



Weidmüller 

Wireless Transmitters and Receivers

Section G

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Nokeval Wireless Transmitter/Receiver Overview

Wireless measuring systems

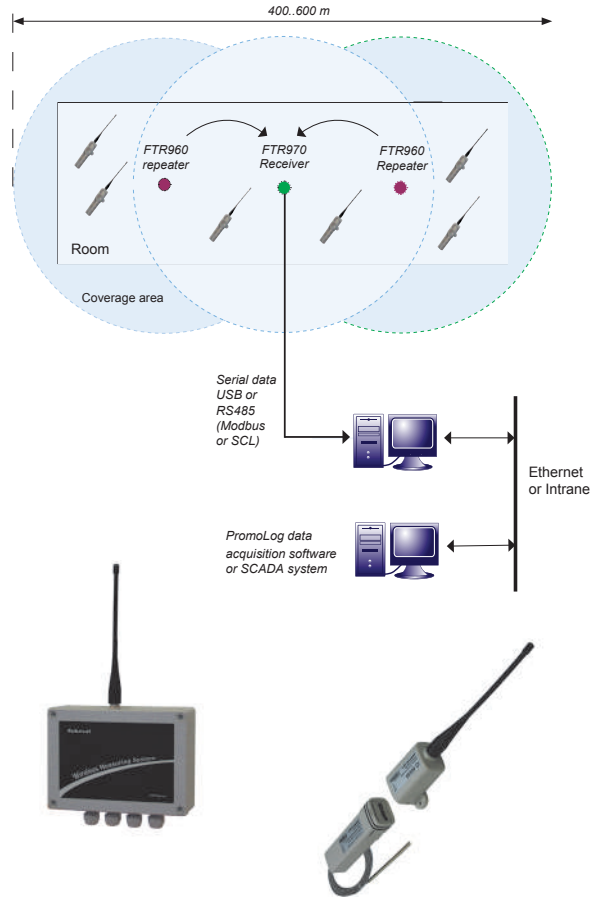
Wireless transmitters are a low cost solution for data acquisition from almost any type of process. One receiver can handle over 200 transmitters with one minute transmission interval. By using two repeaters and one receiver, it is possible to cover areas of up to 200 x 400 m in size.

Quality control is easier than ever using wireless transmitters

Wireless transmitters are an important part of any modern quality control system that assure correctly working processes. If the process fails, just pick up wireless transmitters from your stock and place them in the suspicious areas to discover the failure points.

Nokeval Wireless Transmitters/Receivers and Repeaters

Nokeval manufacture a range of Wireless temperature transmitters for portable and fixed monitoring applications. They can be battery powered (lasting up to 3 years) or externally powered and provide a transmission distance from 50m up to 500m line of sight or more if you use repeaters. A receiver gathers the data and provides a serial output with SCL or Modbus protocols to analogue I/O units, Promolog monitoring and recording software or other devices. Repeaters can be installed to re-transmit signals for a further 200m each time. The system uses low power transmission in the 433.92MHz range and has the capacity to transmit through and bounce off obstacles in its path providing reception in normally bad signal areas such as cool rooms. The Wireless sensors will provide useful for monitoring rotating machinery, independent monitoring of food storage conditions with recording and monitoring capabilities available.

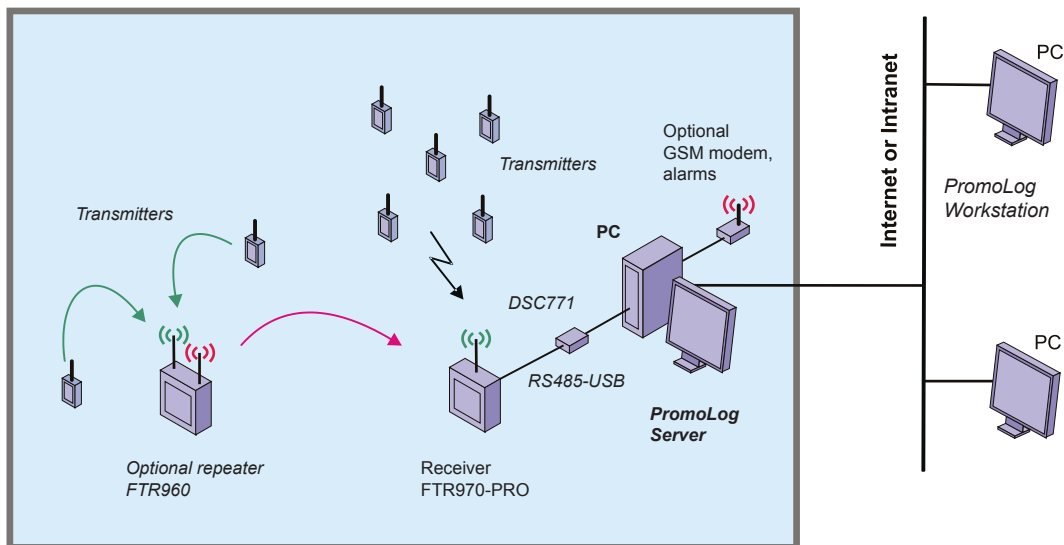


Applications

Use the Nokeval wireless transmitters for:

- Temperature and mA/V measurements
- Testing and monitoring in field conditions
- Cold transportation monitoring
- Cold storage room monitoring
- Moving and rotating targets
- Equipment testing and maintenance

Typical installation with one receiver, several transmitters and an optional repeater.



IP67 Wireless Temperature (Pt100) Transmitters



FT10-433 Wireless Temperature Transmitter Series

This completely new and innovative wireless temperature transmitter series is perfectly suited for even the most challenging temperature self-surveillance targets. It consists of two parts - the radio transmitter and the measuring module. They are certified to EN13485 standard, so they can be used to monitor the temperatures of foodstuffs storage facilities.

The measuring module FT10 is easily and quickly user-replaceable with a recalibrated measuring module to enable easy, economical and non-interrupting recalibration of the whole temperature surveillance system. The radio transmitter FT10-RT433 is equipped with an efficient 433.92 MHz radio transmitter and with a detachable quarter-wave whip antenna. This enables transmissions out of closed steel cabinets and other difficult targets. Battery life is several years.

The measuring module is available in several IP67 (watertight) versions with internal or external Pt100 sensors (fitted with cabled gland or M12 connector) and also with internal humidity and temperature sensors (with IP40 rating). Temperature sensors are sold separately.

Features

- Single channel
- Operating temperature range -30°C to 60°C
- Available with internal or external (cable gland or M12 connection) Pt100 sensor.
- IP67 rated housing
- Certified to EN13485 standard for foodstuff storage measurements
- Model with additional Humidity sensor
- Plug and play measuring modules for easy calibration
- Frequency 433.92 MHz
- Battery powered (battery life typically > 3 years)

Applications

Use the FT10-433 IP67 wireless transmitters for:

- Temperature monitoring in field conditions
- Cold transportation monitoring
- Cold storage room monitoring
- Moving and rotating targets

Ordering Data

| Type | Description | Order No. |
|----------------|---|------------|
| FT10-RT433-IS | Pt100 with Internal sensor | 7940086232 |
| FT10-RT433-ES | External 4-wire Pt100 sensor with cable gland entry (Sensors sold separately) | 7940049655 |
| FT10-RT433-CS | External 4-wire Pt100 sensor with M12 connection (Sensors sold separately) | 7940086233 |
| FT10-RT433-RHT | Internal Pt100 and humidity sensor with replacement filter | 7940049654 |

IP65 Universal Input Wireless Transmitters



FTR262 Universal Input Transmitters

FTR262 is a wireless transmitter that has universal input and can be powered using batteries or 24 Vdc power supply. It is housed in a field enclosure (IP65) and equipped with detachable screw post connectors for inputs and power supply. The wireless concept allows easy implementation, installation and expansion of a measuring system even in difficult locations and installation sites.

Features

- Single channel
- Pt100, Ni, Cu, universal thermocouple (mV cold junction temperature), Ω , millivolts, milliamperes and volts up to 100Vdc
- IP65 rated housing
- Programmable for transmission intervals from 5 seconds to 5 minutes
- Frequency 433.92 MHz
- 9 to 24Vdc power supply or battery power (battery life typically > 3 years)

Ordering Data

| Type | Description | Order No. |
|--------|--|------------|
| FTR262 | Universal Input, Single Channel, IP65 Wireless Transmitter | 7940086238 |

IP66 Wireless Universal Temperature Transmitter



MTR265B Wireless Temperature Transmitter Series

MTR265B is battery powered wireless transmitter. It is designed for temperature sensors and has Pt100, TC and mV inputs. Transmitter is housed in an IP65 rated field enclosure and is equipped with a standard M12 connector for sensor attachment.

The transmitters have a long range whip antenna for a radio coverage area of up to 500 meters in free space. The wireless concept allows easy implementation, installation and expansion of a measuring system even in difficult locations.

Features

- Single channel
- RTD; Thermocouple or mV inputs
- Programmable transmission interval from 5 seconds to 5 minutes.
- Range up to 500m in open space (outside)/ Inside 50...100 m typical
- IP66 rated housing
- Frequency 433.92 MHz
- Battery powered (battery life typically > 1.5 years with 1min transmit interval)

Applications

Use the MTR265B IP66 wireless transmitters for:

- Long range temperature monitoring in field conditions
- Moving and rotating targets

Ordering Data

| Type | Description | Order No. |
|---------|--|------------|
| MTR265B | Single Channel, IP66, Universal Wireless Temperature Transmitter | 7940086237 |

IP66 Universal Wireless Receiver/Repeater (replaces FTR960)



FT20-RTC433-Receiver/Repeater

FT20-RTC433 is a radio data receiver and repeater for Nokeval wireless transmitters. Ordering type FT20-RTC433-RECEIVER means the device will be pre-set as receiver only; and type FT20-RTC433-REPEATER means the device will pre-set as repeater and supplied with a power supply.

FT20 receives and buffers the data packets that wireless transmitters have sent. It can also relay the data packets so that large areas can be covered using only one receiver. It automatically recognizes the types of the transmitters, so different kinds of transmitters can be used simultaneously. Transmitters can also have different transmission intervals. FT20 uses license-free 433.92 MHz frequency band (ISM).

FT20 is housed in a watertight (IP 66) and impact resistant plastic enclosure. The joint between the two modules is sealed with two rubber O-rings. The receiver is connected to a computer using RS-485 bus and it requires a data acquisition application to read the data from the device.

Nokeval SCL or Modbus RTU protocol is used for data transmission between the receiver and the computer. Multiple receivers can be connected in parallel to an RS-485 bus to increase the coverage area. FT20 has one diagnostic LED.

Features

- Can be configured as a Wireless Receiver or Wireless Repeater
- Suits all Nokeval Wireless Transmitter types
- IP66 rated housing
- Frequency 433.92 MHz
- 8-30Vdc power supply

Ordering Data

| Type | Description | Order No. |
|---------------------|--|------------|
| FT20-RT433-RECEIVER | Pre-set as receiver only (8-30Vdc powered) | 7940049659 |
| FT20-RT433-REPEATER | Pre-set as repeater only (8-30Vdc powered) | 7940049658 |

Applications

Use the FT20-RTC433 wireless receiver/repeaters for:

- Extending the range of receiver
- Converting the measurements to Modbus RTU (RS485) for connection to a PLC

IP65 Wireless Receiver



Applications

Use the FTR970 wireless receiver for:

- Long range temperature monitoring in field conditions
- Moving and rotating targets

FTR970 Wireless Receiver with data logging

FTR970B-PRO is radio data receiver with data logging used with Nokeval MTR and FTR series radio transmitters. Device can receive, unpack and buffer data packets into its memory from transmitters. It identifies automatically type of a transmitter, so it can be used simultaneously with different transmitters and with different transmit periods.

Receiver can be connected to a computer using RS-485, RS-232 or USB and is compatible with PromoLog software, and any software supporting Modbus RTU or Nokeval SCL.

When RS-485 is used there can be several FTR970B-PRO devices on the bus and they can be positioned to cover larger receive area. The receiver has four diagnostics LEDs.

Features

- 150 000 sample memory
- Suits all Nokeval Wireless Transmitter types
- Operating voltage 8 to 30 Vdc
- IP65 Field mount enclosure
- Up to 1000 channels
- Frequency 433.92 MHz

Ordering Data

| Type | Description | Order No. |
|------------|---|------------|
| FTR970-PRO | Field Mount IP65 Receiver with data logging | 7940086227 |

DIN rail mount Wireless Receiver



Applications

Use the RTR970 wireless receiver for:

- Long range temperature monitoring in field conditions
- Moving and rotating targets

RTR970 and RTR970-PRO Wireless Receivers

RTR970B Series Receivers can be installed on 35 mm DIN-rail or used as a tabletop device. They can also be installed for example on ceiling or cable rail. The receivers can be connected to computer using USB, RS-485 or RS-232 buses. Multiple receivers can be connected in parallel to an RS-485 bus to increase the coverage area. The PRO receiver includes data logging facilities and like the base model can be either used with PromoLog software or accessed from any software supporting Modbus RTU or Nokeval SCL. The base model supports Nokeval SCL protocol only.

Device can receive, unpack and buffer data packets into its memory from transmitters. It identifies automatically type of a transmitter, so it can be used simultaneously with different transmitters and with different transmit periods.

Features

- Up to 1000 channels
- PRO version includes 150 000 sample memory and Modbus RTU interface
- Suits all Nokeval Wireless Transmitter types
- DIN rail mount housing
- Frequency 433.92 MHz

Ordering Data

| Type | Description | Order No. |
|-------------|---|------------|
| RTR970B | Base model DIN rail mount receiver | 7940086228 |
| RTR970B-PRO | DIN rail mount receiver with datalogging and Modbus RTU interface | 7940086229 |