Continuous Ambient Air/Dust Measuring Device

- Continuous dust measurement of ambient air
- Recognise formation immediately
- Monitor dust concentration at workplaces
- Monitor production areas
- Monitor machines and systems
- Avoid dust explosion

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Area of application

The GTS AIRguard is a measuring device for monitoring the dust concentration in the ambient air.

The device is used in industrial production areas. It detects leaks in systems, machines or transport lines when dust escapes.

The use of the AIRguard effectively protects the health of employees.

In the case of explosive dusts, the danger of dust explosions is detected in time and intervention is possible.

Advantages

- Monitor big bag filling stations
- Monitor pneumatic pressure conveyor pipes
- Monitor production areas
- Detect dust formation on machines, systems, and silo enclosures
- Avoid dust explosion
- Very easy assembly
- Very quiet in operation – 29 dB(A)

How it works

The AIRguard technology is based on the proven electrostatic measuring principle (further development of the triboelectric principle), whereby particles are detected that collide with or fly past the sensor rod.

Deposits on the sensor rod do not influence the measurement. Only moving particles generate a signal that is proportional to the dust content of the ambient air and is evaluated by the electronics.

To measure the dust concentration of the ambient air, an air flow is continuously drawn through the device by a quiet and at the same time robust fan. The air passes the sensor rod inside the rectangular duct and exits on the fan side.

Two electronics versions are available:

- with analog output (4 ... 20 mA)
- with relay output

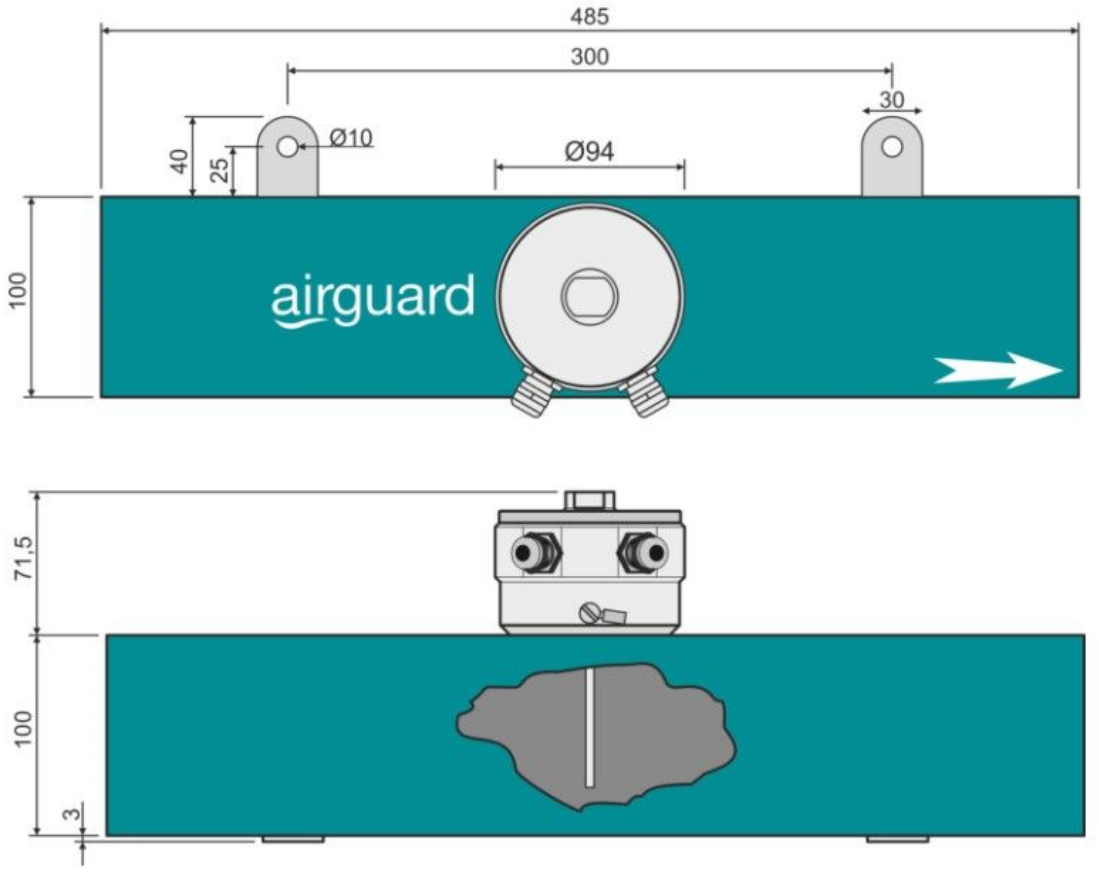
When delivered, the sensor is already preset and can usually be used immediately.

Technical data

Supply (versions with switching output)	24 VDC
Supply (versions with analog output)	24 VDC
Output (versions with relay switching output)	Max. 48 VAC/DC, 1 A, NC (normally open) NO (normally closed) selectable
Output (versions with analogue output)	4 … 20 mA (active), galvanically isolated, Load < 500 Ω
Sensitivity	from 0.1 mg/m³
Damping	0 … 10 s
Switching point (versions with switching output)	1 … 10 adjustable
Comparison (versions with analog output)	4 mA zero level
Ambient temperature	-20 °C … +50 °C (-4 °F … 122 °F)
Flow rate	approx. 100 m³/h
Noise development	29 dB(A)
Material flow channel	Steel, painted
Material (electronics housing)	Stainless steel 1.4301
Material of the sensor rod	Stainless steel 1.4571
Sensor Rod Insulation	PEEK
Material seal	FPM
Degree of protection	IP20 (EN 60529)
Interference immunity	According to EN 61326-1
Weight	6 kg

Subject to changes

Dimensions



Dimensions in mm

Commissioning

When delivered, the sensor is already preset and can usually be used immediately.

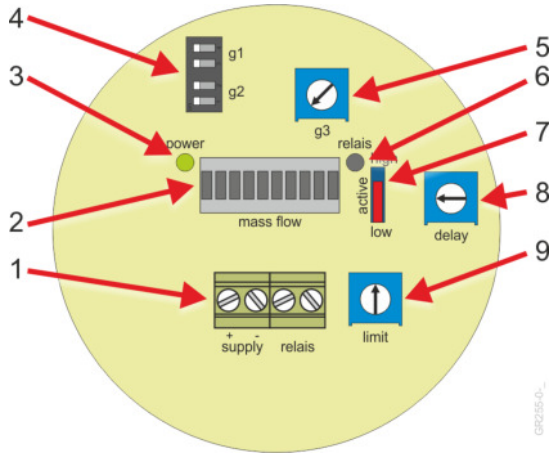
In the device version with a relay output, a limit value is set that can be easily adjusted by the user if this should be necessary.

The signal amplification and signal attenuation can also be set individually.

The signal damping is continuously adjustable between 1 and 10 seconds.

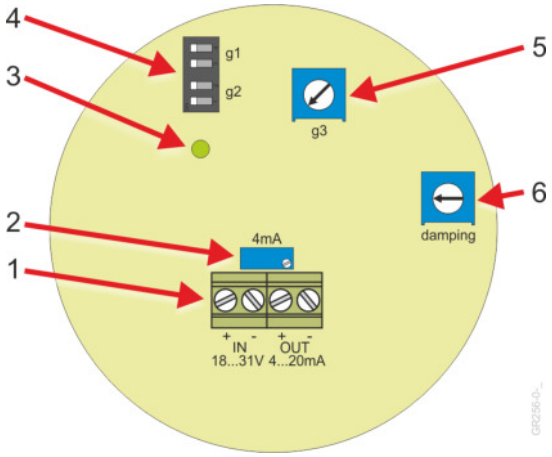
controls

Versions with switching output



1	Connection terminals
2	Dust concentration display
3	Operating indicator
4	Gain setting levels 1 and 2
5	Level 3 gain setting
6	Alarm display
7	Selector switch for the switching behaviour
8	Damping adjustment
9	Setting of the trigger level

Versions with analog output



1	Connection terminals
2	Adjustment potentiometer for the current output
3	Operating indicator
4	Gain setting levels 1 and 2
5	Level 3 gain setting
6	Damping adjustment

Order code AIRguard a/b/c/d

	a	Output			
	01	Relay output			
	20	Analogue output 4 … 20 mA			
		b	**Material flow channel**		
		00	Steel, painted		
			c	**Temperature range**	
			00	-20 … +50 °C	
				d	**Approvals**
				00	Variant for EX-free area
				Ex2 X	II 3G Ex nA IIB T4 Gc II 3D Ex tc IIIC T100°C Dc IP65

Example: AIRguard 01/00/00/00

Other designs on request.

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