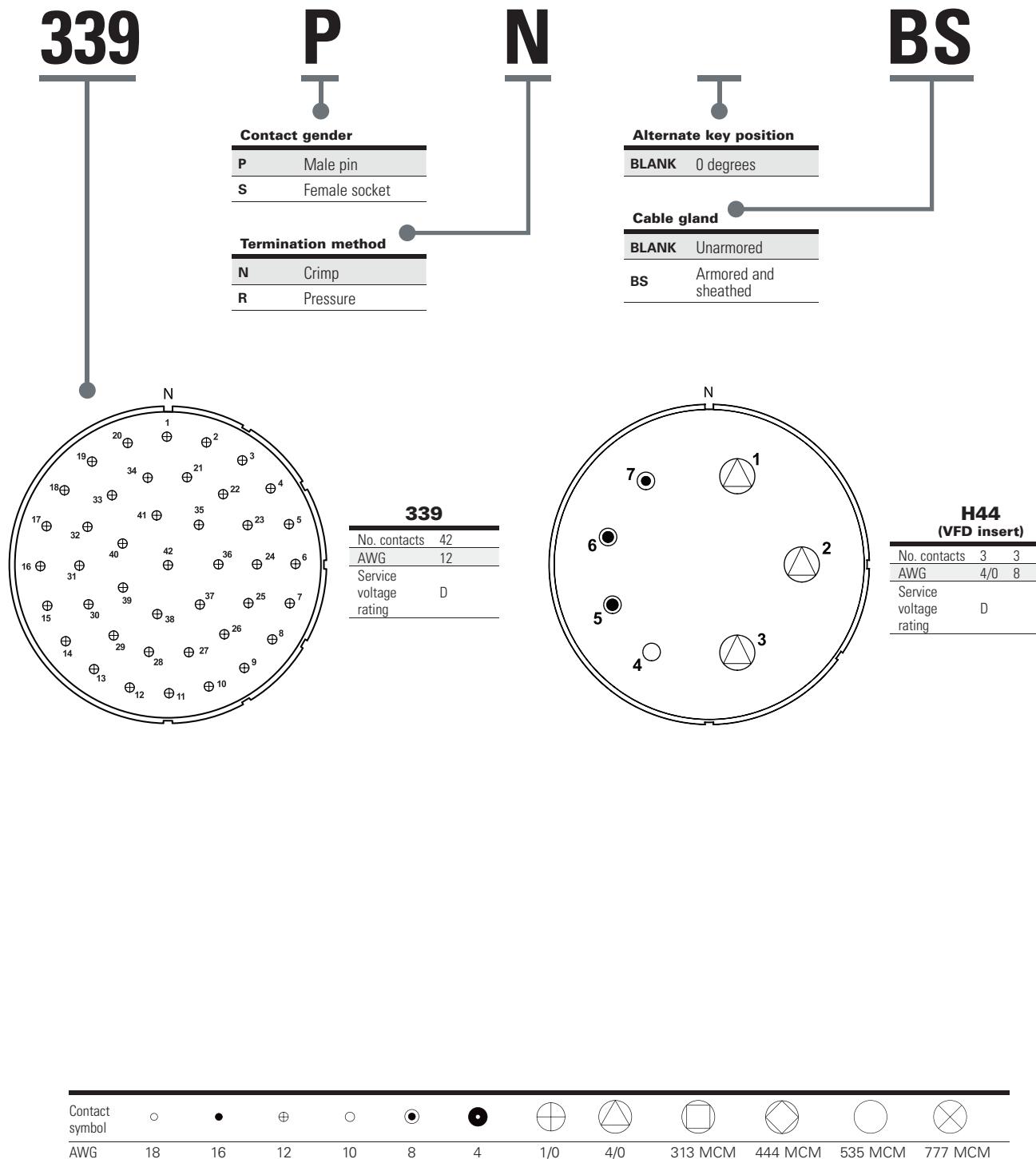
Environmental cover

1) Includes potting compound.

2) Cable current rating must meet or exceed the ratings of the contacts to utilize connector at fully rated current.

# CEX multi-pin connectors

28 shell



# CEX multi-pin connectors

## C24 shell

### Applications:

- Hazardous location control and instrumentation

### Features:

- Reversible inserts are compatible with all panel mount, in-line, male and female shells
- Exclusive visual mating alignment
- Easily accessible wire terminals
- Ample wiring space within shells
- Reversible 8-point diamond cord grip relieves strain on conductors (patent pending)
- Suited for use with Type P cable
- EX cable glands available through Eaton's Crouse-Hinds Division
- Hexagon shell design with easy wrenching surfaces ensures adequate torquing
- Impact-resistant

### Certifications and compliances:

- CE marked
- AEx listed for U.S. Ex Zone 1 applications (ETL)
- Listed for Canada Ex Zone 1 applications (ETL)
- ATEX Group II Category 2 certified (ETL)
- IECEx Zone 1 certified (ETL)

### Environmental ratings:

- NEMA 4X, 6P; IP66, IP68
- Ambient temperature: certified for use from -60°C to +55°C

### Standard materials and finishes:

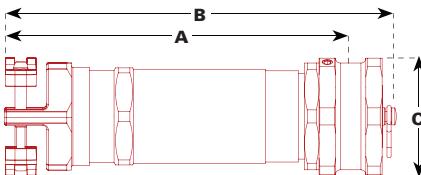
- Contacts – silver plated copper, crimp style
- Shells – high tensile strength aluminum; hard anodic coating per MIL-A-8625, Type III, black color
- Rigid insulators – thermoplastic
- Resilient inserts – silicone rubber



4

### Dimensions (in inches):

#### Cable mounted receptacle with mechanical clamp

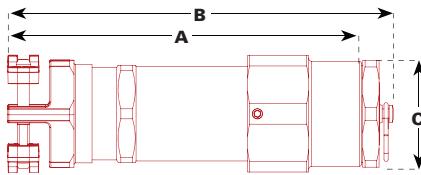


Base Cat. #

**CEX152**

A	B	C
Length without cap	Length with cap	Width
10.00	10.63	3.50

#### Cable mounted plug with mechanical clamp

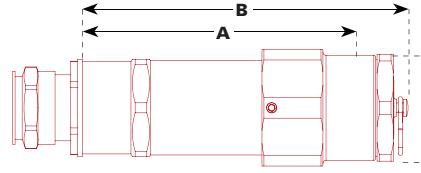


Base Cat. #

**CEX132**

A	B	C
Length without cap	Length with cap	Width
9.64	10.50	3.25

#### Cable mounted plug with EX cable gland

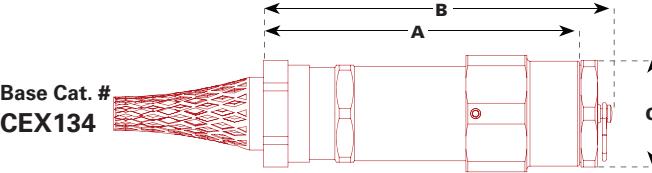


Base Cat. #

**CEX133**

A	B	C
Length without cap	Length with cap	Width
8.21	9.07	3.25

#### Cable mounted plug with basketweave



Base Cat. #

**CEX134**

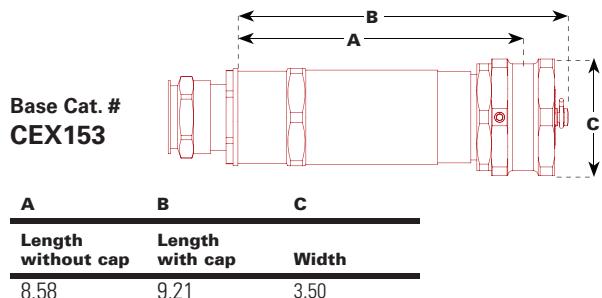
A	B	C
Length without cap	Length with cap	Width
8.68	9.54	3.50

# CEX multi-pin connectors

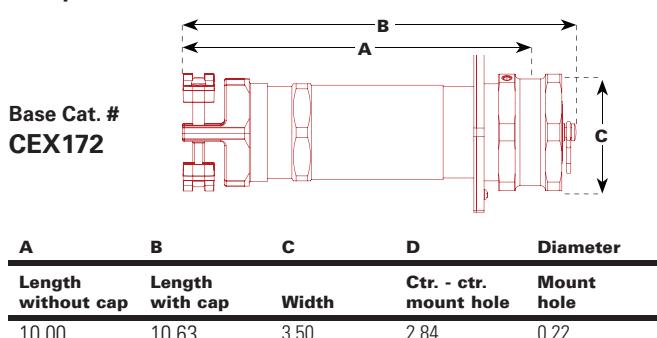
C24 shell

## Dimensions (in inches) (continued):

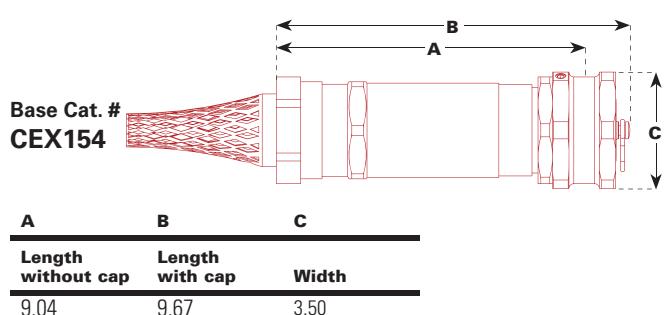
### Cable mounted receptacle with EX cable gland



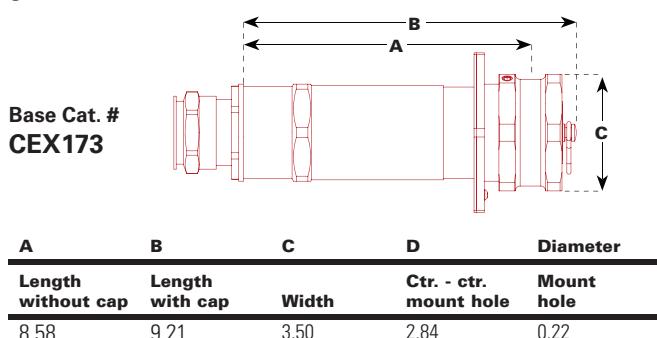
### Cable mounted square flange receptacle with mechanical clamp



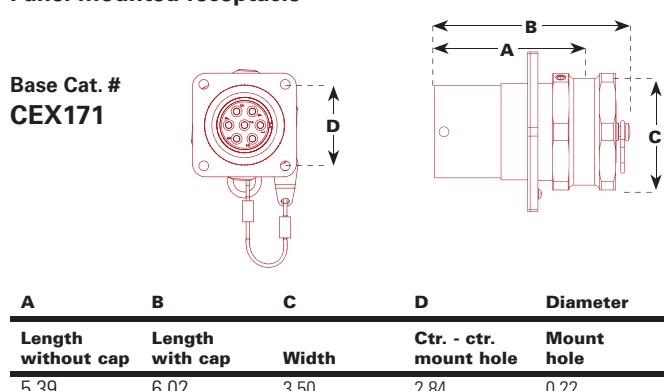
### Cable mounted receptacle with basketweave



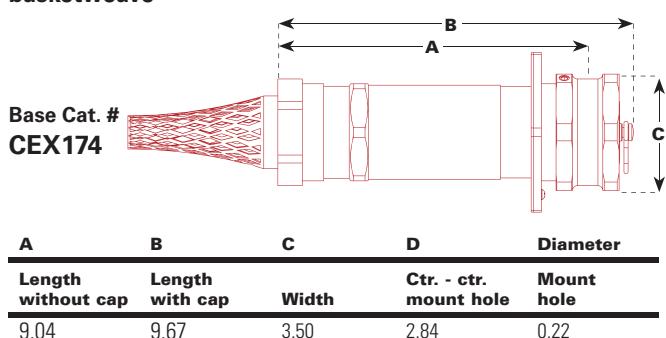
### Cable mounted square flange receptacle with EX cable gland



### Panel mounted receptacle



### Cable mounted square flange receptacle with basketweave



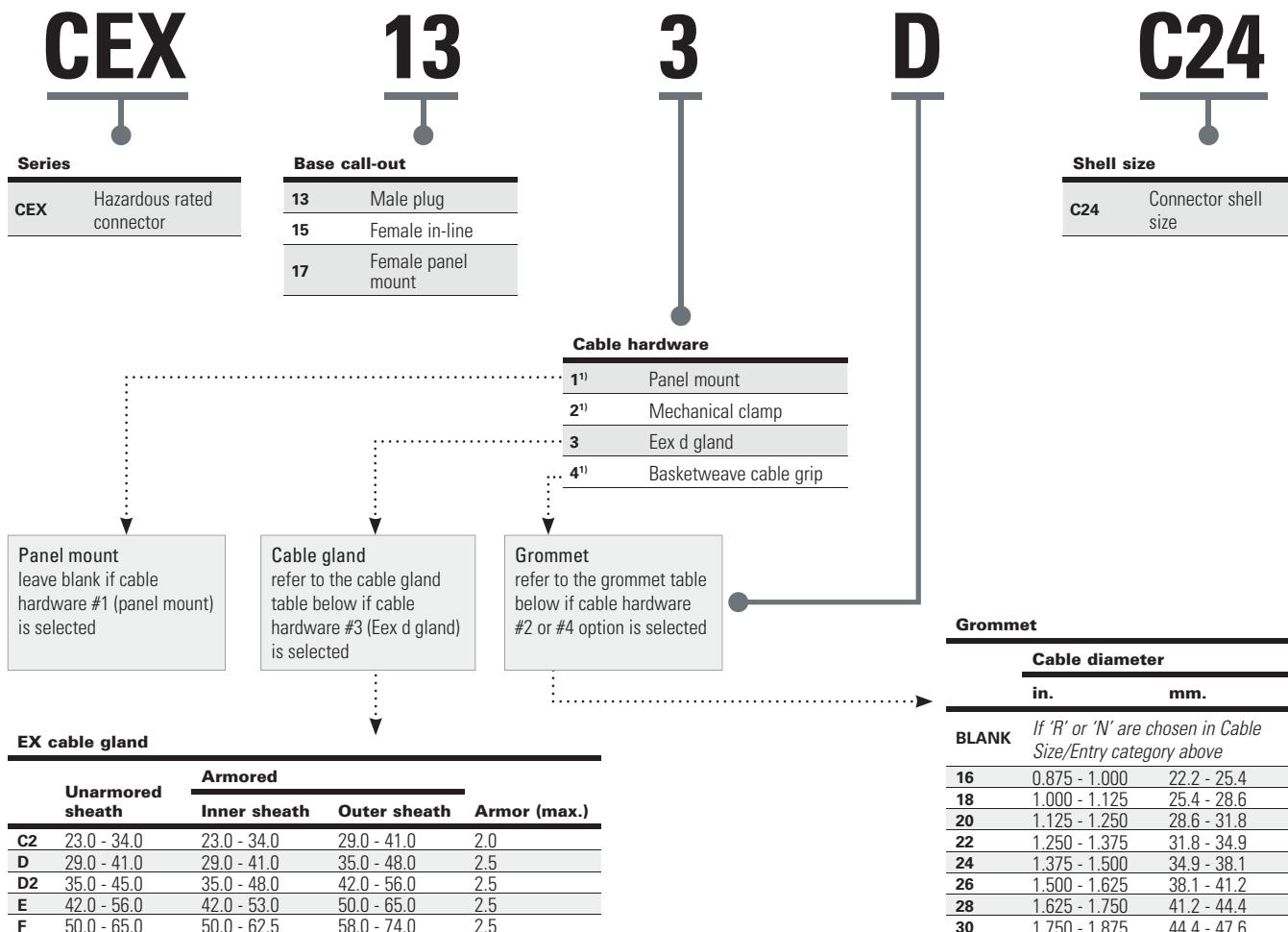
# CEX multi-pin connectors

C24 shell

## Ordering information:

Part number example

CEX-133DC24-313PN-BS

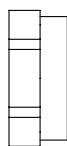


## Contact amperage ratings:

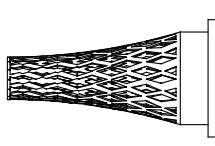
Contact size	Non-circuit breaking current rating at 55°C <sup>2)</sup>
313 MCM	502
444 MCM	722
535 MCM	815
777 MCM	1030

## Service voltage ratings:

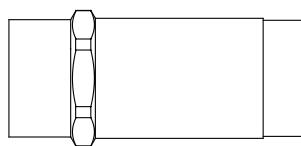
Service voltage	Non-circuit breaking	Circuit breaking
	DC volts RMS	AC volts RMS
A	250	240
D	600	600
E	600	600
B	600	600



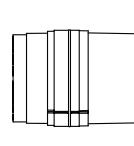
Cable hardware



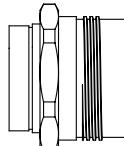
Grommet



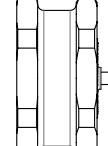
Cable adapter



Insert



Skirt



Environmental cover

1) Includes potting compound.

2) Cable current rating must meet or exceed the ratings of the contacts to utilize connector at fully rated current.

# CEX multi-pin connectors

C24 shell

**313**

**P**

**N**

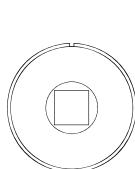
**BS**

**Contact gender**

<b>P</b>	Male pin
<b>S</b>	Female socket

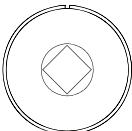
**Termination method**

<b>N</b>	Crimp
----------	-------



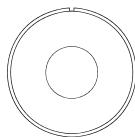
**313**

No. contacts	1
AWG	313 MCM
Service voltage rating	1000V
Current rating	502A



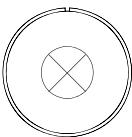
**444**

No. contacts	1
AWG	444 MCM
Service voltage rating	1000V
Current rating	722A



**535**

No. contacts	1
AWG	535 MCM
Service voltage rating	1000V
Current rating	815A



**386**

No. contacts	1
AWG	777 MCM
Service voltage rating	1000V
Current rating	1030A

Contact symbol	○	●	⊕	○	◎	●	○	○	○	○	○	○
AWG	18	16	12	10	8	4	1/0	4/0	313 MCM	444 MCM	535 MCM	777 MCM



# CZ and CRIG multi-pin and single-pole connectors

For harsh/heavy industrial areas

## Applications:

- Heavy duty control and instrumentation
- Single-pole power for harsh/heavy industrial areas

## Certifications and compliances:

### CZ series:

- UL recognized: UL1977
- CSA: C22.2 No. 182.3
- CE marked

### CRIG series:

- UL recognized: UL486A-486B
- CSA: C22.2 No. 65-13
- CE marked

### Environmental ratings:

- NEMA 4X, 6P; IP68
- Ambient temperature: suitable for use from -60°C to +55°C



## General specifications:

Property	Standard	Test method
Humidity resistance	MIL-DTL-5015/MIL-STD-1344	Method 1002, Type I
Moisture resistance	MIL-DTL-5015/MIL-STD-1344	Method 1002, Type II, test condition A
Ingress	IEC60529	IPX8
Corrosion resistance	MIL-STD-1344	Meets method 1001.1, test condition B
Dust resistance	IEC60529	IP6X
Vibration	MIL-DTL-5015/MIL-STD-1344	Method 2005, test condition II
Contact retention	MIL-DTL-5015/MIL-STD-1344	Method 2007.1

## Electrical ratings:

### Overview of shell options with voltage ratings

Shell size	No. of contacts	Contact size	Voltage rating
12	3-10	16-10 AWG	A, D
16	4-37	16-8 AWG	A, D
20	7-68	16-8 AWG	A, B, D, E
24	37-58	16-12 AWG	A, D
C24	1	313-777 MCM	1000V
28	42	12 AWG	D

## Service voltage ratings

MIL-DTL-5015 specifications			NEC ratings		
Non-circuit breaking		Service voltage	Non-circuit breaking	Service voltage	Circuit breaking
Service voltage	DC volts RMS	AC volts RMS	DC volts RMS	AC volts RMS	
A	700	500	A	250	240
D	1250	900	D	600	600
E	1750	1250	E	600	600
B	2450	1750	B	600	600

## Contact amperage ratings

Contact size	Non-circuit breaking current rating <sup>1)</sup>
16 AWG	18
12 AWG	30
10 AWG	40
8 AWG	55
4 AWG	95
1/0 AWG	155
4/0 AWG	225
313 MCM	636
444 MCM	796
535 MCM	898
777 MCM	1135

Consult the NEC General Wiring Guidelines, Article 310 prior to installing cable. Guidelines around wire temperature rating, ambient temperature correction factors and the number of conductors may limit the maximum amperage of the individual conductors.

1) Cable current rating must meet or exceed the ratings of the contacts to utilize connector at fully rated current.

# CZ multi-pin connectors

## 12 shell

### Applications:

- Heavy duty control and instrumentation

### Features:

- Intermateable with other brands
- Reversible inserts are compatible with all panel mount, in-line, male and female shells
- Exclusive visual mating alignment allows for easy installation
- Easily accessible wire terminals
- Ample wiring space within shells
- Double lead thread coupling
- Reversible 8-point diamond cord grip relieves strain on conductors (patent pending)
- Suited for use with Type P cable
- Impact-resistant



### Certifications and compliances:

- UL recognized: UL1977
- CSA: C22.2 No. 182.3
- CE marked

### Environmental ratings:

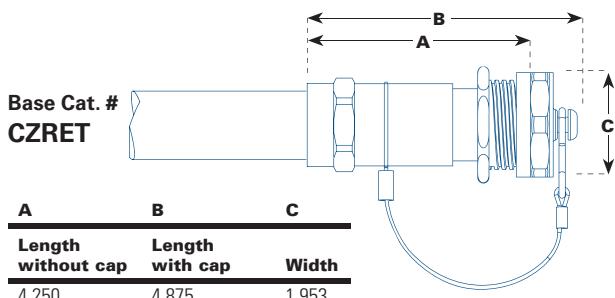
- NEMA 4X, 6P; IP68
- Ambient temperature: -60°C to +55°C

### Standard materials and finishes:

- Contacts – silver plated copper, crimp style
- Shells – high tensile strength aluminum; hard anodic coating per MIL-A-8625, Type III, olive drab color
- Rigid insulators – thermoplastic
- Resilient inserts – silicone rubber

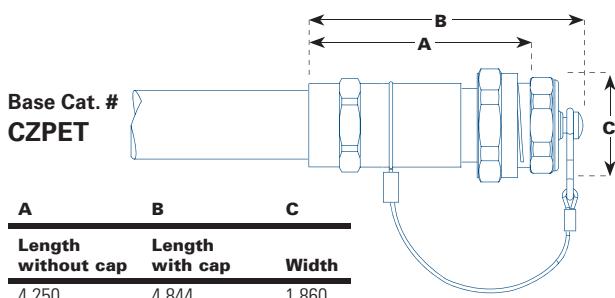
### Dimensions (in inches):

#### Receptacle with conduit adapter



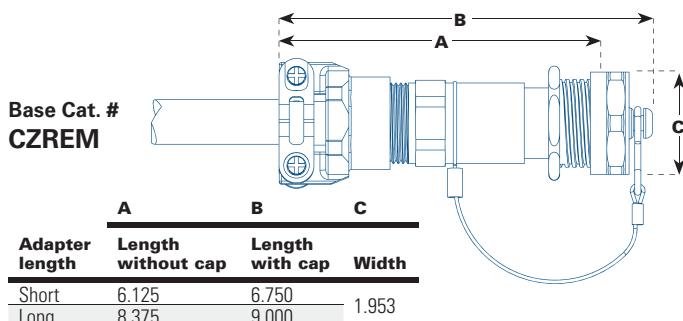
4

#### Plug with conduit adapter

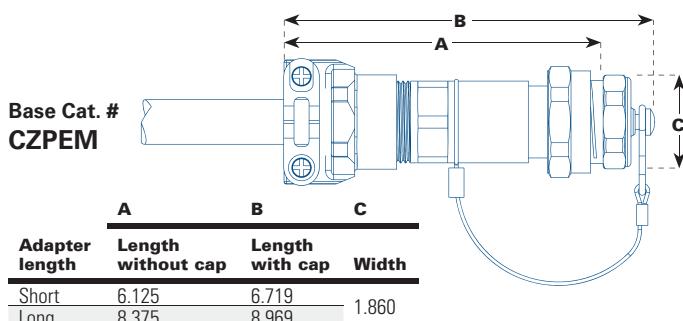


### Dimensions (in inches) (continued):

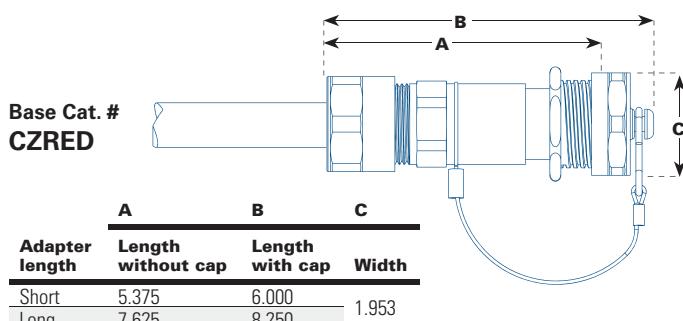
#### Cable mounted receptacle with mechanical clamp



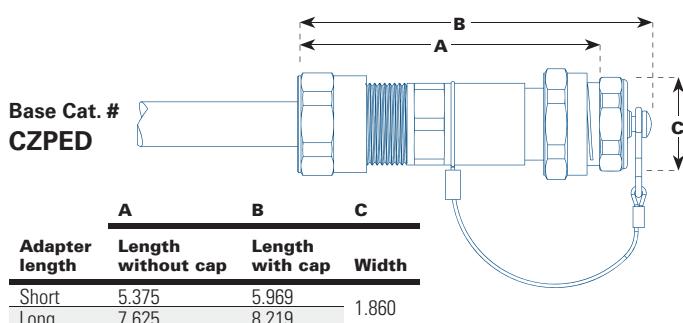
#### Cable mounted plug with mechanical clamp



#### Cable mounted receptacle with gland nut



#### Cable mounted plug with gland nut

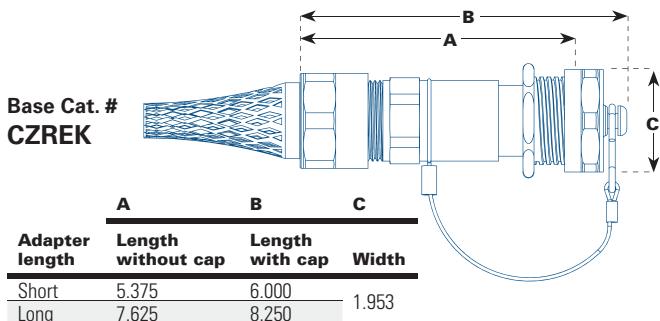


# CZ multi-pin connectors

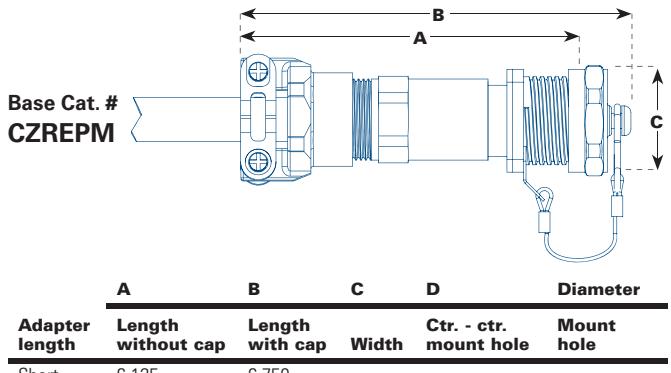
12 shell

## Dimensions (in inches) (continued):

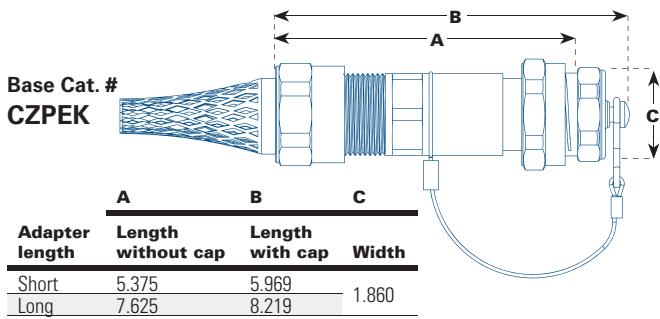
### Cable mounted receptacle with basketweave



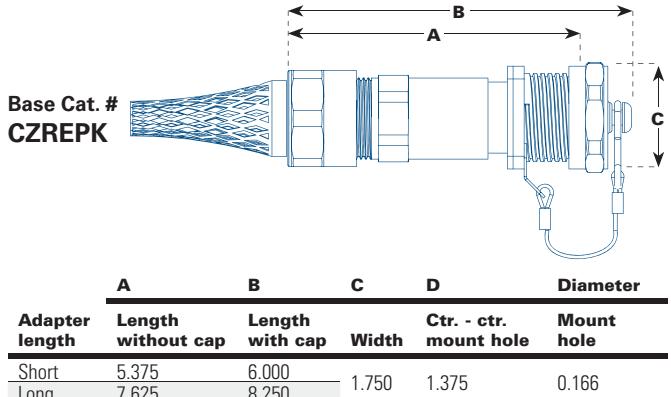
### Cable mounted square flange receptacle with mechanical clamp



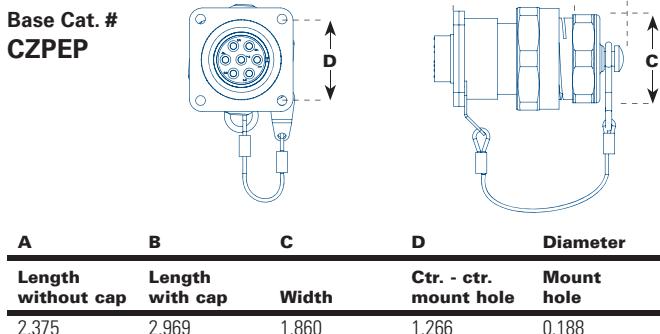
### Cable mounted plug with basketweave



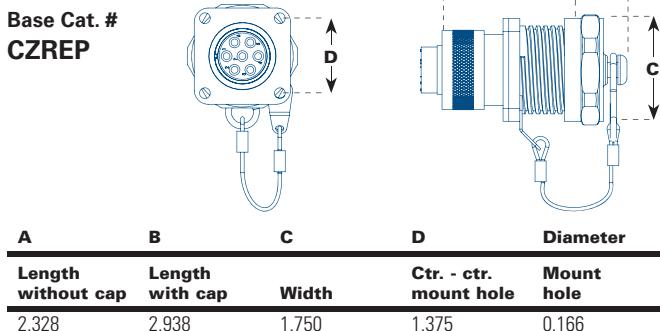
### Cable mounted square flange receptacle with basketweave



### Panel mounted plug



### Panel mounted receptacle



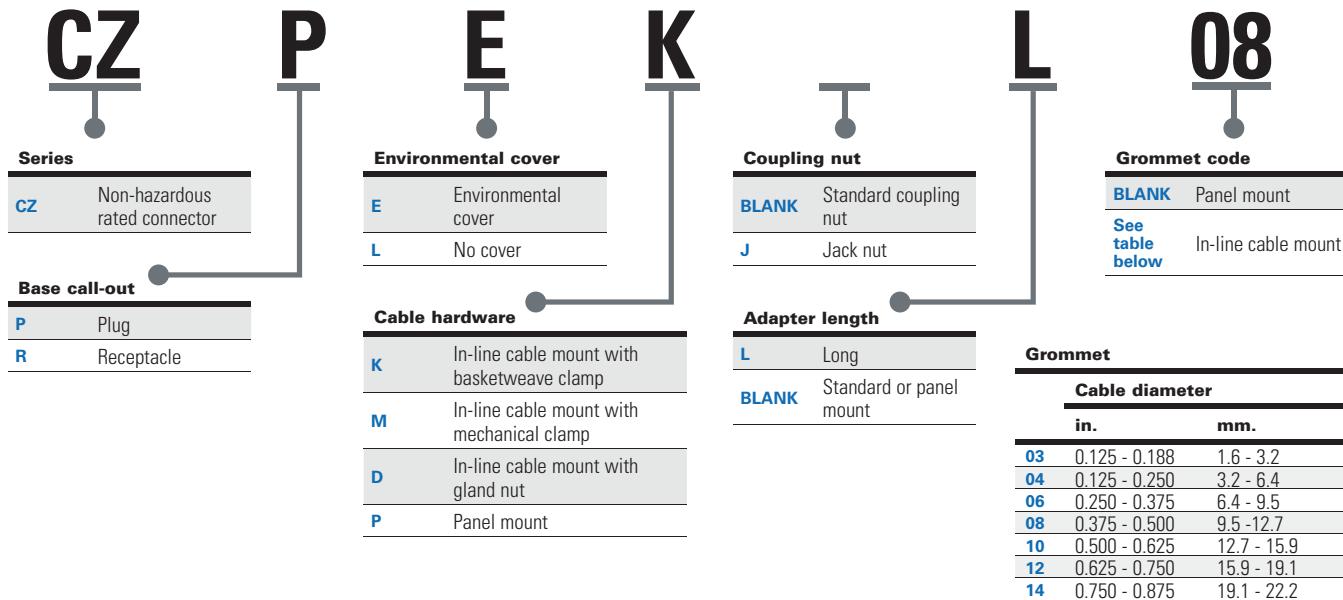
# CZ multi-pin connectors

12 shell

## Ordering information:

## Part number example

CZ-PEKL-0812-310PN

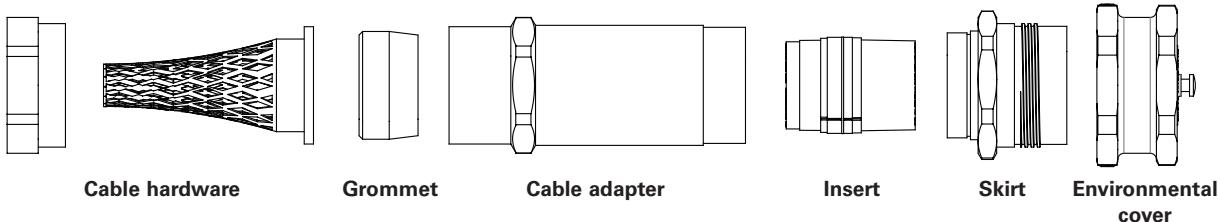


## Contact amperage ratings:

Contact size	Non-circuit breaking current rating <sup>1)</sup>
16 AWG	18
12 AWG	30
10 AWG	40

## **NEC service voltage ratings:**

	Non-circuit breaking	Circuit breaking
Service voltage	DC volts RMS	AC volts RMS
A	250	240
D	600	600
E	600	600
B	600	600



1) Cable current rating must meet or exceed the ratings of the contacts to utilize connector at fully rated current.

# CZ multi-pin connectors

12 shell

**12**

**Shell size**  
12 Connector shell size

**310**

**Contact gender**  
P Male pin  
S Female socket

**P**

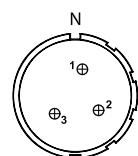
**Contact connection type**  
N Crimp  
R Pressure

**N**

**Key position**  
BLANK 0 degrees

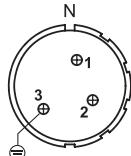
**Insert configuration**

*See all configurations below*



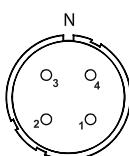
**327**

No. contacts 3  
AWG 12  
Service voltage rating D



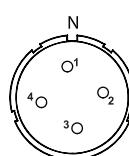
**330<sup>1)</sup>**

No. contacts 3  
AWG 12  
Service voltage rating D



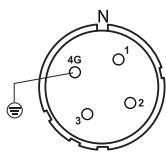
**314**

No. contacts 4  
AWG 10  
Service voltage rating D



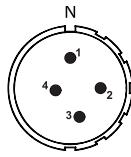
**316**

No. contacts 4  
AWG 10  
Service voltage rating D



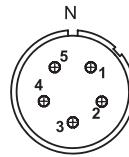
**322**

No. contacts 4  
AWG 10  
Service voltage rating D



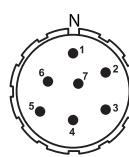
**333**

No. contacts 4  
AWG 16  
Service voltage rating D



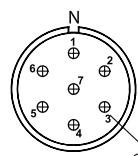
**324**

No. contacts 5  
AWG 12  
Service voltage rating D



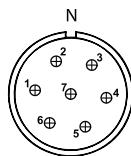
**348**

No. contacts 7  
AWG 16  
Service voltage rating A



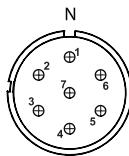
**310**

No. contacts 7  
AWG 12  
Service voltage rating A



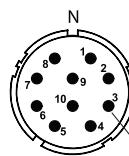
**354**

No. contacts 7  
AWG 12  
Service voltage rating A



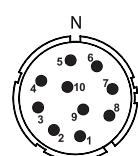
**354D**

No. contacts 7  
AWG 12  
Service voltage rating A



**334**

No. contacts 10  
AWG 16  
Service voltage rating A



**355**

No. contacts 10  
AWG 16  
Service voltage rating A

Contact symbol	○	●	⊕	○	◎	●	○/○	○/△	○/□	○/○	○/○	○/○
AWG	18	16	12	10	8	4	1/0	4/0	313 MCM	444 MCM	535 MCM	777 MCM

1) Made to order item. Contact factory for availability and lead time.

# CZ multi-pin connectors

16 shell

## Applications:

- Heavy duty control and instrumentation

## Features:

- Intermateable with other brands
- Reversible inserts are compatible with all panel mount, in-line, male and female shells
- Exclusive visual mating alignment allows for easy installation
- Easily accessible wire terminals
- Ample wiring space within shells
- Double lead thread coupling
- Reversible 8-point diamond cord grip relieves strain on conductors (patent pending)
- Suited for use with Type P cable
- Impact-resistant



## Certifications and compliances:

- UL recognized: UL1977
- CSA: C22.2 No. 182.3
- CE marked

## Environmental ratings:

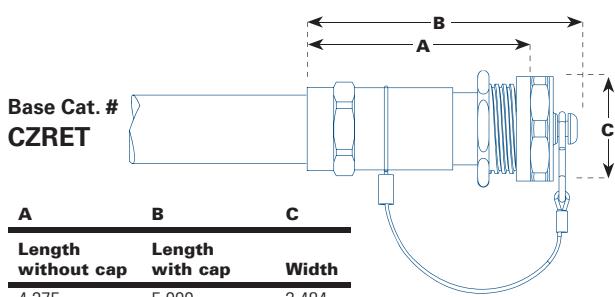
- NEMA 4X, 6P; IP68
- Ambient temperature: -60°C to +55°C

## Standard materials and finishes:

- Contacts – silver plated copper, crimp style
- Shells – high tensile strength aluminum; hard anodic coating per MIL-A-8625, Type III, olive drab color
- Rigid insulators – thermoplastic
- Resilient inserts – silicone rubber

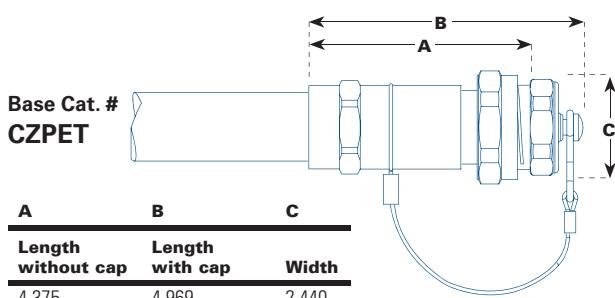
## Dimensions (in inches):

### Receptacle with conduit adapter



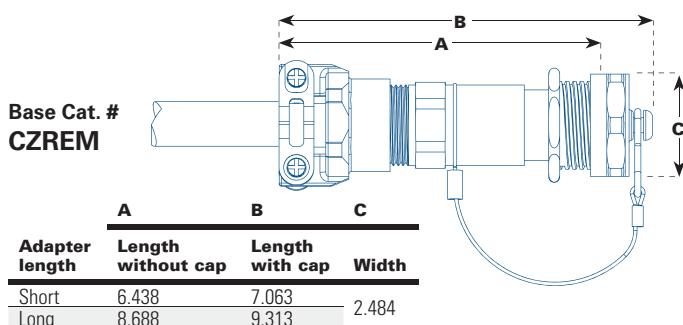
4

### Plug with conduit adapter

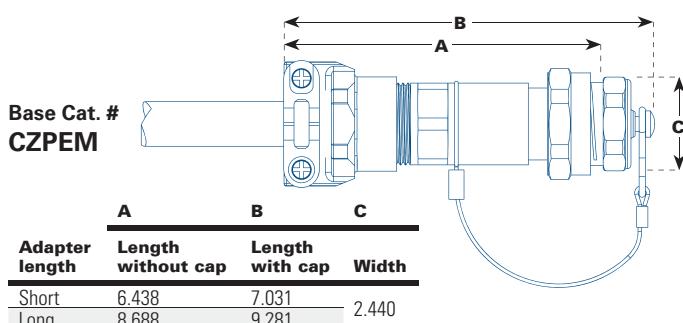


## Dimensions (in inches) (continued):

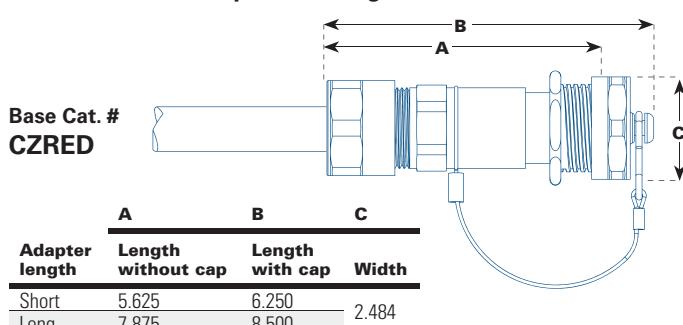
### Cable mounted receptacle with mechanical clamp



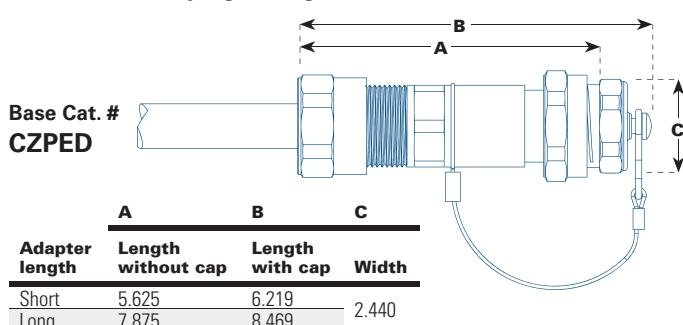
### Cable mounted plug with mechanical clamp



### Cable mounted receptacle with gland nut



### Cable mounted plug with gland nut

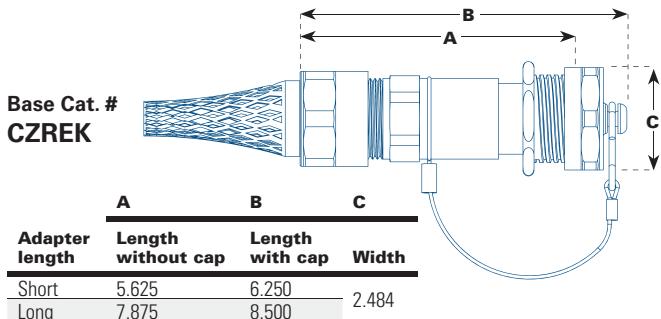


# CZ multi-pin connectors

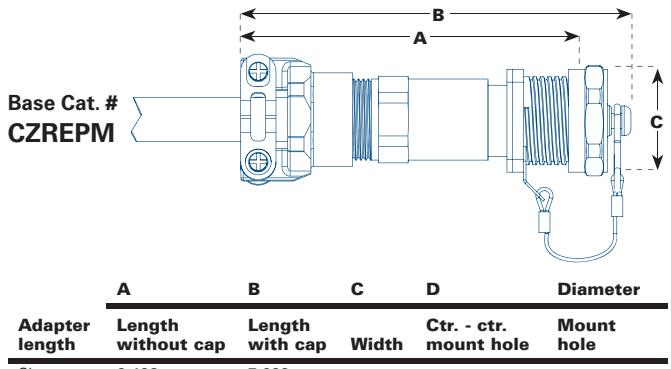
16 shell

## Dimensions (in inches) (continued):

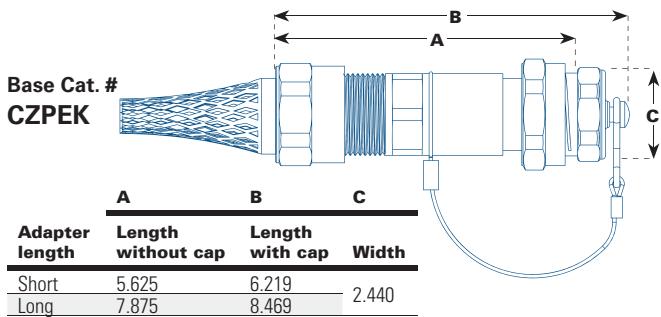
### Cable mounted receptacle with basketweave



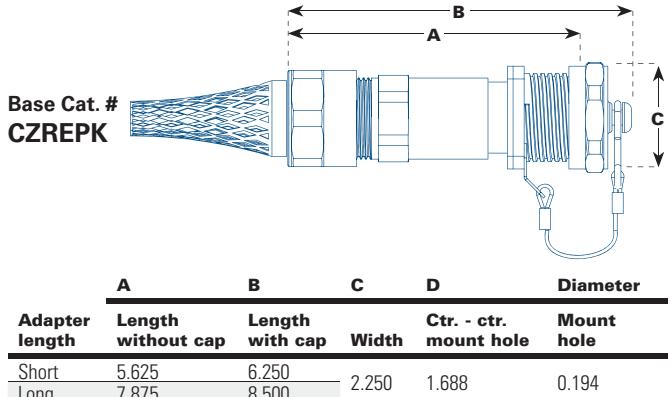
### Cable mounted square flange receptacle with mechanical clamp



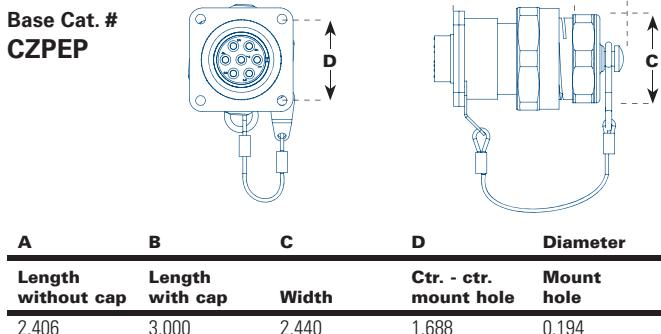
### Cable mounted plug with basketweave



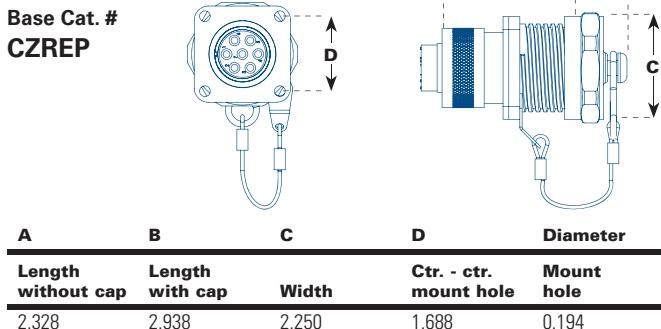
### Cable mounted square flange receptacle with basketweave



### Panel mounted plug



### Panel mounted receptacle



# CZ multi-pin connectors

16 shell

## Ordering information:

Part number example

**CZ-PEKL-1016-381PN**

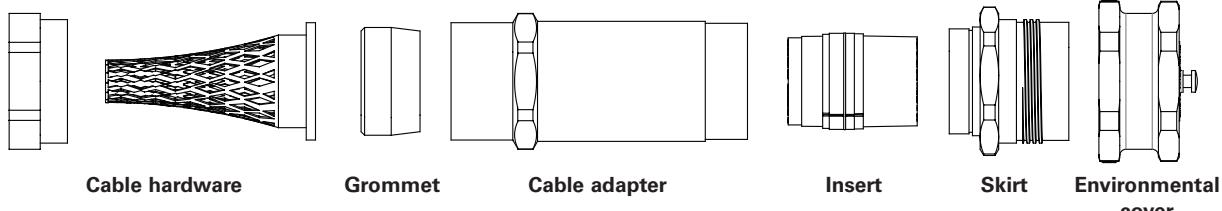
<b>CZ</b>	<b>P</b>	<b>E</b>	<b>K</b>	<b>L</b>	<b>10</b>
<b>Series</b>		<b>Environmental cover</b>			<b>Grommet code</b>
CZ		E			BLANK Panel mount
Non-hazardous rated connector		L			See table below In-line cable mount
<b>Base call-out</b>					
<b>P</b>	Plug	<b>Cable hardware</b>		<b>Adapter length</b>	<b>Grommet</b>
<b>R</b>	Receptacle	K	In-line cable mount with basketweave clamp	L	<b>Cable diameter</b>
		M	In-line cable mount with mechanical clamp	BLANK	in. mm.
		D	In-line cable mount with gland nut		08 0.375 - 0.500 9.5 - 12.7
		P	Panel mount		10 0.500 - 0.625 12.7 - 15.9
					12 0.625 - 0.750 15.9 - 19.1
					14 0.750 - 0.875 19.1 - 22.2
					16 0.875 - 1.000 22.2 - 25.4
					18 1.000 - 1.125 25.4 - 28.6
					20 1.125 - 1.250 28.6 - 31.8

## Contact amperage ratings:

Contact size	Non-circuit breaking current rating <sup>1)</sup>
16 AWG	18
12 AWG	30
10 AWG	40
8 AWG	55
4 AWG	95

## NEC service voltage ratings:

Service voltage	Non-circuit breaking		Circuit breaking
	DC volts RMS	AC volts RMS	
A	250	240	
D	600	600	
E	600	600	
B	600	600	



1) Cable current rating must meet or exceed the ratings of the contacts to utilize connector at fully rated current.

# CZ multi-pin connectors

16 shell

**16**

**Shell size**

**16** Connector shell size

**381**

**P**

**Contact gender**

**P** Male pin

**S** Female socket

**N**

**Key position**

**BLANK** 0 degrees

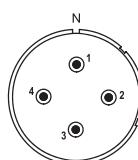
**Contact connection type**

**N** Crimp

**R** Pressure

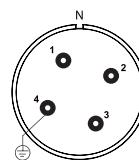
**Insert configuration**

*See all configurations below*



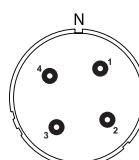
**328**

No. contacts	4
AWG	8
Service voltage rating	D



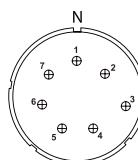
**38**

No. contacts	4
AWG	4
Service voltage rating	D



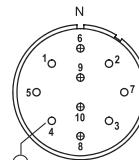
**322**

No. contacts	4
AWG	4
Service voltage rating	D



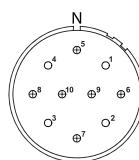
**378**

No. contacts	7
AWG	12
Service voltage rating	D



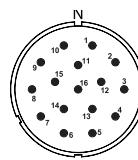
**376**

No. contacts	6
AWG	12
Service voltage rating	D



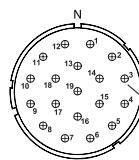
**381**

No. contacts	6
AWG	12
Service voltage rating	D



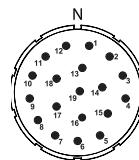
**325**

No. contacts	16
AWG	16
Service voltage rating	D



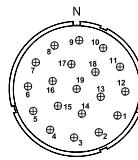
**312**

No. contacts	19
AWG	12
Service voltage rating	A



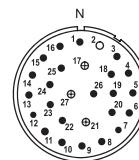
**355**

No. contacts	19
AWG	16
Service voltage rating	A



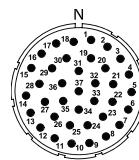
**377**

No. contacts	19
AWG	12
Service voltage rating	A



**335**

No. contacts	24
AWG	16
Service voltage rating	A



**321**

No. contacts	37
AWG	16
Service voltage rating	A

Contact symbol



AWG

18

16

12

10

8

4

1/0

4/0

313 MCM

444 MCM

535 MCM

777 MCM

# CZ multi-pin connectors

20 shell

## Applications:

- Heavy duty control and instrumentation

## Features:

- Intermateable with other brands
- Reversible inserts are compatible with all panel mount, in-line, male and female shells
- Exclusive visual mating alignment allows for easy installation
- Easily accessible wire terminals
- Ample wiring space within shells
- Double lead thread coupling
- Reversible 8-point diamond cord grip relieves strain on conductors (patent pending)
- Suited for use with Type P cable
- Impact-resistant



## Certifications and compliances:

- UL recognized: UL1977
- CSA: C22.2 No. 182.3
- CE marked

## Environmental ratings:

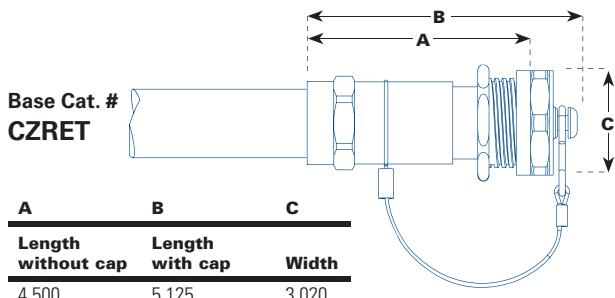
- NEMA 4X, 6P; IP68
- Ambient temperature: -60°C to +55°C

## Standard materials and finishes:

- Contacts – silver plated copper, crimp style
- Shells – high tensile strength aluminum; hard anodic coating per MIL-A-8625, Type III, olive drab color
- Rigid insulators – thermoplastic
- Resilient inserts – silicone rubber

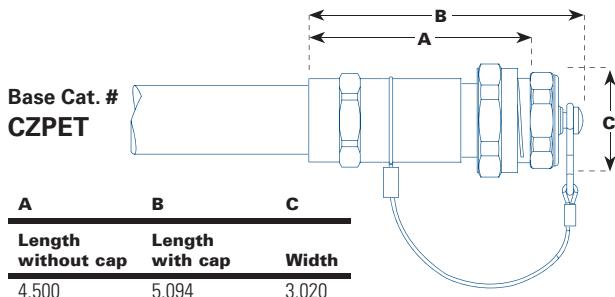
## Dimensions (in inches):

### Receptacle with conduit adapter



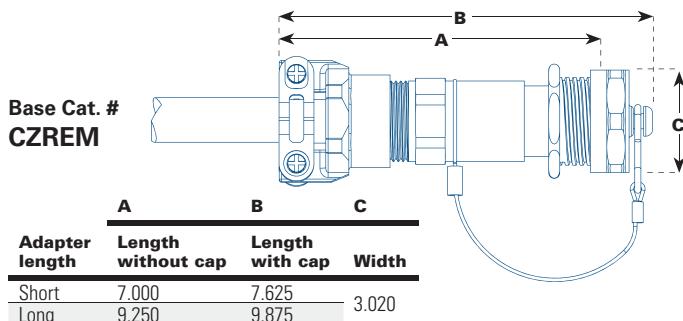
4

### Plug with conduit adapter

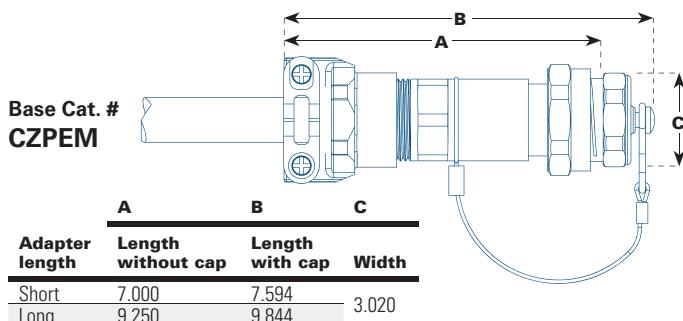


## Dimensions (in inches) (continued):

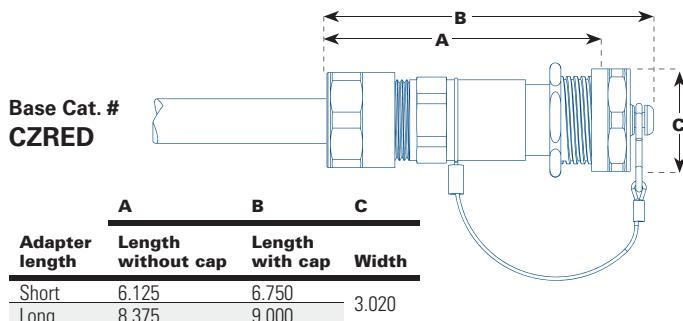
### Cable mounted receptacle with mechanical clamp



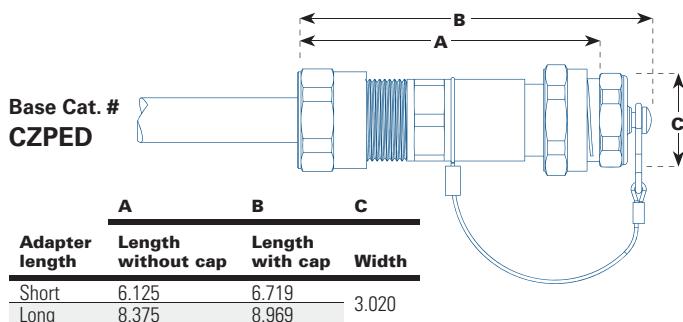
### Cable mounted plug with mechanical clamp



### Cable mounted receptacle with gland nut



### Cable mounted plug with gland nut

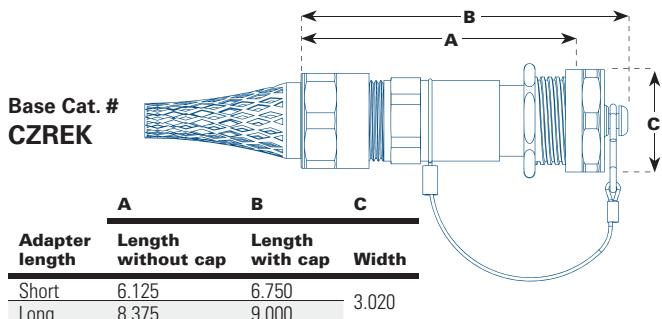


# CZ multi-pin connectors

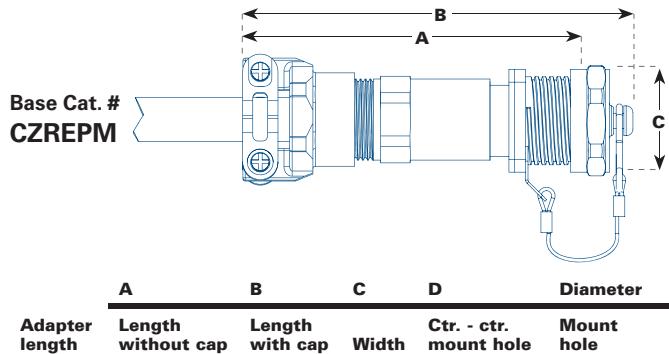
20 shell

## Dimensions (in inches) (continued):

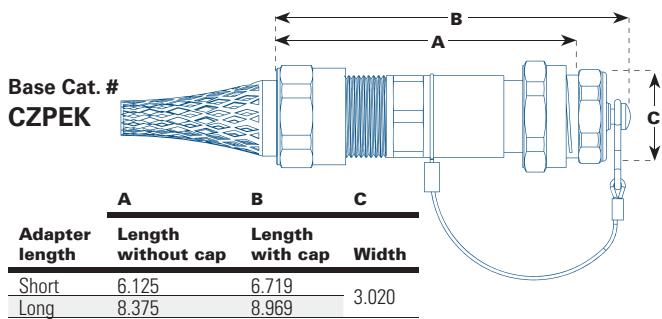
### Cable mounted receptacle with basketweave



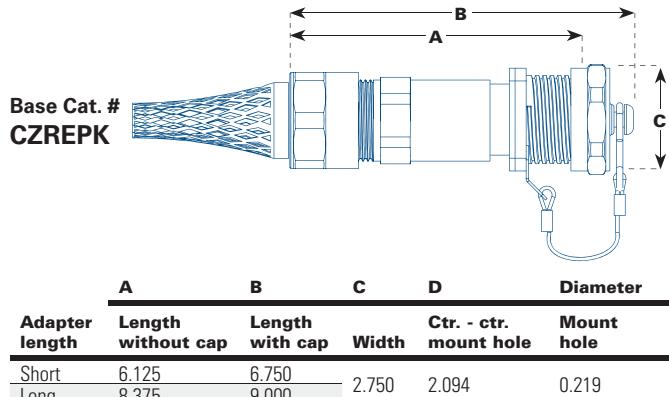
### Cable mounted square flange receptacle with mechanical clamp



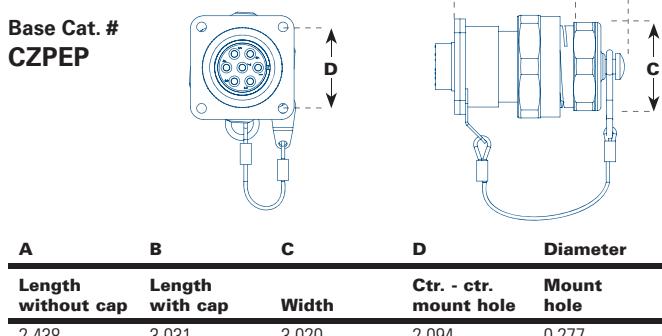
### Cable mounted plug with basketweave



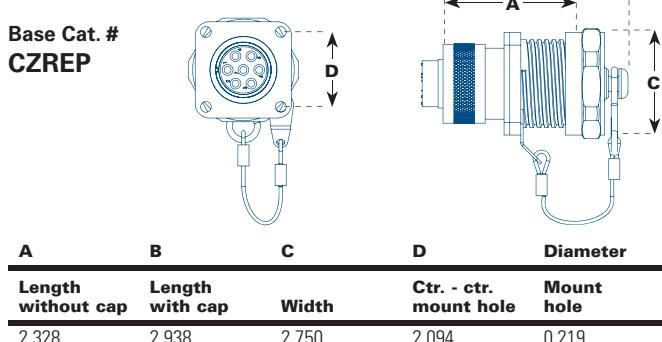
### Cable mounted square flange receptacle with basketweave



### Panel mounted plug



### Panel mounted receptacle



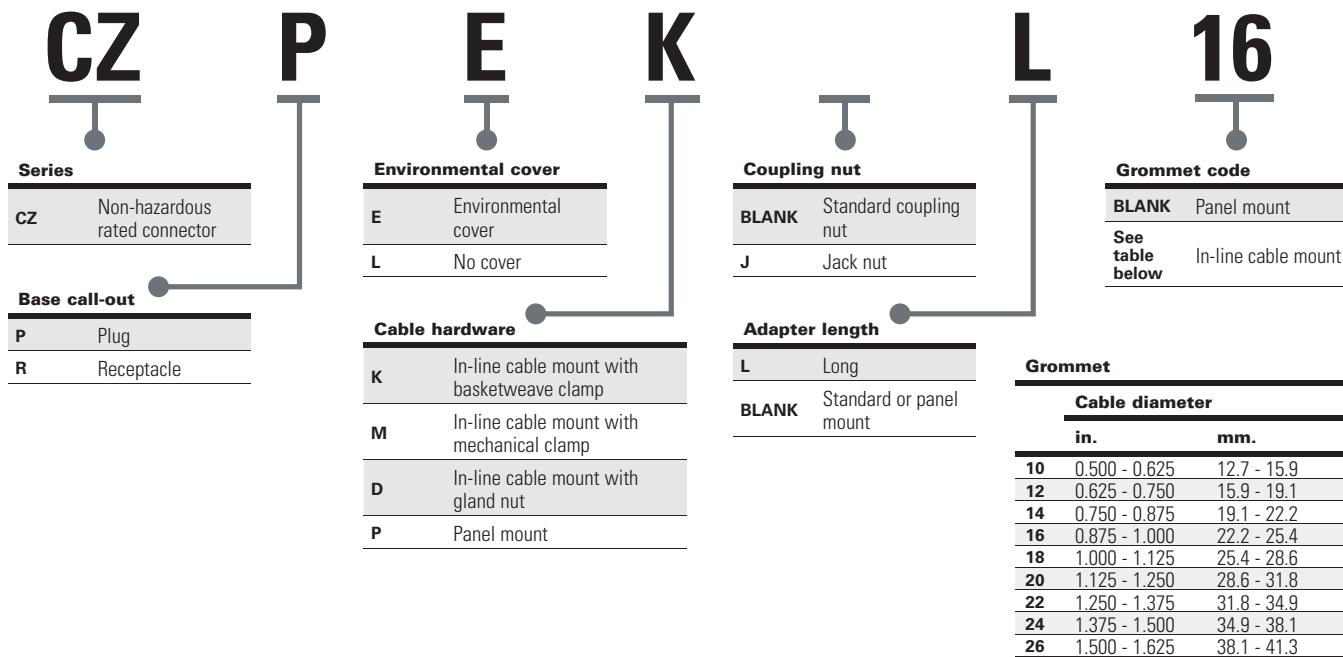
# CZ multi-pin connectors

20 shell

## Ordering information:

Part number example

**CZ-PEKL-1620-376PN**

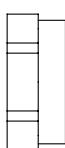


## Contact amperage ratings:

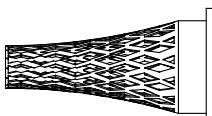
Contact size	Non-circuit breaking current rating <sup>1)</sup>
16 AWG	18
12 AWG	30
10 AWG	40
8 AWG	55
4 AWG	95
1/0 AWG	155

## NEC service voltage ratings:

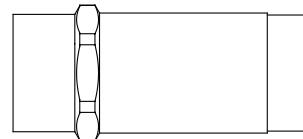
Service voltage	Non-circuit breaking	Circuit breaking
	DC volts RMS	AC volts RMS
A	250	240
D	600	600
E	600	600
B	600	600



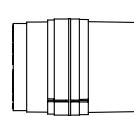
Cable hardware



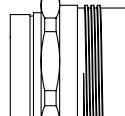
Grommet



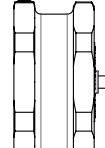
Cable adapter



Insert



Skirt



Environmental cover

1) Cable current rating must meet or exceed the ratings of the contacts to utilize connector at fully rated current.

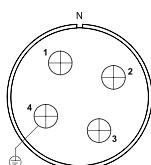
# CZ multi-pin connectors

20 shell

**20**

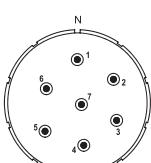
Shell size
<b>20</b> Connector shell size
<b>C20</b> C length shell size

**Insert configuration**  
See all configurations below



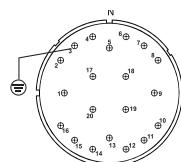
**40**

No. contacts	4
AWG	1/0
Service voltage rating	D



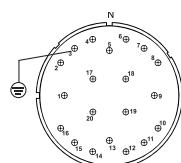
**359<sup>1)</sup>**

No. contacts	7
AWG	8
Service voltage rating	E



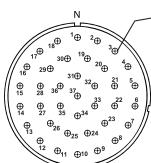
**388**

No. contacts	19
AWG	12
Service voltage rating	D



**387**

No. contacts	20
AWG	12
Service voltage rating	B center A outer



**350**

No. contacts	37
AWG	12
Service voltage rating	A

**376**

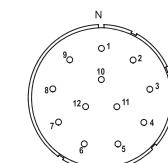
**P**

Contact gender
<b>P</b> Male pin
<b>S</b> Female socket

Contact connection type
<b>N</b> Crimp
<b>R</b> Pressure

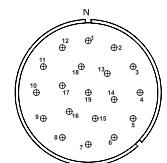
**N**

Key position
<b>BLANK</b> 0 degrees



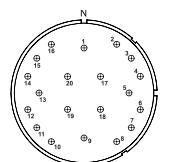
**375**

No. contacts	12
AWG	10
Service voltage rating	D



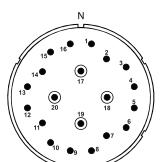
**376**

No. contacts	19
AWG	12
Service voltage rating	D



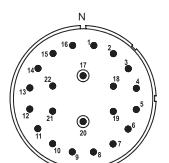
**332**

No. contacts	20
AWG	12
Service voltage rating	B center A outer



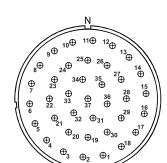
**334**

No. contacts	16
AWG	16
Service voltage rating	D



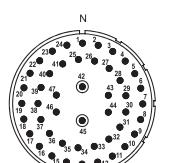
**387**

No. contacts	20
AWG	12
Service voltage rating	B center A outer



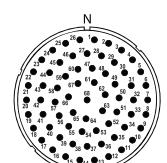
**386**

No. contacts	37
AWG	12
Service voltage rating	A



**354<sup>1)</sup>**

No. contacts	45
AWG	16
Service voltage rating	D (8 AWG) A (16 AWG)



**313**

No. contacts	68
AWG	16
Service voltage rating	A

Contact symbol	○	●	⊕	○	●	○	○	○	○	○	○	○	○	○	○
AWG	18	16	12	10	8	4	1/0	4/0	313 MCM	444 MCM	535 MCM	777 MCM			

1) Made to order item. Contact factory for availability and lead time.

# CZ multi-pin connectors

24 shell

## Applications:

- Heavy duty control and instrumentation

## Features:

- Intermateable with other brands
- Reversible inserts are compatible with all panel mount, in-line, male and female shells
- Exclusive visual mating alignment allows for easy installation
- Easily accessible wire terminals
- Ample wiring space within shells
- Double lead thread coupling
- Reversible 8-point diamond cord grip relieves strain on conductors (patent pending)
- Suited for use with Type P cable
- Impact-resistant



## Certifications and compliances:

- UL recognized: UL1977
- CSA: C22.2 No. 182.3
- CE marked

## Environmental ratings:

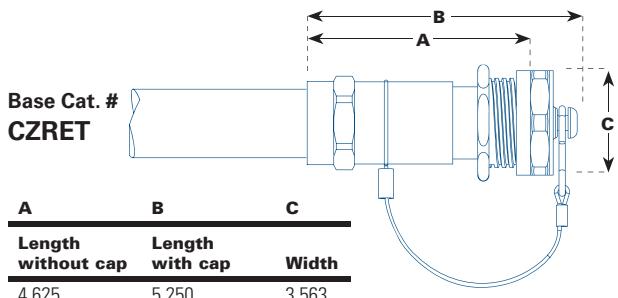
- NEMA 4X, 6P; IP68
- Ambient temperature: -60°C to +55°C

## Standard materials and finishes:

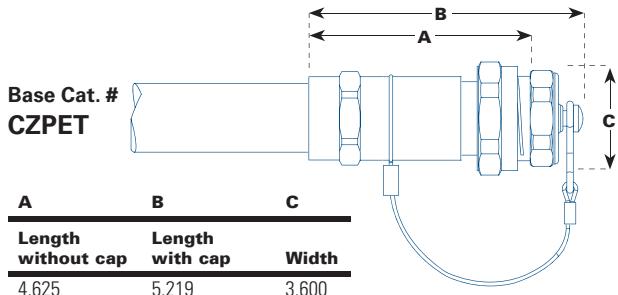
- Contacts – silver plated copper, crimp style
- Shells – high tensile strength aluminum; hard anodic coating per MIL-A-8625, Type III, olive drab color
- Rigid insulators – thermoplastic
- Resilient inserts – silicone rubber

## Dimensions (in inches):

### Receptacle with conduit adapter

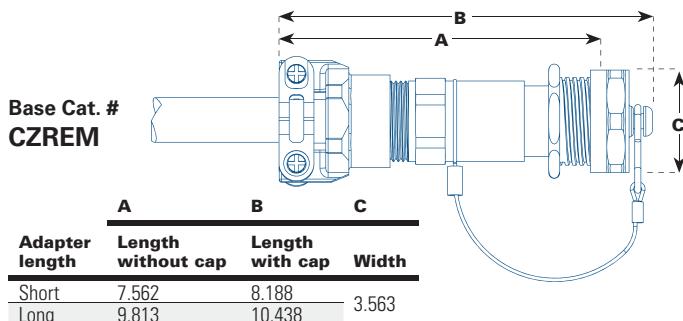


### Plug with conduit adapter

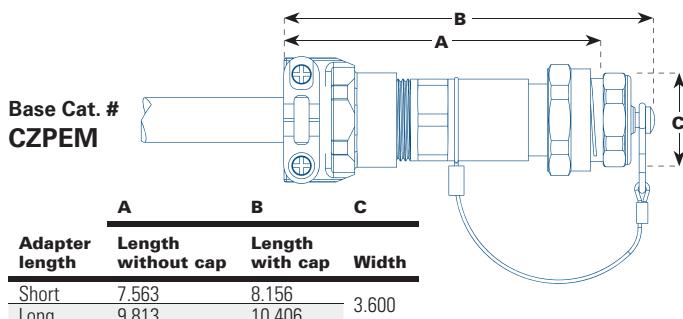


## Dimensions (in inches) (continued):

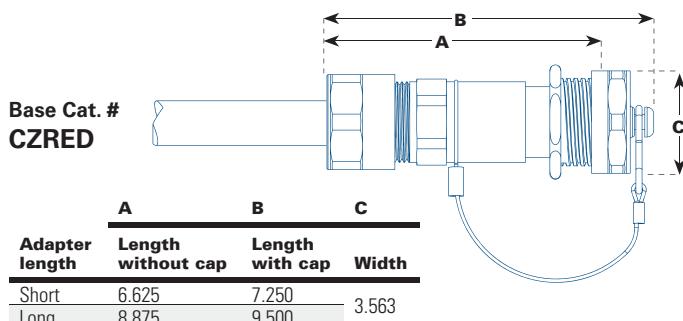
### Cable mounted receptacle with mechanical clamp



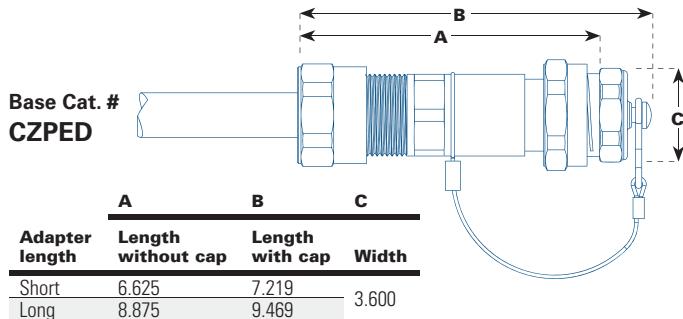
### Cable mounted plug with mechanical clamp



### Cable mounted receptacle with gland nut



### Cable mounted plug with gland nut

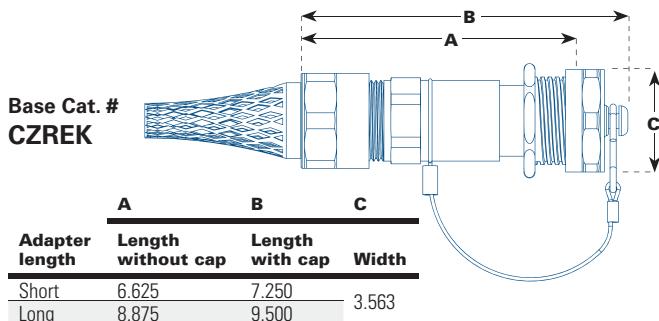


# CZ multi-pin connectors

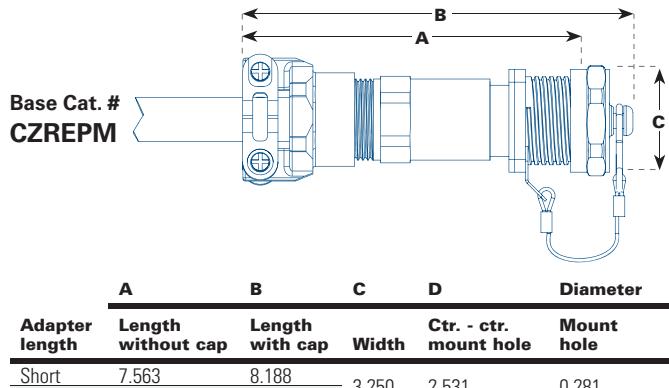
24 shell

## Dimensions (in inches) (continued):

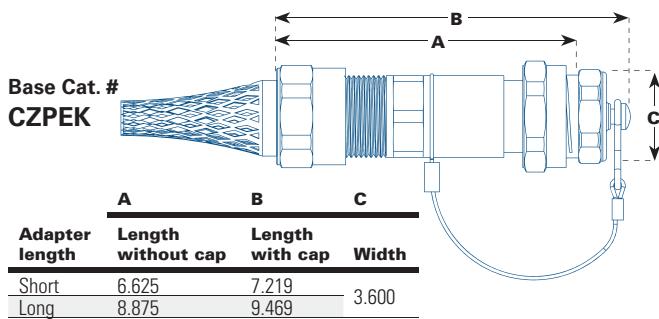
### Cable mounted receptacle with basketweave



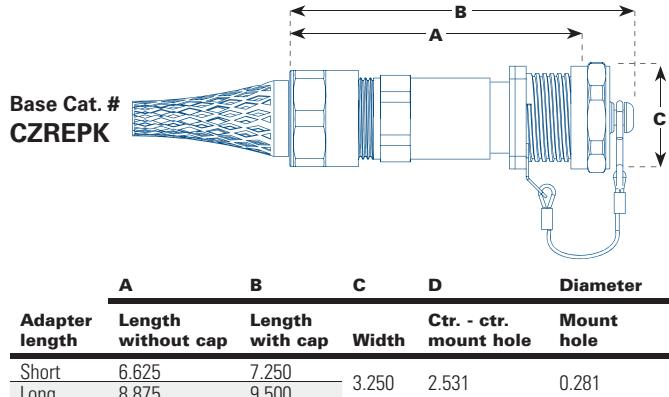
### Cable mounted square flange receptacle with mechanical clamp



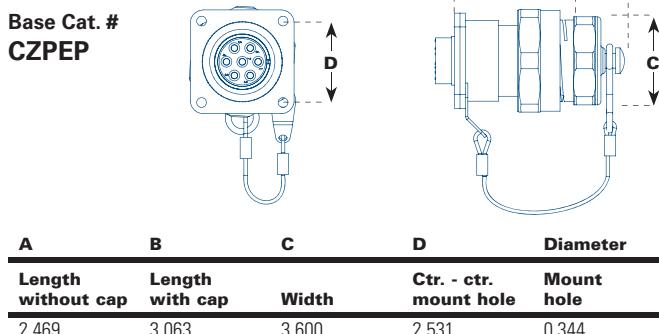
### Cable mounted plug with basketweave



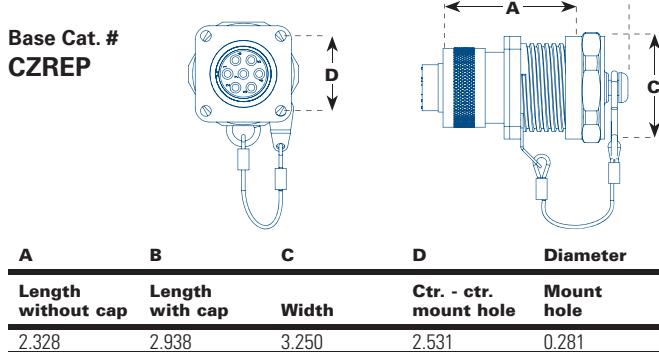
### Cable mounted square flange receptacle with basketweave



### Panel mounted plug



### Panel mounted receptacle



# CZ multi-pin connectors

24 shell

## Ordering information:

Part number example

**CZ-PEKL-1624-371PN**

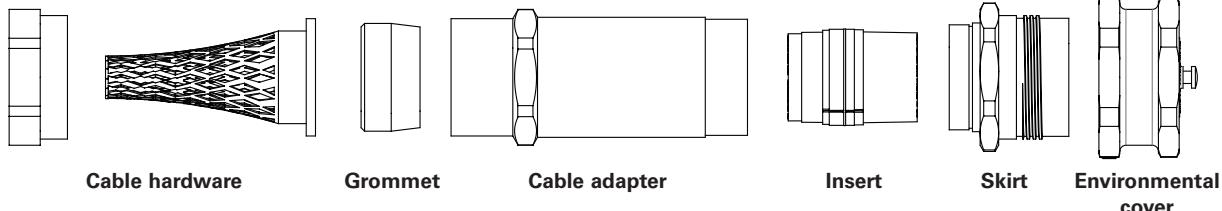
<b>CZ</b>	<b>P</b>	<b>E</b>	<b>K</b>	<b>L</b>	<b>16</b>
<b>Series</b>		<b>Environmental cover</b>			<b>Grommet code</b>
CZ		E Environmental cover			BLANK Panel mount
Non-hazardous rated connector		L No cover			See table below In-line cable mount
<b>Base call-out</b>					
P Plug					
R Receptacle					
		<b>Cable hardware</b>		<b>Adapter length</b>	<b>Grommet</b>
		K In-line cable mount with basketweave clamp		L Long	<b>Cable diameter</b>
		M In-line cable mount with mechanical clamp		BLANK Standard or panel mount	in. mm.
		D In-line cable mount with gland nut			16 0.875 - 1.000 22.2 - 25.4
		P Panel mount			18 1.000 - 1.125 25.4 - 28.6
					20 1.125 - 1.250 28.6 - 31.8
					22 1.250 - 1.375 31.8 - 34.9
					24 1.375 - 1.500 34.9 - 38.1
					26 1.500 - 1.625 38.1 - 41.2
					28 1.625 - 1.750 41.2 - 44.4
					30 1.750 - 1.875 44.4 - 47.6

## Contact amperage ratings:

Contact size	Non-circuit breaking current rating <sup>1)</sup>
16 AWG	18
12 AWG	30
4/0 AWG	225

## NEC service voltage ratings:

Service voltage	Non-circuit breaking	Circuit breaking
	DC volts RMS	AC volts RMS
A	250	240
D	600	600
E	600	600
B	600	600



1) Cable current rating must meet or exceed the ratings of the contacts to utilize connector at fully rated current.

# CZ multi-pin connectors

24 shell

**24**

**Shell size**

24	Connector shell size
C24	C length shell size

**Insert configuration**

See all configurations below

**371**

**P**

**N**



**Contact gender**

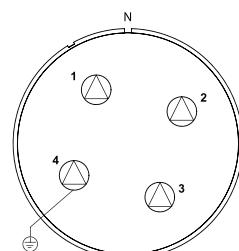
P	Male pin
S	Female socket

**Contact connection type**

N	Crimp
R	Pressure

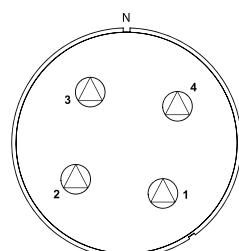
**Key position**

BLANK 0 degrees



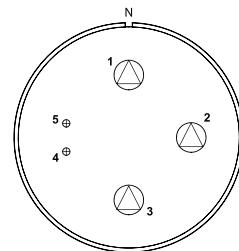
**26**

No. contacts	4
AWG	4/0
Service voltage rating	D



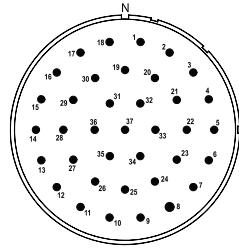
**38**

No. contacts	4
AWG	4/0
Service voltage rating	D



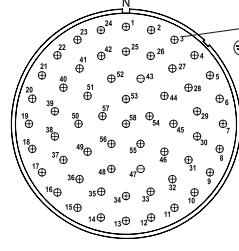
**48<sup>1)</sup>**

No. contacts	2	3
AWG	12	4/0
Service voltage rating	A	D



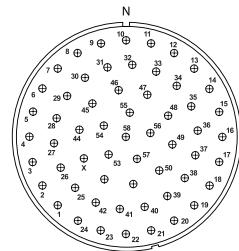
**371**

No. contacts	37
AWG	16
Service voltage rating	D



**352**

No. contacts	58
AWG	12
Service voltage rating	A



**384**

No. contacts	58
AWG	12
Service voltage rating	A

Contact symbol	○	●	⊕	○	◎	●○	○○	△○	○□	○○○	○○○○	
AWG	18	16	12	10	8	4	1/0	4/0	313 MCM	444 MCM	535 MCM	777 MCM

1) Made to order item. Contact factory for availability and lead time.

# CZ multi-pin connectors

28 shell

## Applications:

- Heavy duty control and instrumentation

## Features:

- Intermateable with other brands
- Reversible inserts are compatible and female shells
- Exclusive visual mating alignment allows for easy installation
- Easily accessible wire terminals
- Ample wiring space within shells
- Double lead thread coupling
- Reversible 8-point diamond cord grip relieves strain on conductors (patent pending)
- Suited for use with Type P cable
- Impact-resistant



## Certifications and compliances:

- UL recognized: UL1977
- CSA: C22.2 No. 182.3
- CE marked

## Environmental ratings:

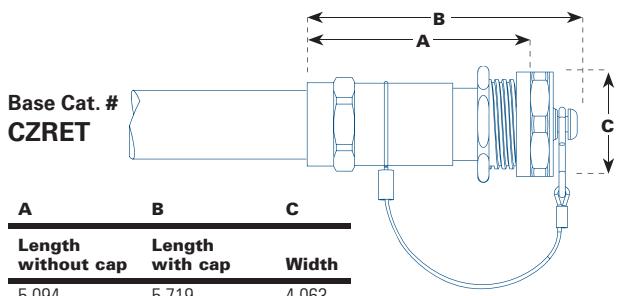
- NEMA 4X, 6P; IP68
- Ambient temperature: -60°C to +55°C

## Standard materials and finishes:

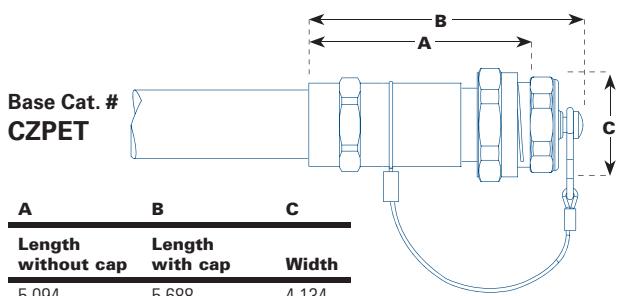
- Contacts – silver plated copper, crimp style
- Shells – high tensile strength aluminum; hard anodic coating per MIL-A-8625, Type III, olive drab color
- Rigid insulators – thermoplastic
- Resilient inserts – silicone rubber

## Dimensions (in inches):

### Receptacle with conduit adapter

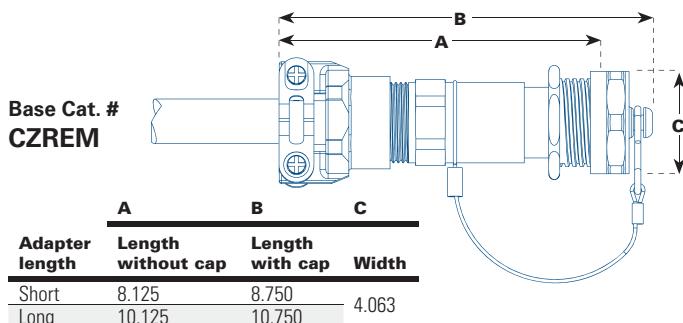


### Plug with conduit adapter

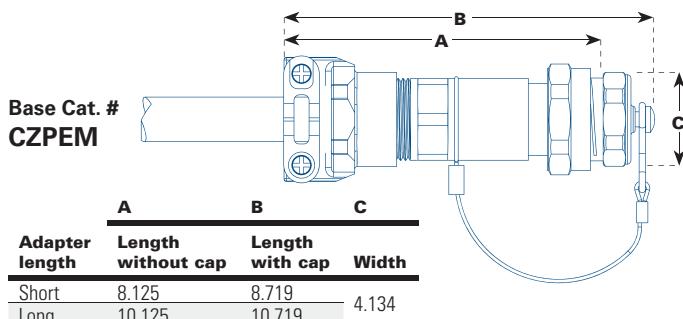


## Dimensions (in inches) (continued):

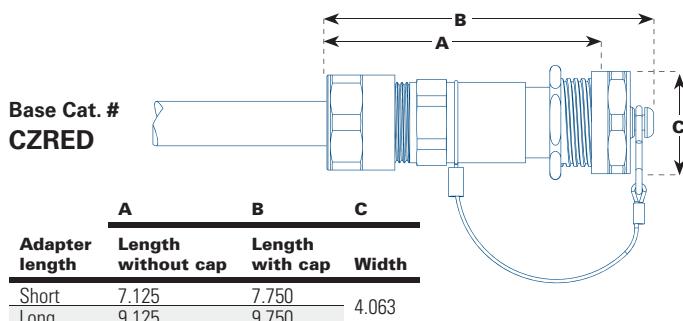
### Cable mounted receptacle with mechanical clamp



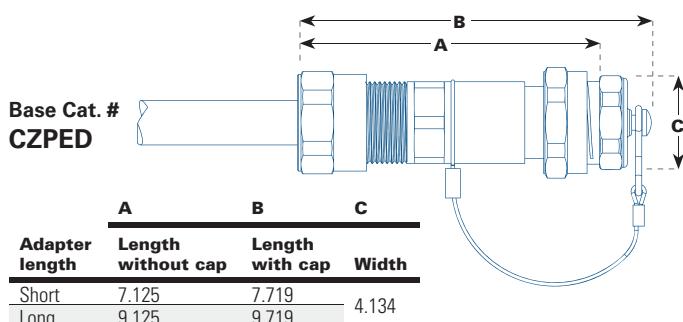
### Cable mounted plug with mechanical clamp



### Cable mounted receptacle with gland nut



### Cable mounted plug with gland nut

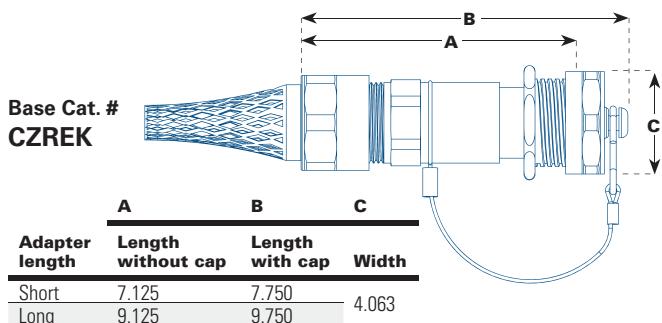


# CZ multi-pin connectors

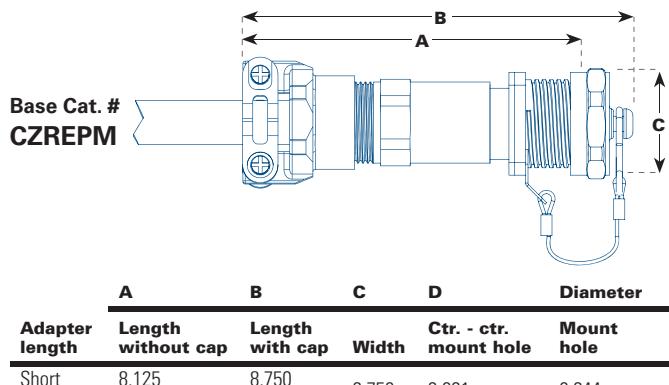
28 shell

## Dimensions (in inches) (continued):

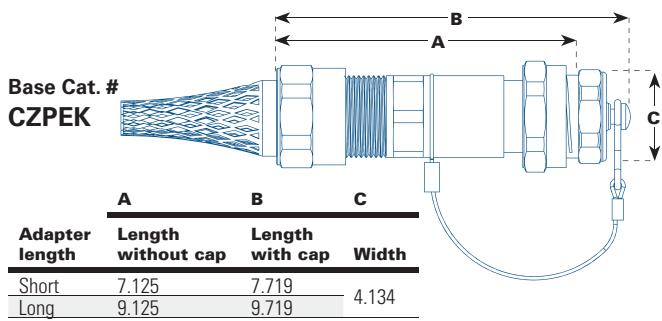
### Cable mounted receptacle with basketweave



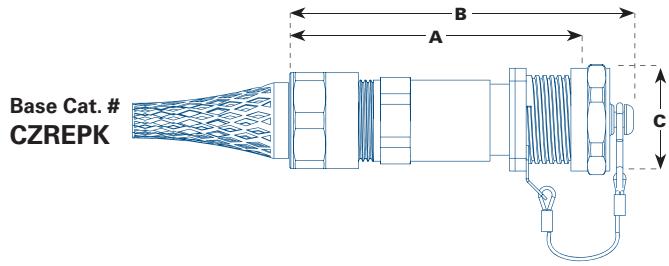
### Cable mounted square flange receptacle with mechanical clamp



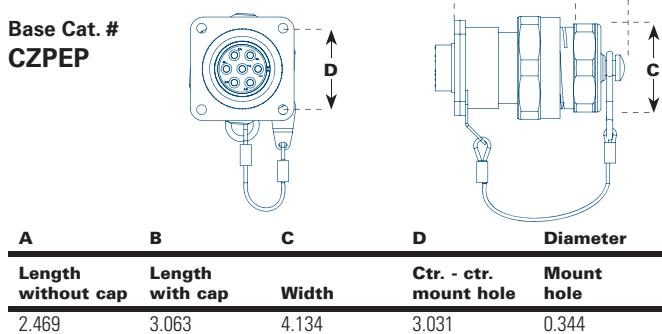
### Cable mounted plug with basketweave



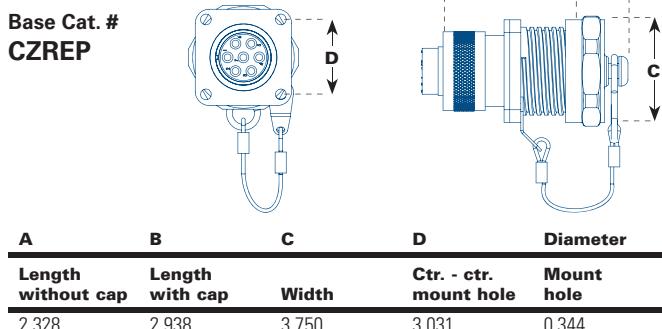
### Cable mounted square flange receptacle with basketweave



### Panel mounted plug



### Panel mounted receptacle



# CZ multi-pin connectors

28 shell

## Ordering information:

Part number example

CZ-PEKL-2428-339PN

<b>CZ</b>	<b>P</b>	<b>E</b>	<b>K</b>	<b>L</b>	<b>24</b>
<b>Series</b>		<b>Environmental cover</b>			
CZ		E			
Non-hazardous rated connector		Environmental cover			
<b>Base call-out</b>		<b>L</b>			
P		No cover			
R					
Plug					
Receptacle					
		<b>Cable hardware</b>		<b>Adapter length</b>	
		K		L	
		In-line cable mount with basketweave clamp		Long	
		M		Standard or panel mount	
		In-line cable mount with mechanical clamp			
		D			
		In-line cable mount with gland nut			
		P			
		Panel mount			
				<b>Grommet</b>	
				<b>Cable diameter</b>	
				in.	mm.
				24	1.375 - 1.500
				26	1.500 - 1.625
				28	1.625 - 1.750
				30	1.750 - 1.875
				32	1.875 - 2.000
				34	2.000 - 2.125
				36	2.125 - 2.250
				38	2.250 - 2.375
				40	2.375 - 2.500
				42	2.500 - 2.625
				44	2.625 - 2.750
				46	2.750 - 2.875
					34.9 - 38.1
					38.1 - 41.3
					41.3 - 44.5
					44.5 - 47.6
					47.6 - 50.8
					50.8 - 54.0
					54.0 - 57.2
					57.2 - 60.3
					60.3 - 63.5
					63.5 - 66.7
					66.7 - 69.9
					69.9 - 73.0

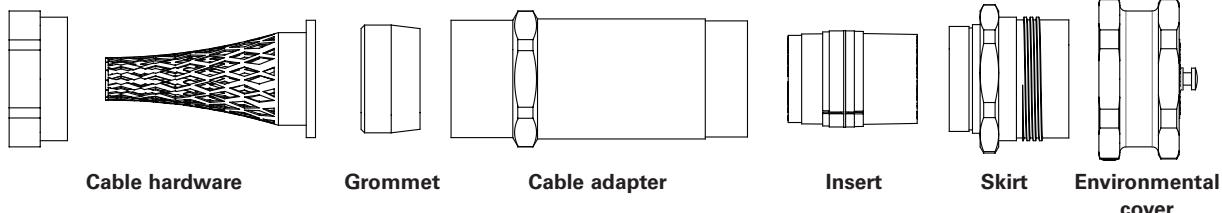
## Contact amperage ratings:

Contact size	Non-circuit breaking current rating <sup>1)</sup>
12 AWG	30
10 AWG	40
8 AWG	55
4/0 AWG	225

## NEC service voltage ratings:

Service voltage	Non-circuit breaking	Circuit breaking
	DC volts RMS	AC volts RMS
A	250	240
D	600	600
E	600	600
B	600	600

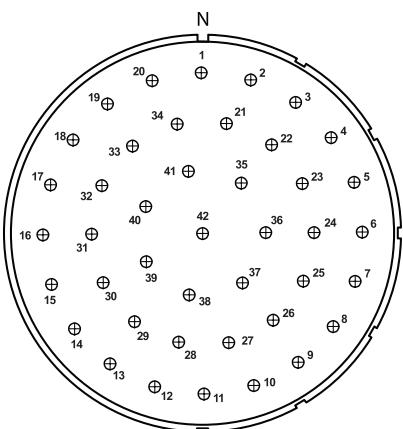
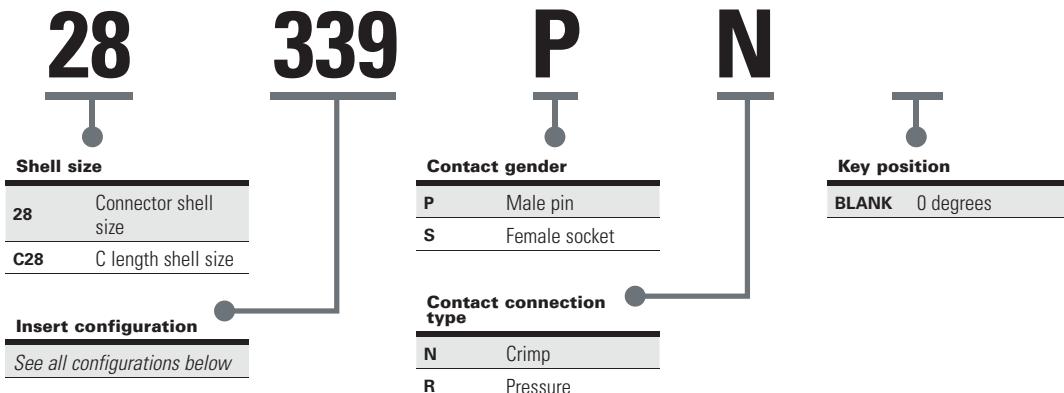
4



1) Cable current rating must meet or exceed the ratings of the contacts to utilize connector at fully rated current.

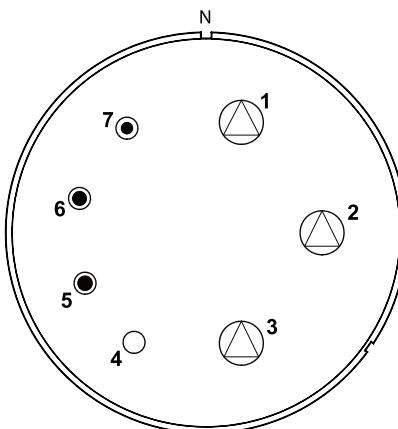
# CZ multi-pin connectors

28 shell



**339**

No. contacts	42
AWG	12
Service voltage rating	D



**H44**  
**(VFD insert)**

No. contacts	3	3	1
AWG	4/0	8	10
Service voltage rating	D		

Contact symbol	○	●	⊕	○	○	●	○	○	○	○	○	○
AWG	18	16	12	10	8	4	1/0	4/0	313 MCM	444 MCM	535 MCM	777 MCM

# CRIG single-pole connectors

C24 shell

## Applications:

- Heavy duty single-pole power

## Features:

- Intermateable with other brands
- Exclusive visual mating alignment allows for easy installation
- Easily accessible wire terminals
- Ample wiring space within shells
- Multi-lam contacts standard on single-pole connectors:
  - Reduced insertion and removal forces
  - Improved resistance/heat rise performance
- Double lead thread coupling
- Reversible 8-point diamond cord grip relieves strain on conductors (patent pending)
- Suited for use with Type P cable
- Impact-resistant
- Colored shells available for phase marking identification

## Certifications and compliances:

- UL recognized: UL486A-486B
- CSA: C22.2 No. 65-13
- CE marked

## Environmental ratings:

- NEMA 4X, 6P; IP68
- Ambient temperature: -60°C to +55°C

## Standard materials and finishes:

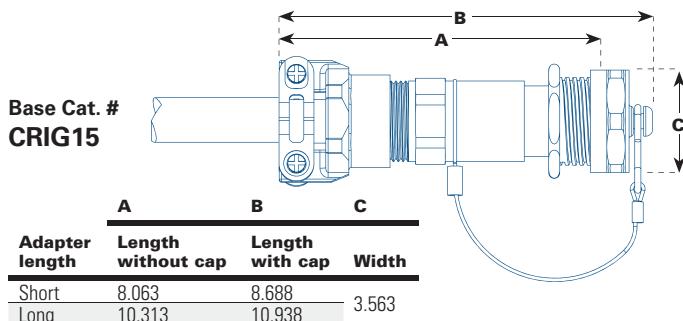
- Contacts – silver plated copper, multi-lam style
- Shells – high tensile strength aluminum; hard anodic coating per MIL-A-8625, Type III, olive drab color
- Rigid insulators – thermoplastic



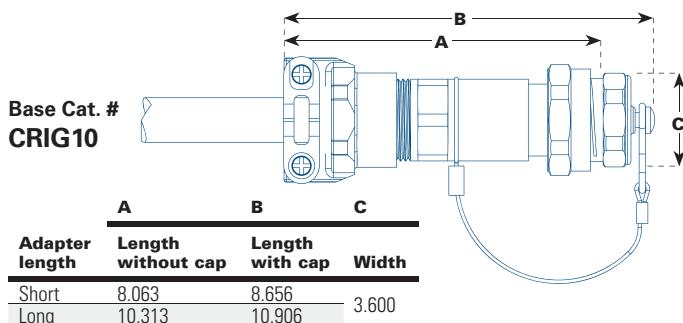
4

## Dimensions (in inches):

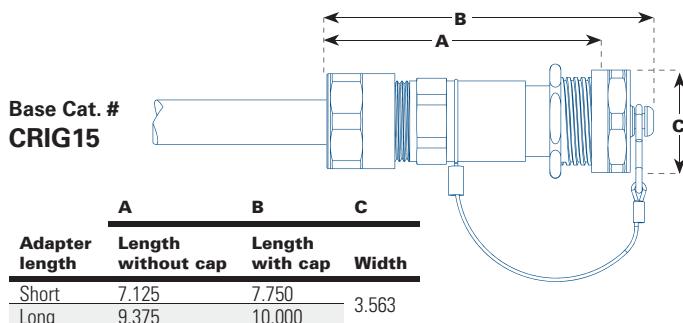
### Cable mounted receptacle with mechanical clamp



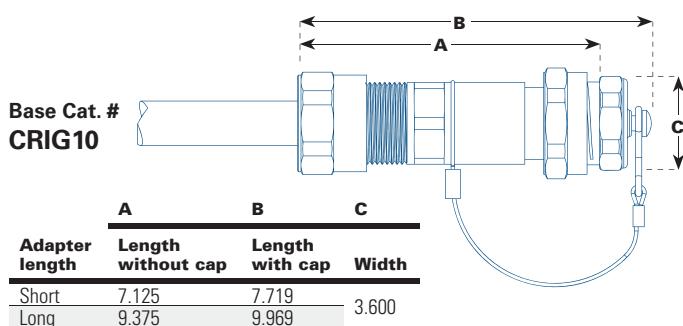
### Cable mounted plug with mechanical clamp



### Cable mounted receptacle with gland nut



### Cable mounted plug with gland nut

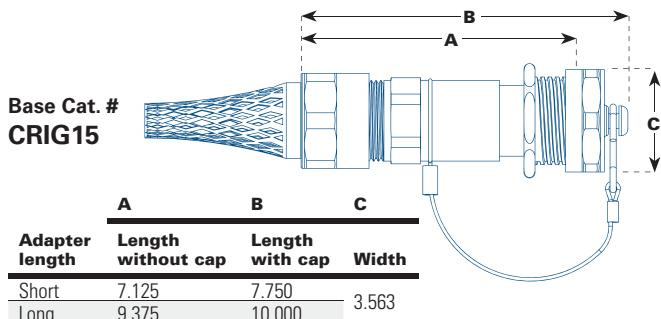


# CRIG single-pole connectors

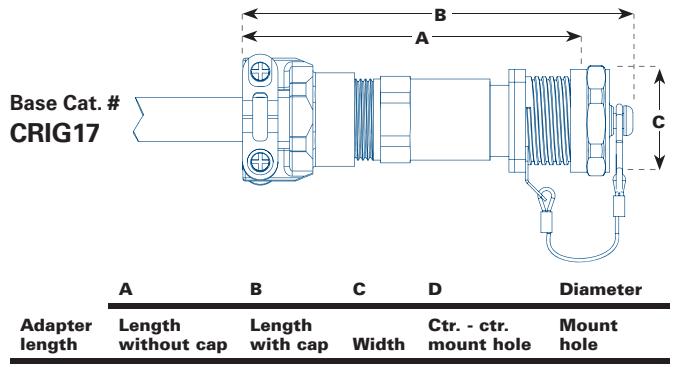
C24 shell

## Dimensions (in inches) (continued):

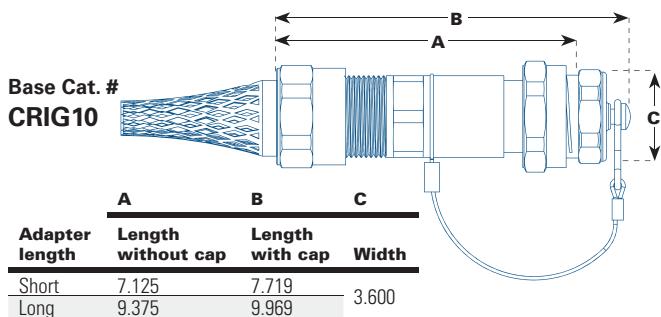
### Cable mounted receptacle with basketweave



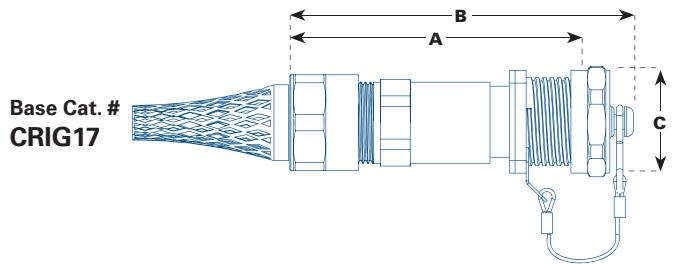
### Cable mounted square flange receptacle with mechanical clamp



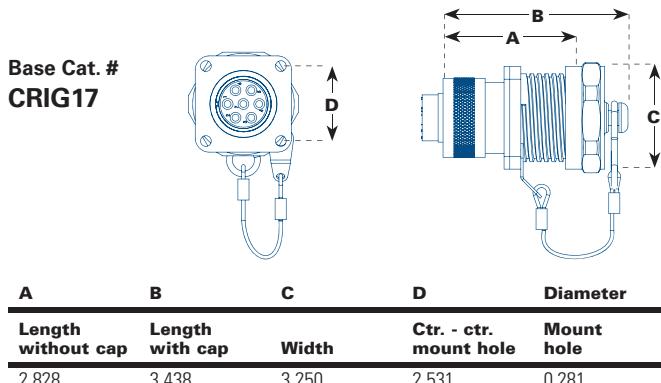
### Cable mounted plug with basketweave



### Cable mounted square flange receptacle with basketweave



### Panel mounted receptacle



Adapter length	A Length without cap	B Length with cap	C Width	D Ctr. - ctr. mount hole	Diameter Mount hole
Short	7.125	7.750	3.250	2.531	0.281
Long	9.375	10.000			

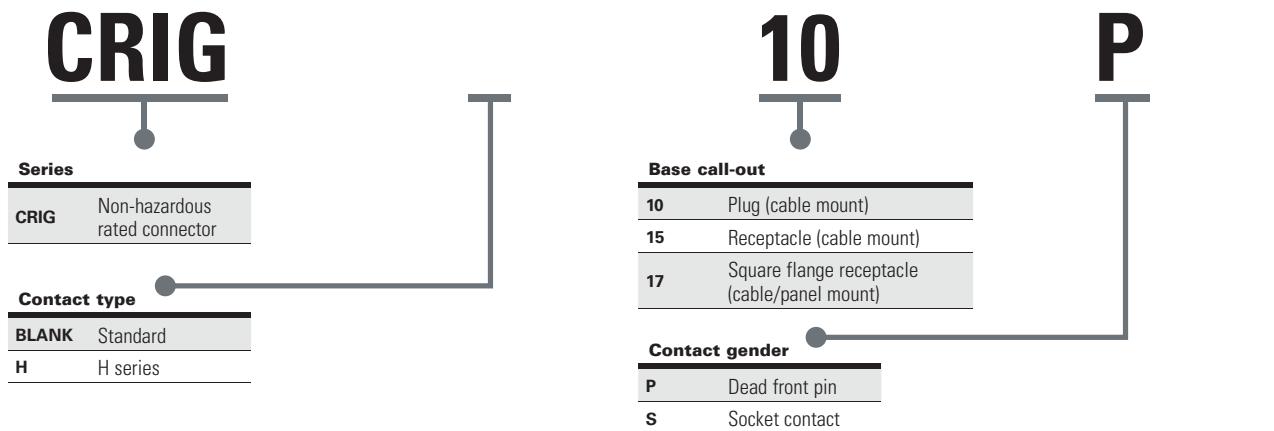
# CRIG single-pole connectors

C24 shell

## Ordering information:

Part number example

CRIG10P724MBL

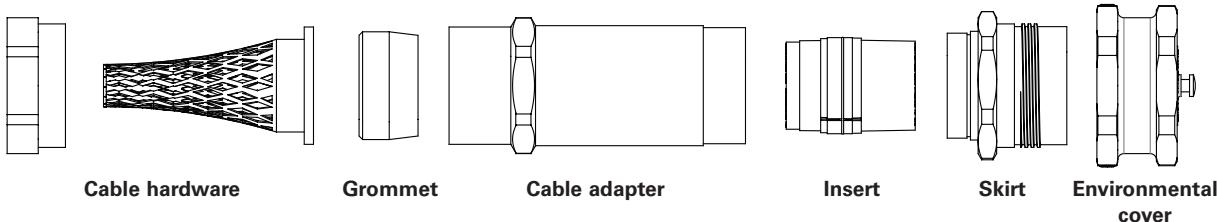


## Contact amperage ratings:

Contact size	Non-circuit breaking current rating <sup>1)</sup>
313 MCM	636
444 MCM	796
535 MCM	898
777 MCM	1135

## NEC service voltage ratings:

Service voltage	Non-circuit breaking	Circuit breaking
	DC volts RMS	AC volts RMS
A	250	240
D	600	600
E	600	600
B	600	600



1) Cable current rating must meet or exceed the ratings of the contacts to utilize connector at fully rated current.

# CRIG single-pole connectors

C24 shell

**7**

Cable size / entry	
<b>2</b>	313 kcmil cable
<b>4</b>	444 kcmil cable
<b>5</b>	535 kcmil cable
<b>7</b>	646-777 kcmil cable
<b>R</b>	Panel mount – bus bar entry (connector style 17 only)
<b>N</b>	Panel mount – direct cable entry
<i>See all configurations below</i>	

Grommet

Cable diameter	
in.	mm.
<b>BLANK</b>	<i>If 'R' or 'N' are chosen in Cable Size/Entry category above</i>
<b>16</b>	0.875 - 1.000    22.2 - 25.4
<b>18</b>	1.000 - 1.125    25.4 - 28.6
<b>20</b>	1.125 - 1.250    28.6 - 31.8
<b>22</b>	1.250 - 1.375    31.8 - 34.9
<b>24</b>	1.375 - 1.500    34.9 - 38.1
<b>26</b>	1.500 - 1.625    38.1 - 41.2
<b>28</b>	1.625 - 1.750    41.2 - 44.4
<b>30</b>	1.750 - 1.875    44.4 - 47.6

**24**

**M**

**BL**

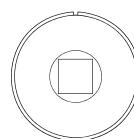


Cable hardware

<b>BLANK</b>	<i>If 'R' or 'N' are chosen in Cable Size/Entry category on left</i>
<b>K</b>	Basketweave clamp
<b>M</b>	Mechanical clamp
<b>D</b>	Gland nut

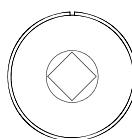
Special color code

<b>BLANK</b>	No special color
<b>BL</b>	Blue
<b>OR</b>	Orange
<b>Y</b>	Yellow
<b>BR</b>	Brown
<b>R</b>	Red
<b>W</b>	White
<b>BK</b>	Black
<b>G</b>	Green



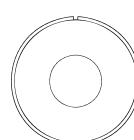
**313**

No. contacts	1
AWG	313 MCM
Service voltage rating	1000V
Current rating	636A



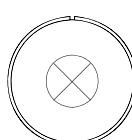
**444**

No. contacts	1
AWG	444 MCM
Service voltage rating	1000V
Current rating	796A



**535**

No. contacts	1
AWG	535 MCM
Service voltage rating	1000V
Current rating	898A



**386**

No. contacts	1
AWG	777 MCM
Service voltage rating	1000V
Current rating	1135A

Contact symbol	○	●	⊕	○	○	●	⊕	○	○	○	○	○	○
AWG	18	16	12	10	8	4	1/0	4/0	313 MCM	444 MCM	535 MCM	777 MCM	

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info-ex@eaton.com

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FAX: 91-124-4683899  
cchindia@eaton.com

**Korea**

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82-2-6380-4070  
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**Mexico/Latin America/Caribbean**

52-555-804-4000  
FAX: 52-555-804-4020  
ventascentromex@eaton.com

**Middle East**

971 4 8066100  
FAX: 971 4 8894813  
chmesales@eaton.com

**Singapore**

65-6645-9888  
FAX: 65-6297-4819  
chsi-sales@eaton.com

**Eaton**  
1000 Eaton Boulevard  
Cleveland, OH 44122  
United States  
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