

# TECHNICAL INFORMATION IY.Ex-DT /-DTH

duct ■ temperature ■ humidity ■ dew point ■ probes for TR.Ex transducer

## Picture



## Highlights

- ATEX / IECEx approval for gases and dusts
- Zone 0, 1, 2, 20, 21, 22 certified
- easy mounting by plug in principle
- quick and safe installation
- temperature range -40 ... +125 °C
- Cable length from sensor to sensor up to 100 m
- Housing protection IP66
- On Chip humidity filter incl. additional dust filter
- Highest corrosion resistance
- LED status indication green/red
- On chip sensor, calibrated
- Measured variables traceable to national standards, calibratable
- Calibration certificate included

## Types

	temperature	humidity	length
IY.Ex-DT-050	-40...125 °C		50 mm
IY.Ex-DT-100	-40...125 °C		100 mm
IY.Ex-DT-200	-40...125 °C		200 mm
IY.Ex-DTH-050	-40...125 °C	0...100 %rF	50 mm
IY.Ex-DTH-100	-40...125 °C	0...100 %rF	100 mm
IY.Ex-DTH-200	-40...125 °C	0...100 %rF	200 mm

## Technical data

Measuring range temp	-40 ... +125 °C
Measuring range humidity	0 ... 100 %RH without condensation
Electrical connection	M12 male connector incl. 1 m cable
Accuracy temperature	±0,3 °C @ 0 ... 60 °C (see Diagramm 1)
Accuracy humidity	±2,0%RH @ 10...90%RH(see Diagramm 2)
Hysteresis	1,0 %
Storage temperature	-40 ... +70 °C
Mounting position	any recommended vertically
Housing material	high tech polymer, conductive
Probe material	stainless steel
Gasket material	EPMD
Maintenance	free
Dimension w x Ø	80 x 80 x L mm L = 50, 100, 200 mm
Weight	100 g
Sensor socket	M12 5 pole shielded brass plated
Approvals	ATEX EPS 14 ATEX 1 789X IECEx IECEx EPS 14.0101X
Marking	II1/2G Ex ia IIC T6/T5/T4 II1/2D Ex ia IIIC T130 °C
Housing protection	IP66 IEC 529
Quality Standard	ISO9001, ISO14001, ATEX, IECEx, VDA6.1

## 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 mounting.

The following sensors are available

- Temperature
- Temperature and humidity, dew point
- Special sensors on request

Examples include:

Temperature storage of hazard goods, paints, solvents

Humidity paint shops, Biogas plants, storage of hazard goods

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 easy, 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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## Associated / available probes (sensors)

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 %RH, 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

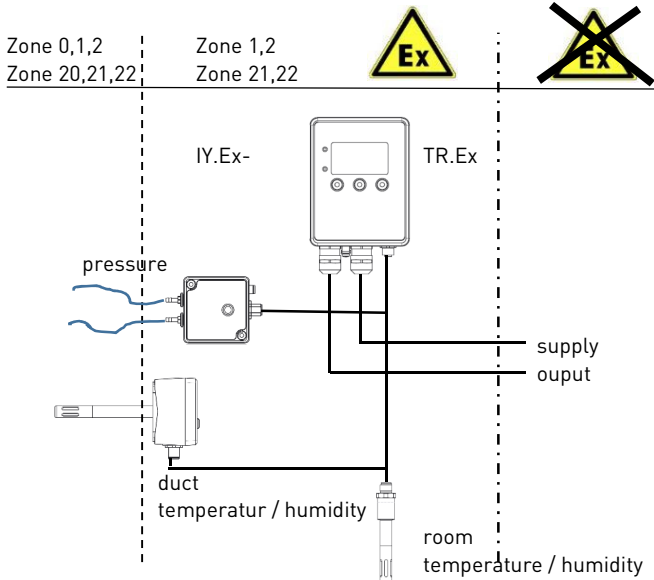
Duct temperature, -humidity, dew point incl. 1 m M12 cable	
IY.Ex-DTH-050	Temp.-humidity -40...125°C / 0...100%RH, l 50 mm
IY.Ex-DTH-100	Temp.-humidity -40...125°C / 0...100%RH, l 100 mm
IY.Ex-DTH-200	Temp.-humidity -40...125°C / 0...100%RH, l 200 mm

Others on request

## Explosion-proof



- Install according to the manufacturer's instructions and applicable standards and regulations.
- When installing the device, make sure that the housing protection IP66 according to EN 60529 is complied with.
- The sensor circuit may be inserted in zone 0/20 (II 1G).
- The devices may only be used in media against which the process-contacting materials are resistant.



## Safety notes



- Installation, electrical connection, maintenance and commissioning may only be carried out by trained specialist personnel
- Excessive mechanical and improper loading should be avoided.

## Electrical connection

M12 connector 5 pole

Intrinsically safe circuit

$U_i \geq 4,6 V$

$I_i \geq 107 mA$

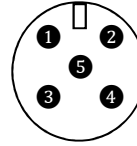
$P_i \geq 428 mW$

inner capacitance

$C_o \leq 1030 nF$

inner inductance

$L_o \leq 0 \mu H$



## Accuracy

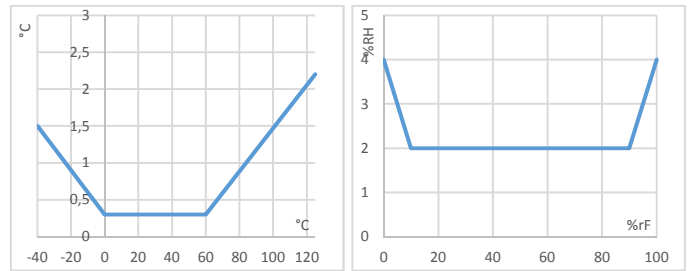
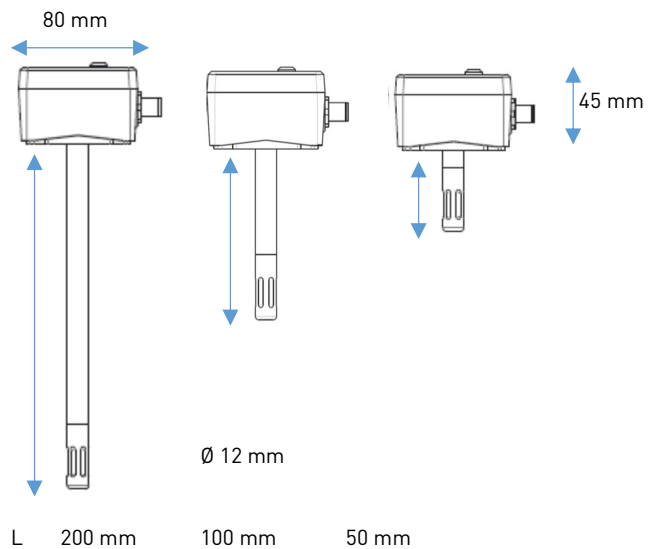


Diagramm 1

Diagramm 2

## Dimensions



## Accessories spare parts

FKP-010-V4A	Filter cap 10 µm stainless steel V4A / AISI316
M12-5P-PUR-1m	1 m M12 cable 5 pol shielded
M12-5P-PUR-5m	5 m M12 cable 5 pol shielded
M12-5P-PUR-10m	10 m M12 cable 5 pol shielded

Others on request