

SWR engineering Messtechnik GmbH PART OF THE ENVIRONNEMENT S.A GROUP



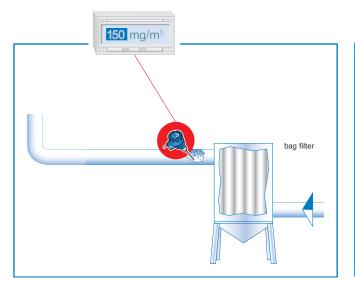
Use

ProSens was specially developed to carry out reliable dust measurement on clean sides after filters.

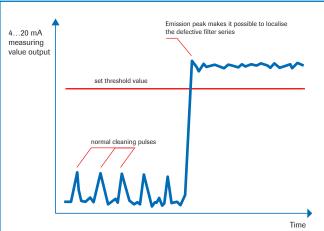
The measuring device provides measurement values for dust concentration, either as a trend signal or as absolute values (after calibration) for emission measurement.

ProSens is used:

- if the dust concentration is to be output as an absolute value in mg/m³.
- for exact measurements even with large channel diameters.
- for applications in explosion hazard zones (GasEx-Zone 1, DustEx-Zone 20)
- for the measurement of dust concentration even at high temperatures.

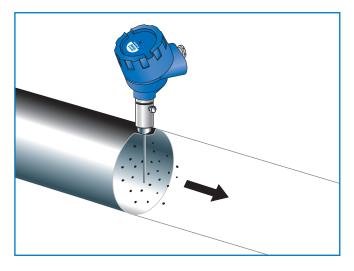






Function

Basic principle of the ProSens is the triboelectric effect. If the dust to be measured is constant, then the generated measuring signal is proportional to the dust concentration, even if there are dust deposits on the measuring probe. Experience shows that the measuring method provides very exact results with little required maintenance.



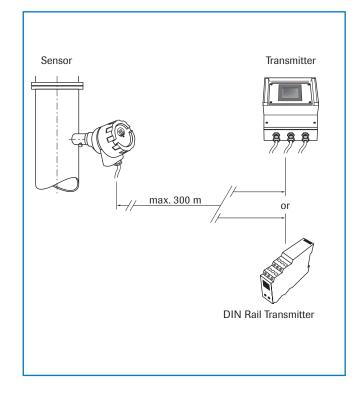


System

A complete measuring system consists of these components:

- · Welded casing to serve as a sensor receptacle
- ProSens sensor
- Transmitter PME 100

This unit can be supplied in a field housing with touch panel display or as a DIN-Rail version. In case of a DIN-Rail version also a Software for parameter setting will be supplied.



Mounting and installation

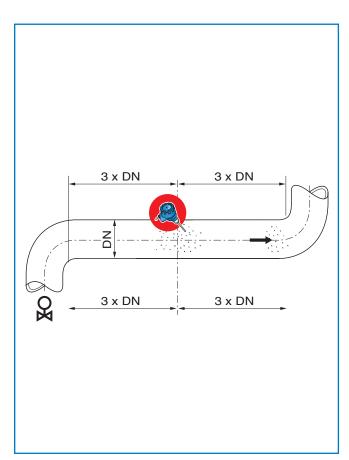
The ProSens can be installed in metal channels and pipelines.

The installation should take place away from any curves and other inserts such as flaps and valves.

The distance between the sensor rod and inserts in the channel should be at least 3 times the channel diameter in every flow direction.

Non-metallic channels must be sheathed using a metal sleeve, a metal foil or a close-mesh metal grid over a length of at least 5 times the channel diameter.

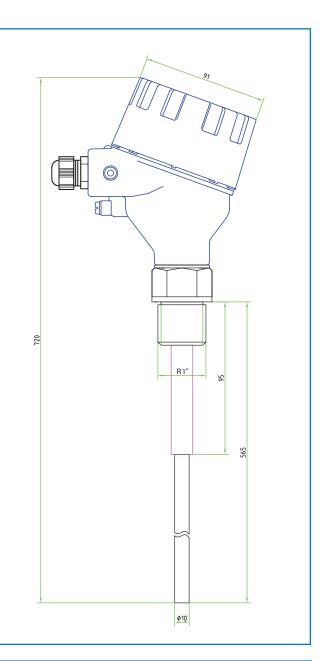
After determining the installation location, a hole must be drilled in the channel wall to insert the welding casing flush. The casing is now welded into place vertically to the channel. The sensor rod is then inserted in this and fastened with a fixing screw. The length of the sensor rod should at least 1/3 and at most 2/3 of the channel diameter. It can be shortened to the respective optimal length (up to 70 mm) without a problem.





Technical data

Measuring objectsParticles in the gas flowMeasuring rangeFrom 0.1 mg/m³Process temperatureStandard: 150 °C; optional: max. 700 °CPressureMax. 2 bar (Optional: up to 25 bar)Flow speedMin. 4 m/secHumidityS5% rel. hum. or less (non-condensing)Measuring principleTiboelectric effectAmbient temperature-20 + 60 °CSensor rodMaterial: stainless steel; length: 500 / 1000 mmProtection typeIP 66; ATEX: cat. 1/2 GDProtection typeConnection room DIN M 20Measurement value alarm elay outputRelay with switching contact Max. 250 V AC, 1 A Not for EX-devices Cat. 1 and 2Power supplyQ4 ± 10 % V DCPower concumption20 W / 24 VProtection typeIP 40 to EN 60529Protection typeIP 40 to EN 60529Pimensions23 x 90 x 118 (W x H x D)	Sensor	
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Protection typeIP 66; ATEX: cat. 1/2 GDElectric connectionConnection room DIN M 20Measurement value alarm relay outputRelay with switching contact Max. 250 V AC, 1 A Not for EX-devices Cat. 1 and 2WeightApprox. 1.5 kgTransmitter (DIN rail)Z4 ± 10 % V DCPower supply24 ± 10 % V DCPower concumption20 W / 24 VProtection typeIP 40 to EN 60529Ambient operating temperature-10 +45 °C	Sensor rod	
Electric connectionConnection room DIN M 20Measurement value alarm relay outputRelay with switching contact Max. 250 V AC, 1 A Not for EX-devices Cat. 1 and 2WeightApprox. 1.5 kgTransmitter (DIN rail)Z4 ± 10 % V DCPower supply24 ± 10 % V DCPower concumption20 W / 24 VProtection typeIP 40 to EN 60529Ambient operating temperature-10 +45 °C	Housing	Aluminium
Measurement value alarmRelay with switching contact Max. 250 V AC, 1 A Not for EX-devices Cat. 1 and 2WeightApprox. 1.5 kgTransmitter (DIN rail)24 ± 10 % V DCPower supply24 ± 10 % V DCPower concumption20 W / 24 VProtection typeIP 40 to EN 60529Ambient operating temperature-10 +45 °C	Protection type	IP 66; ATEX: cat. 1/2 GD
Measurement Value alarm relay outputMax. 250 V AC, 1 A° Not for EX-devices Cat. 1 and 2WeightApprox. 1.5 kgTransmitter (DIN rail)	Electric connection	Connection room DIN M 20
Transmitter (DIN rail) Power supply 24 ± 10 % V DC Power concumption 20 W / 24 V Protection type IP 40 to EN 60529 Ambient operating temperature -10 +45 °C		Max. 250 V AC, 1 A
Power supply24 ± 10 % V DCPower concumption20 W / 24 VProtection typeIP 40 to EN 60529Ambient operating temperature-10 +45 °C	Weight	Approx. 1.5 kg
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Power concumption20 W / 24 VProtection typeIP 40 to EN 60529Ambient operating temperature-10 +45 °C	Iransmitter (DIN rail)	
Protection typeIP 40 to EN 60529Ambient operating temperature-10 +45 °C	Power supply	24 ± 10 % V DC
Ambient operating temperature -10 +45 °C	Power concumption	20 W / 24 V
	Protection type	IP 40 to EN 60529
Dimensions 23 x 90 x 118 (W/ x H x D)	Ambient operating temperature	-10 +45 °C
	Dimensions	23 x 90 x 118 (W x H x D)
Weight Approx. 172 g	Weight	Approx. 172 g





Superior with Solids

Connection terminals conductor

cross-section

Switch output measurement alarm

Interface Data backup

Current output signal

SWR engineering Messtechnik GmbH

0.2 - 2.5 mm² [AWG 24-14]

 $4 \dots 20 \,$ mA, load < 500 Ω

Max. 250 V AC, 1 A

Flash memory

ModBus RTU (RS 485)

Relay with switchover contact

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