

Dust measuring device for monitoring of environmental air



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

Area of application

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

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

The use of the DYNAairguard 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 halls
- 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 DYNAairguard 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 analogue output (4 ... 20 mA)
- with relay output

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

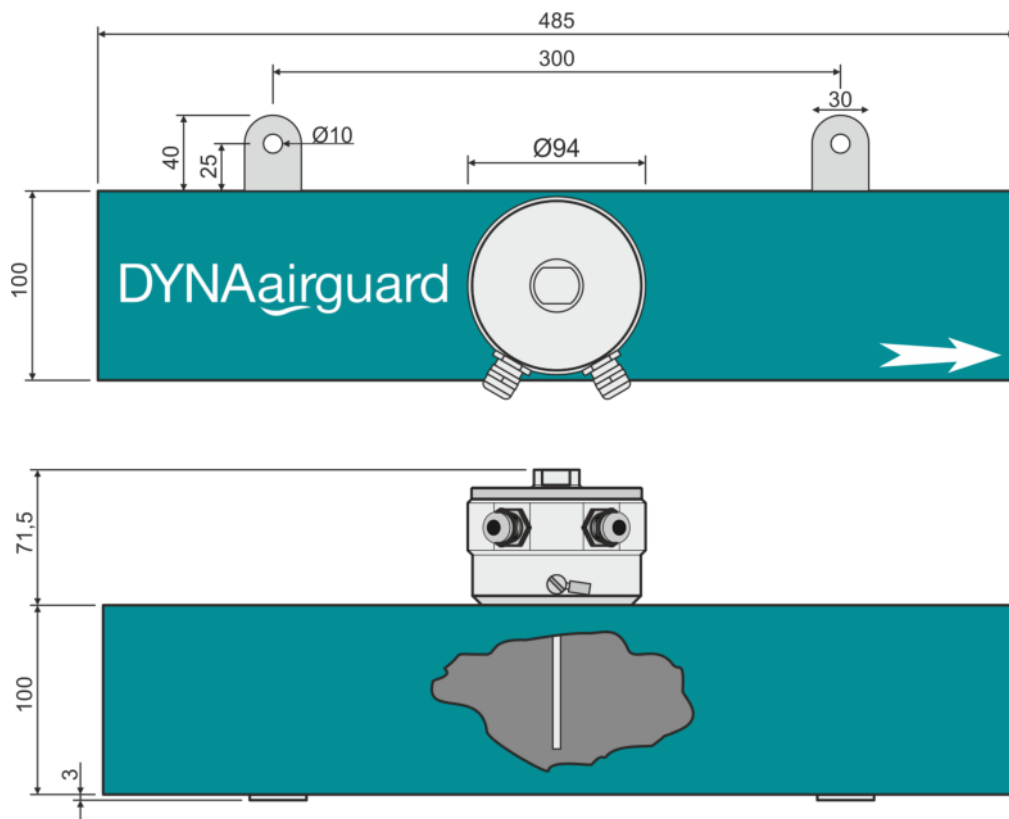
Technical data

| | |
|--|--|
| Supply (versions with switching output) | 24 VDC |
| Supply (versions with analogue 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/m ³ |
| Damping | 0 ... 10 s |
| Switching point (versions with switching output) | 1 ... 10 adjustable |
| Comparison (versions with analogue output) | 4 mA zero level |
| Ambient temperature | -20 °C ... +50 °C (-4 °F ... 122 °F) |
| Flow rate | approx. 100 m ³ /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

DYNAairguard in detail

Dimensions



Dimensions in mm

Commissioning

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

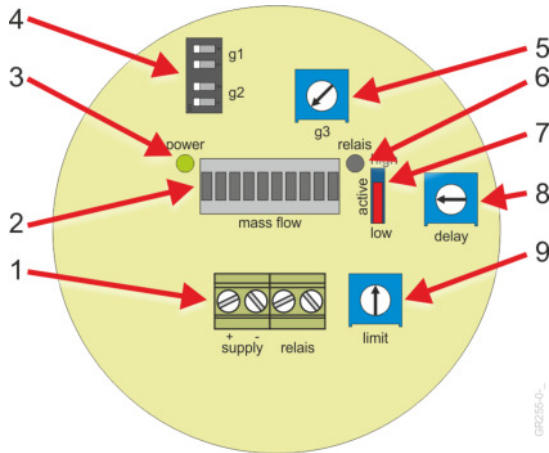
In the device version with a relay output, a limit value is set that can be easily adjusted by the user if this should be necessary.

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

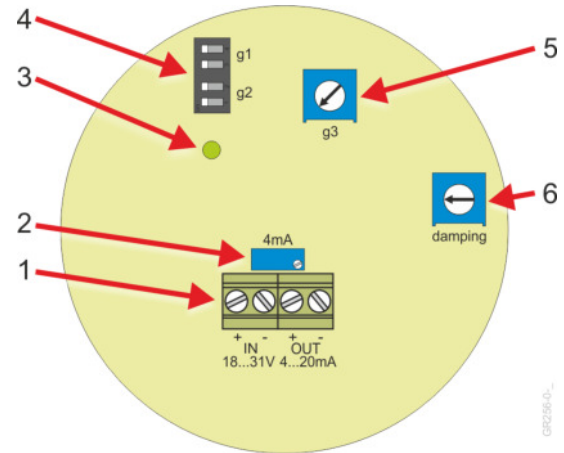
The signal damping is continuously adjustable between 1 and 10 seconds.

controls

Versions with switching output



Versions with analogue 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

- 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 DYNAairguard 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 |
| DYNAairguard | | |

Example: DYNAairguard 01/00/00/00

Other designs on request.

Innovative solutions - proven technology for over 25 years

- Mass flow measurement
- Flow monitoring
- Dust measurement
- Speed measurement
- Fill level detection
- particle size measurement



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