envea

Low-Cost
Broken Bag Detection

PROCESS MONITORING SYSTEMS FOR SOLIDS

Product Information

FEATURES:

- detects all dust types
- electronic alarm output
- usable in clean gas and dust channels
- very simple and fast retrofitting
- immediate detection of filter damages
- uncomplicated commissioning (Plug & Play)
- excellent price / performance ratio
- easily expandable to 4 ... 20 mA output (trend signal)

certificated
according to **ATEX**

TECHNOLOGY

The Dusty was specially developed to reliably monitor clean sides after filters for filter breaks without delay. The Dusty can be used in metal channels in which dust particles are to be detected in flowing gas. Its operational range starts at dust concentrations of 0.1 mg/m³.

The Dusty can be used in areas subject to explosion hazards (dust zone 22 / gas zone 2). Due to its speed and reliability, the Dusty can also be used optimally as an alternative and/or expansion to the "police filter" as well as an alternative to the differential pressure measurement.

The Dusty uses the electrodynamic technology. As soon as particles either flow past or impact the measuring probe, a charge transfer takes place. This generates a measuring signal that triggers a switch contact once a certain threshold value is reached.
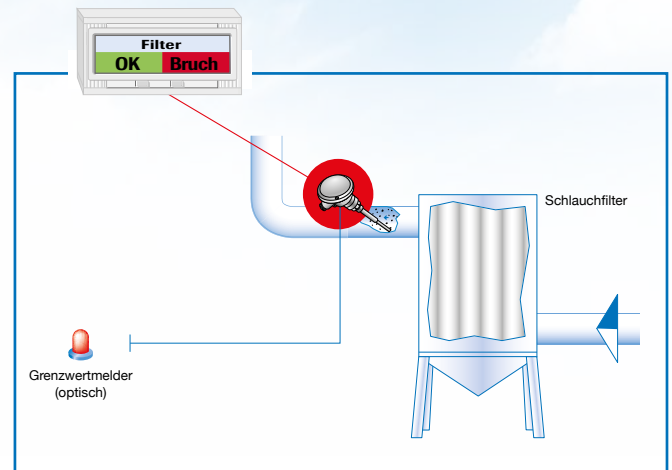

SYSTEM

The Dusty is a compact device that operates on 24 V DC power supply.

The device is delivered with a pre-set alarm level. This pre-set allow to detect filter failure in most case. It can be individually adjusted to the respective application by the operator.

The sensor allows the user to set the alarm threshold himself. This could be done using the on-button method or via our software (Dust Base).

TECHNOLOGY
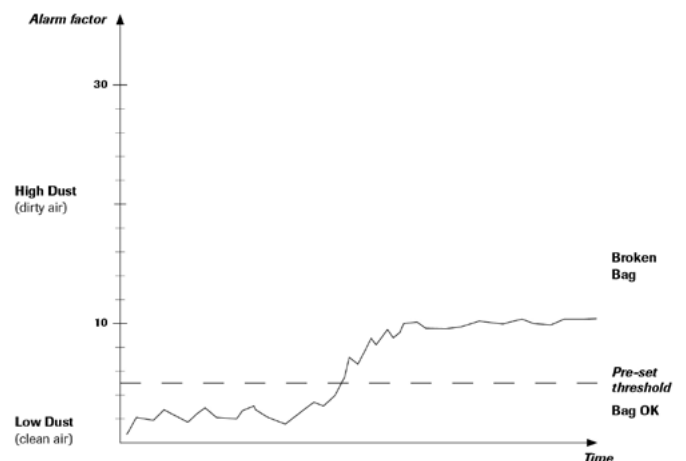
ADVANTAGES

- Usable in all clean gas and dust channels
- All dust types can be detected
- Easy commissioning (plug & play)
- Immediate detection of filter breaks

- Avoidance of process-inducted dust zones subject to explosion hazards
- Individual choice of the alarm threshold
- Fast and simple refitting
- Easily expandable to 4 ... 20 mA output

TECHNICAL DATA

Sensor

Measurement objects	Solid particles in a gas flow
Measurement range	From 0.1 mg/m³
Process temperature	Max. 140 °C (higher temperature on request)
Ambient temperature	- 20 ... + 60 °C
Pressure	Max. 2 bar
Gas velocity	Min. 4 m/s
Humidity	95 % RH (non-condensing)
Principle	Electrodynamic
Damping time	1 s
Output signals	1 Alarm output, potential-free, NO/NC
Sensor rod	Total length: 260 mm length of stainless steel rod: approx. 194 mm
Enclosure	Aluminium
Using in Ex-zones	Cat. 3 G/D (zone 2 gas / zone 22 dust)
Protection category	IP65
Power supply	24 V DC ± 10 %
Power consumption	1 W
Electrical connection	• screw-type / terminal box • M12 connector (optional)
Assembly	Via ½" thread or Tri-Clamp connection
Weight	Approx. 0.7 kg

Ø 90
S 27
14
G 1/2"
82
380
260
ø8

SPECIFICATIONS
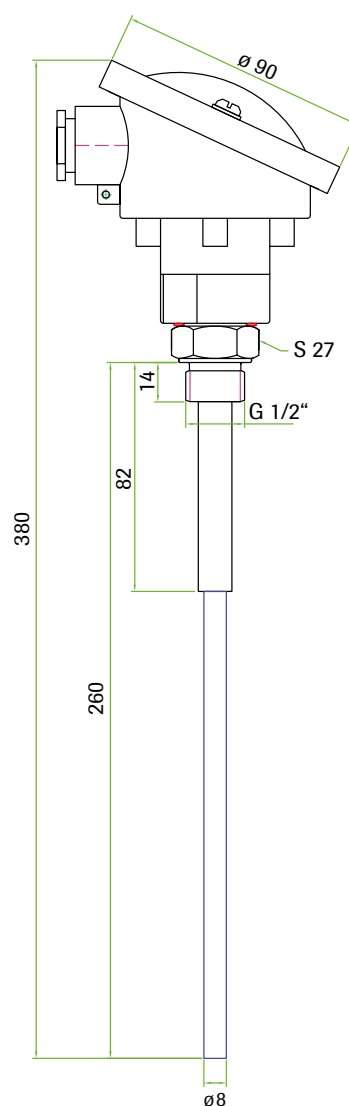
TECHNICAL DATA
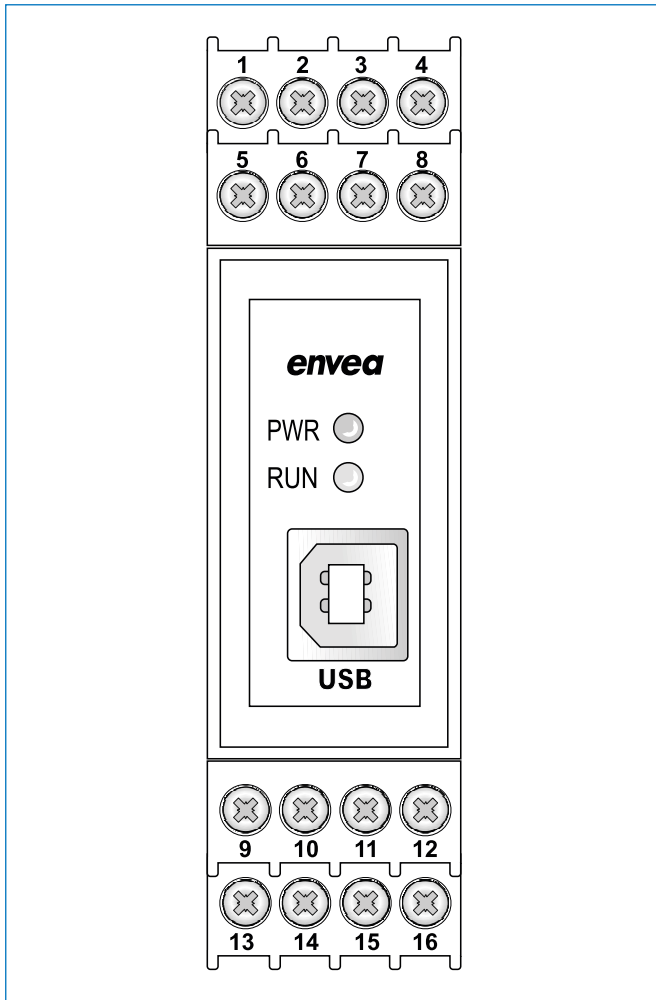
1	Current output - 4 … 20 mA	**2**	Current output + 4 … 20 mA
3	Input power supply 0 V DC	**4**	Input power supply +24 V DC
5	Not reserved	**6**	Alarm relay NC (Opener)
7	Alarm relay C	**8**	Alarm relay NO (Closer)
9	Not reserved	**10**	Not reserved
11	RS 485-interface data B	**12**	RS 485-interface data A
13	**Sensor connection** RS 485 Data B	**14**	**Sensor connection** RS 485 Data A
15	**Sensor connection** Power supply 0 V	**16**	**Sensor connection** Power supply +24 V

If desired, the Dusty can be combined with a converter. This converter converts the measuring signal into a continuous 4 … 20 mA signal. This provides the operator with a trend signal from which any limit value can be derived. For very large channel diameters you can connect up to 3 Dustys with one converter to improve the trend signal.

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