



# ExPro-AT Duct temperature sensors

Pt100 passive IP66 sensors for hazardous locations zones 1, 2 and 21, 22.

Sensors:

**ExPro - AT - ...**

Subject to change!


**Compact. Easy installation. Universal. Cost effective. Safe.**

Type	Probe element	Length	Temperature range*	Permitted for zones	Connectable to transducers
ExPro-AT - 100	Pt 100	100 mm	-40...150 °C	1, 2, 21, 22	ExCos-A, RedCos-A, EXL-IMU-1
ExPro-AT - 150	Pt 100	150 mm	-40...150 °C	1, 2, 21, 22	ExCos-A, RedCos-A, EXL-IMU-1
ExPro-AT - 200	Pt 100	200 mm	-40...150 °C	1, 2, 21, 22	ExCos-A, RedCos-A, EXL-IMU-1

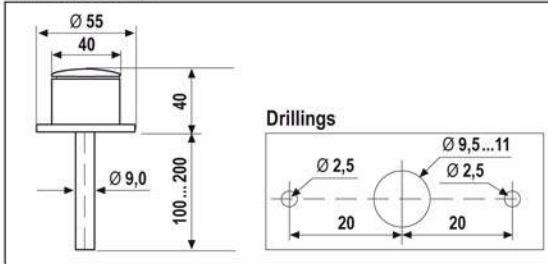
\* see notes for installation

## Application

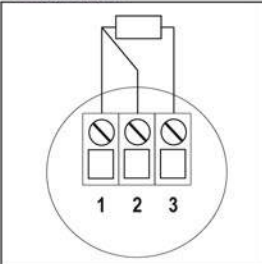
**Sensor**




**Dimensions in mm**



**Wiring diagram**





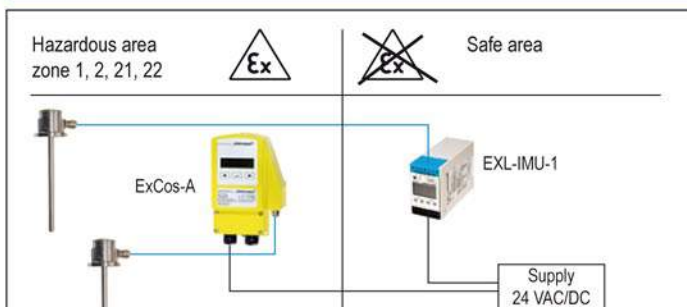
## Description

Temperature sensors for measuring duct temperatures. In combination with Ex-i transducer type ExCos-A or EXL-IMU-1 with intrinsically safe circuit the sensor may be used in hazardous areas 1, 2 and 21, 22. The passive potential free resistor output of the sensor is changed into an active signal of 0(2)...10 VDC and/or 0(4)...20 mA. Application area is non condensed, aggressive air in living, work and office rooms as well as industrial areas.

## Approvals

ATEX directive	PTB 10 ATEX 2014, directive 94/9/EC (ATEX)
Certified for gas	II2G Ex ia IIC T6 Zone 1, 2
Certified for dust	II2D Ex tD iaD A21 IP66 T80°C Zone 21, 22
EMC	2004/108/EC
Housing protection	IP66 – EN 60529

## Electrical connection



- For installation, use and maintenance the official standards and rules must be applied.
- The energy of intrinsically safe circuits are below the level to start an explosion in case of a spark.
- Intrinsically safe circuits must be installed with "light blue" coloured and separate from non-intrinsically safe circuits.
- The sensor is passiv and potential free for use in hazardous locations in zone 1, 2 and 21, 22.
- Pay attention to the max. values for wiring, listed in table 1.
- Avoid electrostatic discharge.
- Only wet cleaning.
- After mounting the protection class of min. IP65 acc. to EN 60529 must be fulfilled.

## Technical data

<b>Supply</b>	via Ex-i transducer (intrinsic safety circuit) (max. values see table below)
<b>Sensor element</b>	Pt100 DIN, 3 wire connection
<b>Accuracy</b>	Class B
<b>Measuring range</b>	-40...+150 °C
<b>Storage temperature</b>	-40...+70 °C
<b>Connection</b>	screw clamps 0,14...1,5 mm <sup>2</sup>
<b>Dimension and weight</b>	Ø 55 x 40 x L mm, ca. 150 g
<b>Ambient temperature</b>	Ta: -40...+70 °C at T6 Ta: -40...+85 °C at T5 Ta: -40...+110 °C at T4
<b>Humidity</b>	0...95 % rH, non condensing
<b>Materials</b>	Thermowell V2A 1.4301, L = 100, 150, 200 mm Housing V4A, 1.4581 Cover brass nickel-plated Gasket cover FPM, to duct EPDM no use of silicone, PVC and halogene
<b>Cable entry</b>	M12 x 1,5 II2GD Ex-e brass plated Ø = 4-6 mm
<b>Maintenance</b>	free, annual function control is recommended
<b>Delivery</b>	1 duct temperature sensor, type ExPro-AT-...
<b>Installation area</b>	Sensor in Ex-areas zones 1, 2, 21, 22

## Mounting and installation

Notes to installation. The installation must comply with relevant directives and standards. Particularly with regard to:

- Comply with the EMC directive.
- Avoid parallel wiring of power cable. This causes measurement errors.
- Recommendation: Use shielded cable. Connect shield at PLC or control room area, sensor side is open.
- Consider permitted measuring range, pressure and flow velocity.
- Choose fitting length and installation depth in such way that failures caused by heat abstraction keep small and the maximum ambient temperature are not reached.
- Avoid oscillations, vibrations and impacts.
- Tighten screws at flange consistently.

## Intrinsic safety values

Intrinsic safety values		Table 1
Ui	30 V	
Ii	10 mA	Ci negligible small
Pi	50 mW	Li negligible small

057-55xx\_ExPro-AT\_en  
16-Mar-2012