## Features

- 2-channel
- Installation in Zone 1
- WirelessHART converter
- Battery operated
- TC or RTD input
- Output WirelessHART wireless interface
- Internal antenna

## Function

The device is designed to connect RTDs or thermocouples from the hazardous area and provide the according temperature values into a WirelessHART network.

It has an internal cold junction compensation for thermocouples.

A fault is indicated by a red flashing LED per NAMUR NE44.

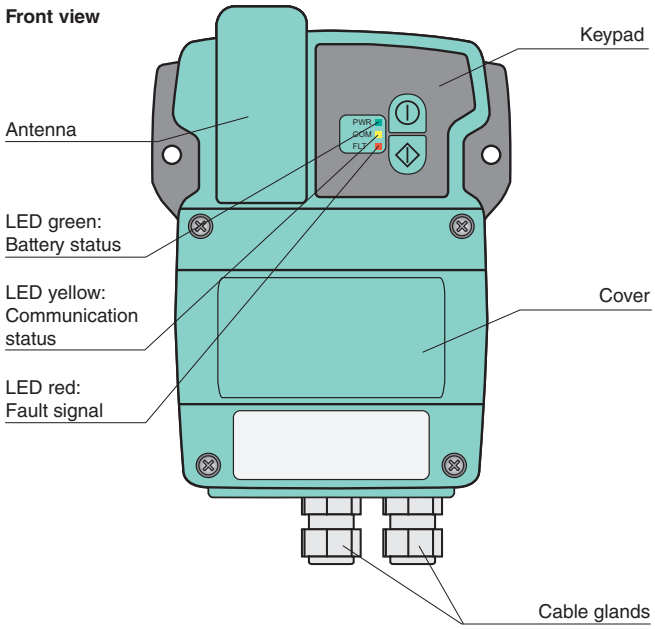
The unit is easily configurable with a configuration tool (DTM).

For additional information, refer to the manual and www.pepperl-fuchs.com.

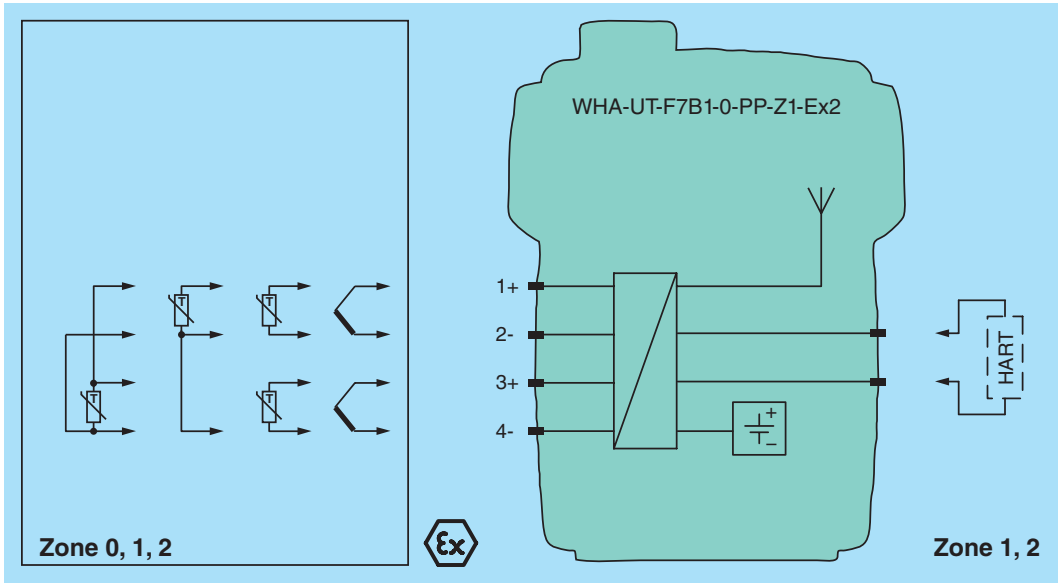
## Application

The batteries are not included with delivery. Please order separately.

## Assembly




## Connection

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|---|---|
| **Supply** | |
| Rated voltage | 3.6 V DC , battery operated |
| Power loss/power consumption | < 0.09 W |
| **Input** | |
| Connection | terminals 1, 2, 3, 4 |
| RTD | type Pt100, Pt1000 (IEC 751: 1995; GOST: alpha = 0.391) |
| Connection | 2-wire: 2 sensors, 3- or 4-wire: 1 sensor |
| Lead resistance | ≤ 10 Ω |
| Measuring circuit monitoring | sensor burnout |
| Thermocouples | type E, J, K, T (IEC 584-1) |
| Cold junction compensation | internal , external |
| Measuring circuit monitoring | sensor burnout |
| Measurement range | type K: -270 ... 1370 °C<br>type T: -270 ... 400 °C<br>type E: -270 ... 1000 °C<br>type J: -210 ... 1200 °C |
| Resistor | |
| Measurement range | 0 ... 500 Ω , 0 ... 4000 Ω |
| Voltage | mV Input |
| Measurement range | -100 ... 100 mV , 0 ... 300 mV |
| Input resistance | ≥ 1 MΩ |
| **Output** | |
| Interface | internal antenna |
| Output variables | PV: input 1 (°C, Ω, mV)<br>SV: input 2 (°C, Ω, mV)<br>TV: CJC temperature (°C)<br>estimated battery life (days)<br>battery voltage (volts)<br>residual battery capacity (%) |
| Communication | WirelessHART specifications<br>- physical layer: IEEE 802.15.4.2006<br>- frequency band: 2.4 GHz (ISM band, licence free)<br>- transmission rate: 250 kBit/s<br>- max. transmit power: +10 dBm (EIRP)<br>- transmission range: outdoor 250 m, indoor 50 m (under reference conditions)<br>- communication standard: WirelessHART |
| **Transfer characteristics** | |
| Temperature measuring range | sensor type:<br>- TC type E: -200 ... 1000 °C, accuracy ± 0,5 °C<br>- TC type J: -200 ... 750 °C, accuracy ± 1 °C<br>- TC type T: -200 ... 400 °C, accuracy ± 1 °C<br>- TC type K: -140 ... 1300 °C, accuracy ± 1 °C<br>- RTD type Pt100: -200 ... 850 °C, accuracy ± 0,5 °C<br>- 100 mV, accuracy ± 20 µV<br>- 300 mV, accuracy ± 40 µV |
| Accuracy | - internal cold junction compensation error ± 1,5 °C (typ. acc. to IEC 61298-3)<br>- external cold junction compensation error ± 1 °C (typ.)<br>- resolution error < 0.1 °C<br>- accuracy TC ± 20 µV<br>- accuracy RTD: ± 100 mΩ |
| **Indicators/settings** | |
| Parameter assignment | - sampling period: 1, 2, 5, 10, 30 seconds or 1, 2, 5, 10, 30, 60 minutes<br>- transmit power: configurable 0 dBm or 10 dBm (EIRP)<br>- sensor type<br>- mapping of input measuring values 1 and 2 into primary variable (PV) and secondary variable (SV)<br>- publishing of up to three messages from the device, transmission rate selectable from 4 seconds to 60 minutes |
| **Directive conformity** | |
| Electromagnetic compatibility | |
| Directive 2004/108/EC | EN 61326-1:2006 |
| Radio and telecommunication terminal equipment | The usage of 2.4 GHz equipment is bound to local restrictions. Ensure that restrictions allow usage of this product before commisioning. |
| Directive 99/5/EC | ETSI EN 300328: V1.7.1 (2006-10), ETSI EN 301489-17: V1.2.1 (2002-08), EN 60950:2001 |
| FCC CFR47 Part 15 B and C | ANSI C63.4-2003 |
| **Conformity** | |
| Protection degree | IEC 60529 |
| Shock resistance | EN 60068-2-27 |
| Vibration resistance | EN 60068-2-6 |
| Accuracy | IEC 61298-3 |
| **Ambient conditions** | |

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|---|---|
| Ambient temperature | -20 ... 60 °C (-4 ... 140 °F) |
| Storage temperature | -20 ... 70 °C (-4 ... 158 °F) |
| Relative humidity | 5 ... 95 %, noncondensing |
| Corrosion resistance | acc. to ISA-S71.04-1985, severity level G3<br>test setup and execution acc. to EN 60068-2-60 |
| **Mechanical specifications** | |
| Protection degree | IP65 |
| Mass | approx. 1000 g |
| Dimensions | 77 x 129 x 177 mm (3 x 5.08 x 6.97 in) |
| Mounting | panel or pole mounting |
| **Data for application in connection with Ex-areas** | |
| EC-Type Examination Certificate | IMQ 09 ATEX 008X |
| Group, category, type of protection | Ⓔx II 2(1)G Ex ia [ia] IIC T4 |
| Directive conformity | |
| Directive 94/9/EC | EN 60079-0:2006, EN 60079-11:2007, EN 60079-26:2007 |
| **International approvals** | |
| FM approval | not yet available |
| IECEx approval | IECEx INE 09.0025X |
| Approved for | Ex ia IIC T4 |
| **General information** | |
| Supplementary information | EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com. |
| **Accessories** | |
| Designation | battery W-BAT-B1-Li (order separately)<br>Mounting set W-ACC-F7MK<br>External cold junction compensation W-ACC-CJC |

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