Features

- 2-channel
- Installation in Zone 1
- WirelessHART converter
- Battery operated
- Thermocouple 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.

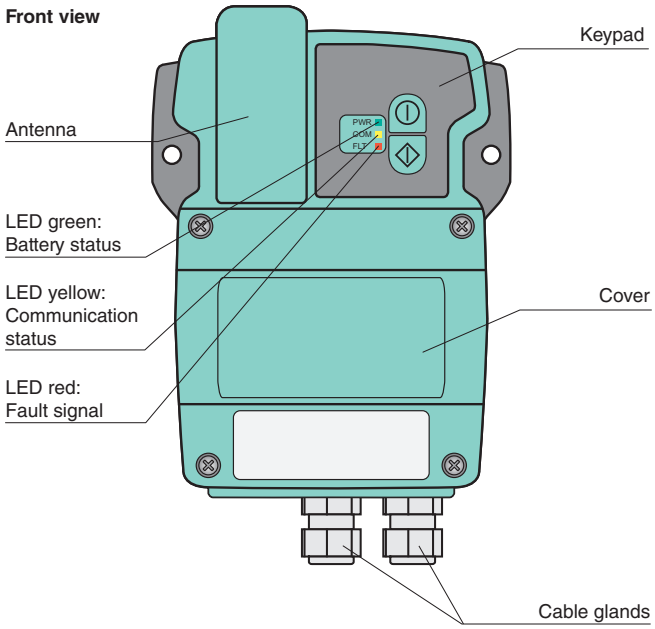
The unit is easily configurable with a configuration tool (DTM).

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

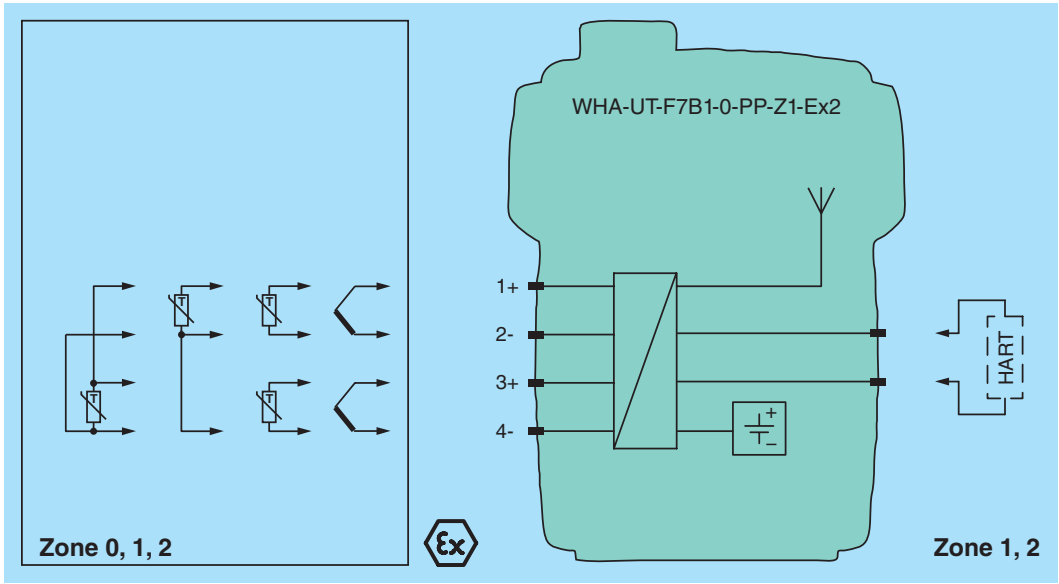
Application

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

Assembly



Connection



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Supply	
Rated voltage U_n	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 breakage
Thermocouples	type E, J, K, T (IEC 584-1)
Cold junction compensation	internal , external
Measuring circuit monitoring	sensor breakage
Measurement range	type K: -270 ... 1370 °C type T: -270 ... 400 °C type E: -270 ... 1000 °C 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) SV: input 2 (°C, Ω, mV) TV: CJC temperature (°C) estimated battery life (days) battery voltage (volts) residual battery capacity (%)
Communication	WirelessHART specifications - physical layer: IEEE 802.15.4.2006 - frequency band: 2.4 GHz (ISM band, licence free) - transmission rate: 250 kBit/s - max. transmit power: +10 dBm (EIRP) - transmission range: outdoor 250 m, indoor 50 m (under reference conditions) - communication standard: WirelessHART
Transfer characteristics	
Temperature measuring range	sensor type: - TC type E: -200 ... 1000 °C, accuracy ± 0,5 °C - TC type J: -200 ... 750 °C, accuracy ± 1 °C - TC type T: -200 ... 400 °C, accuracy ± 1 °C - TC type K: -140 ... 1300 °C, accuracy ± 1 °C - RTD type Pt100: -200 ... 850 °C, accuracy ± 0,5 °C - 100 mV, accuracy ± 20 µV - 300 mV, accuracy ± 40 µV
Accuracy	- internal cold junction compensation error ± 1,5 °C (typ. acc. to IEC 61298-3) - external cold junction compensation error ± 1 °C (typ.) - resolution error < 0.1 °C - accuracy TC ± 20 µV - accuracy RTD: ± 100 mΩ
Indicators/settings	
Parameter assignment	- sampling period: 1, 2, 5, 10, 30 seconds or 1, 2, 5, 10, 30, 60 minutes - transmit power: configurable 0 dBm or 10 dBm (EIRP) - sensor type - mapping of input measuring values 1 and 2 into primary variable (PV) and secondary variable (SV) - 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	
Degree of protection	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 test setup and execution acc. to EN 60068-2-60
Mechanical specifications	
Degree of protection	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	CoC 3042534
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 mandatory for use in connection with hazardous areas (order separately) Mounting set W-ACC-F7MK External cold junction compensation W-ACC-CJC

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