

TECHNICAL INFORMATION

TR.Ex



transducer ■ analog output ■ 0-10 V ■ 4-20 mA ■ 2 channel

Picture



Highlights

- ATEX / IECEx Approval for gases and dusts
- Installation in Zone 1, 2, 21, 22, Kategorie II2G/D
- Direct voltage supply without Ex barrier
- Easy assembly by plugging the components
- Quick, safe installation
- No variants only one basic unit
- Temperature range -40 ... +70 °C
- Galvanic isolation between supply and analogue output
- Cable length from sensor to sensor up to 100 m
- Protection class IP66
- Two analog outputs can be switched between mA and V
- Outputs can be scaled and calibrated
- Integrated display for measured value display
- On-site parameterization
- LED status display
- Low power consumption <3 W
- Highest corrosion resistance by using polymer and stainless steel

Technical Data

Power supply	20 ... 28,8 VAC/DC 50 – 60 Hz
Power consumption	3 W / 5 VA
Input signal	IY.Ex-... probe via M12 sensor connection
Output signal	0(2)-10 V, 0(4)-20 mA selectable
Electrical connection	0,08 – 2,5 mm ² without wire sleeve
ATEX/IECEx Ex e	0,25 – 1,5 mm ² with wire sleeve
Accuracy	0,2 % full scale (FS)
Burden	0,1 % / 100 Ohm (max. 500 Ohm)
Humidity	0 ... 95 %r.F. without condensation
Temperature range	-40 ... +70 °C
Storage temperature	-40 ... +70 °C
Mounting position	any, recommended vertical
Housing material	High Tech Polymer UL94 V-0, UV f1
Vergussmaterial	PUR, UL94 V-0
Front plate, screws	Stainless steel
Corrosion resistance	Küsten- und Offshorebereiche
IP protection	IP66
Seals	EPDM
Maintenance	free
Dimension L x B x H	175 x 110 x 56 mm
Weight	800 g
Calibration	Outputs per menu configuration
Cable gland	M20 brass plated Ø 6-13 mm ATEX Ex e
Sensor connection	M12 5 pole shielded brass plated
Explosion proof	ATEX EPS 14 ATEX 1 789 X IECEx IECEx EPS 14.0101X
Marking	II2(1) G Ex eb mb ib [ia Ga] IIC T4 Gb II2(1) D Ex tb [iaD] IIIC T130 °C Db
ATEX	2014/34/EU
EMC	2014/30/EU Industry classe A
LVD	2014/35/EU IEC/EN 61010
RoHS	2011/65/EU
WEEE	2012/19/EU
Quality Standard	ISO9001, ISO14001, ATEX, IECEx, ISO/TS16949

Application

A basic unit TR.Ex and various sensors of the IY.Ex series solve a wide range of measurement tasks. The sensors stand for multifunctionality, highest accuracy and easy assembly.

The following sensors are available

- Temperature
- Temperature and humidity, dew point
- Differential pressure and flow
- Special sensors on request

Temperature	flammable goods, paints, solvents
Humidity	hazardous material storage
	painting plants, biogas plants
Dew point	monitoring in ventilation ducts
Differential pressure	filter monitoring,
	over / under pressure locks
	volume flow measurement

Furthermore, the buttons allow on-site commissioning and the LCD display is used as a local measuring value display. The integrated terminal box in the explosion protection type Ex e ensures a direct electrical connection in the Ex zone.

The modular design of the electronics and mounting bracket ensures simple, safe assembly and commissioning.

Options such as different sensor cables for difficult installation conditions complete the product portfolio. Calibration of the measuring chain is made possible by the design of the device in the simplest way.

Function

The physical quantity is recorded in the sensors of the series IY.Ex. The measured value is processed digitally. The transmission to the transmitter TR.Ex is carried out by a patented protocol, which allows the sensors to be easily exchanged and opened for future sensors.

The robust, interference-free signal from the sensor to the transmitter allows transmission of up to 100 m even in harsh industrial environments.

This signal is converted into freely scalable analogue outputs in the TR.Ex converter. Voltage and current outputs can be selected by means of the software menu.

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Sensors

Pressure – differential pressure, air volume	
IY.Ex-P-0100	Differential pressure ± 100 Pa
IY.Ex-P-0250	Differential pressure ± 250 Pa
IY.Ex-P-0600	Differential pressure ± 600 Pa
IY.Ex-P-1000	Differential pressure ± 1000 Pa
IY.Ex-P-2500	Differential pressure ± 2500 Pa

Room - Temperature	
IY.Ex-RT	Temperature -40...125 °C – length 50 mm

Room - Temperature / Humidity / Dew point	
IY.Ex-RTH	Temp.-Humidity -40...125°C / 0...100%rF – l 50 mm

Duct – Temperature incl. 1 m M12 cable	
IY.Ex-DT-050	Temperature -40...125°C – length 50 mm
IY.Ex-DT-100	Temperature -40...125°C – length 100 mm
IY.Ex-DT-200	Temperature -40...125°C – length 200 mm

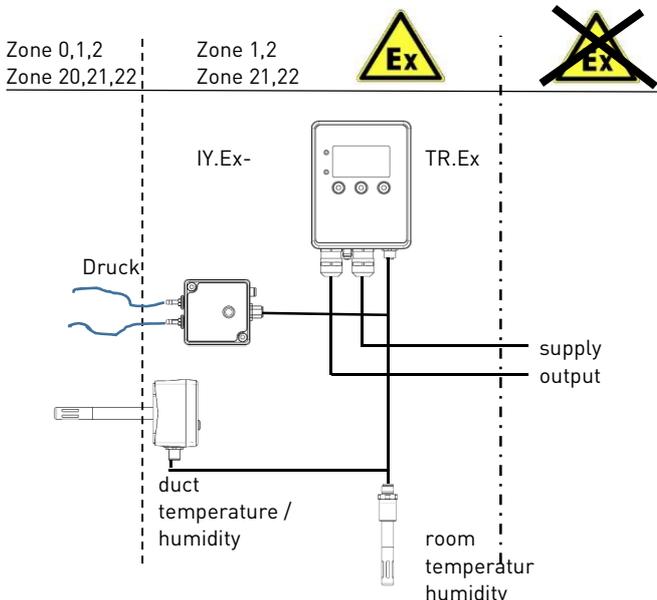
Duct – Temperature / Humidity / Dew point incl. 1 m M12 cable	
IY.Ex-DTH-050	Temp.-Humidity -40...125°C / 0...100%RH l 50 mm
IY.Ex-DTH-100	Temp.-Humidity -40...125°C / 0...100%RH l 100 mm
IY.Ex-DTH-200	Temp.-Humidity -40...125°C / 0...100%RH l 200 mm

Others on request

Explosion proof

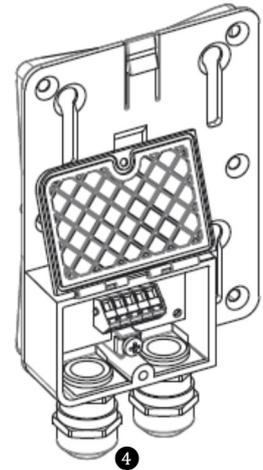
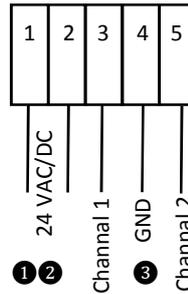
⚠ ATTENTION!

- Install by manufacturer instruction and standards and guidelines.
- Unlocking the device or opening the terminal box is only permitted in the de-energized state
- When installing the device, the housing protection rating IP66 according to EN 60529 must be observed
- This equipment can be used in accordance with the manufacturer's specifications in Zone 1, 21 (II 2GD) or Zone 2, 22 (II 3GD).
- The sensor circuit may be in zone 0, 20 (II 1GD). Corresponds to the designation II 2 (1) GD
- The devices may only be used in measuring stands against which the process-contacting materials are resistant
- The device must be connected to the potential equalization (PA), for this purpose an internal and external connection is available.
- The device must be protected against mechanical stress.



Electrical connection

- Switch off the power supply before opening the unit
- Install an overcurrent protection element <10 A acc. to IEC61010-1
- Power supply and outputs are galvanically isolated
- Not used cable glands shall be IP66

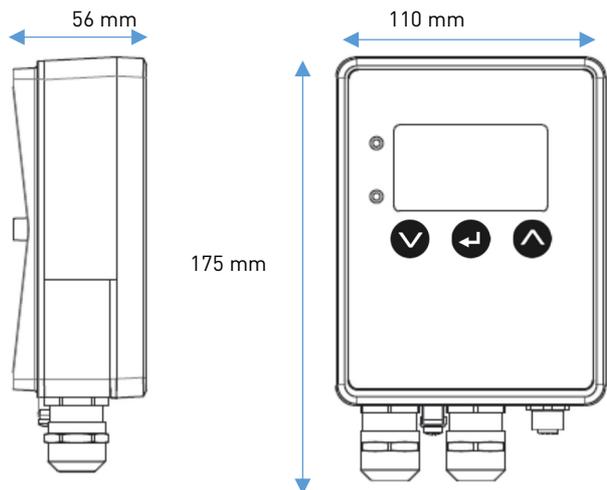


Safety notes



- Installation, electrical connection, maintenance and commissioning may only be carried out by specially trained personnel.
- Avoid excessive mechanical and improper stress.
- The voltage must be switched off during assembly and disassembly.
- The display loses contrast and brightness when cold. Regenerates as the temperature rises to the state of origin.

Dimensions



Accessories / spare parts

M12-5P-PUR-1m	1 m M12 sensor cable 5 pole shielded
M12-5P-PUR-5m	5 m M12 sensor cable 5 pole shielded
M12-5P-PUR-10m	10 m M12 sensor cable 5 pole shielded
KL.Ex-20	Cable gland M20x1,5 MsNi Ex e

Others on request