

### System Description

The dust detector **DYNAguard\_GM** is used for the detection of filter malfunction e.g. broken bag or gross failure.

The DYNAguard technology is based on a modified triboelectric principle detecting particles interacting with the sensing rod and such particles just passing by the rod. Build up on the rod surface will not be detected, only moving particles generate a flow rate proportional signal which is monitored by the electronics. Three electronics versions are available with analog (GM20), relay (GM01) or transistor (GM02) output. Adaptation is done under normal conditions by switches and potentiometer, DYNAguard's alarm level (GM01, GM02) can be set above this background. Signal damping is adjustable by the user.

The sensor length should be between 1/3 to 2/3 of the duct diameter, 800mm maximum.

Installation is done on the clean gas side downstream the filter at a metal duct by welding on a thread bush, boring through the duct wall and screwing in the DYNAguard. Upstream and downstream of the sensor, at least three duct diameters should be straight without any fittings like valves or dampers.

Commissioning is simple and requires no tools or specialised equipment.

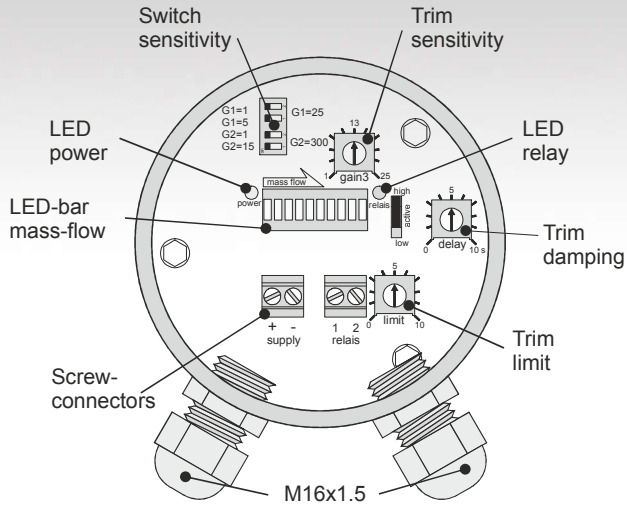
# Dust Detector Broken Bag Detector



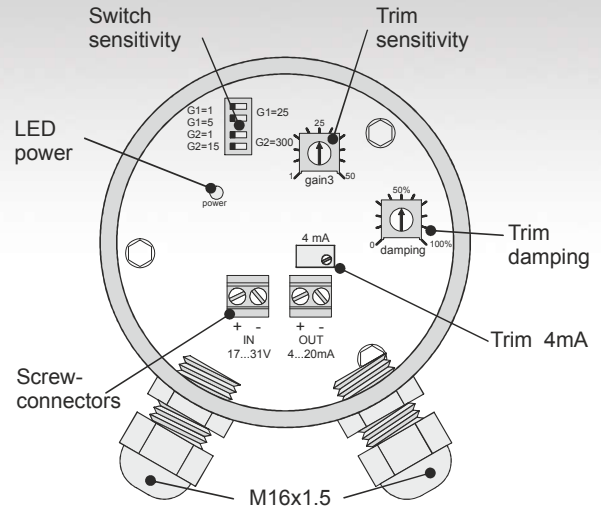
### Technical Data

material	housing	stainl. steel 1.4305 (AISI 303)
	sensor rod	standard: stainl. steel 1.4571 (AISI 316Ti)
	isolation	standard: polyamide (PA), 2mm
	sealing	standard: NBR
ambient cond.	temperature	-20°C...+70°C (-4°F...158°F)
	degree of protection	IP 67 (EN 60529)
	EMC	according to EN 61326-1
process cond.	sensitivity	0.1 mg/m <sup>3</sup>
	temperature	standard: max. 90°C (194°F)
		optional 130°C/200°C/290 °C
	pressure	max. 6 bar (84 lbs)
output	DYNAguard GM01	relay: max. 48 V AC/DC, 1A
		high/low switchable
	DYNAguard GM02	transistor: galvanically isolated
		max. 31 V DC, 15 mA
		high/low switchable
	DYNAguard GM20	4-20 mA, galvanically isolated
		load < 500 Ω
supply voltage	DYNAguard GM01/02	17...31 V DC, max. 60 mA
	DYNAguard GM20	17...31 V DC, max. 90 mA
adjustment	sensitivity	1...180.000
	damping	0-10 s (GM01/02), 0-180 s (GM20)
	switchpoint	1...10 (DYNAguard GM01/02)
	zero set	4 mA (DYNAguard GM20)

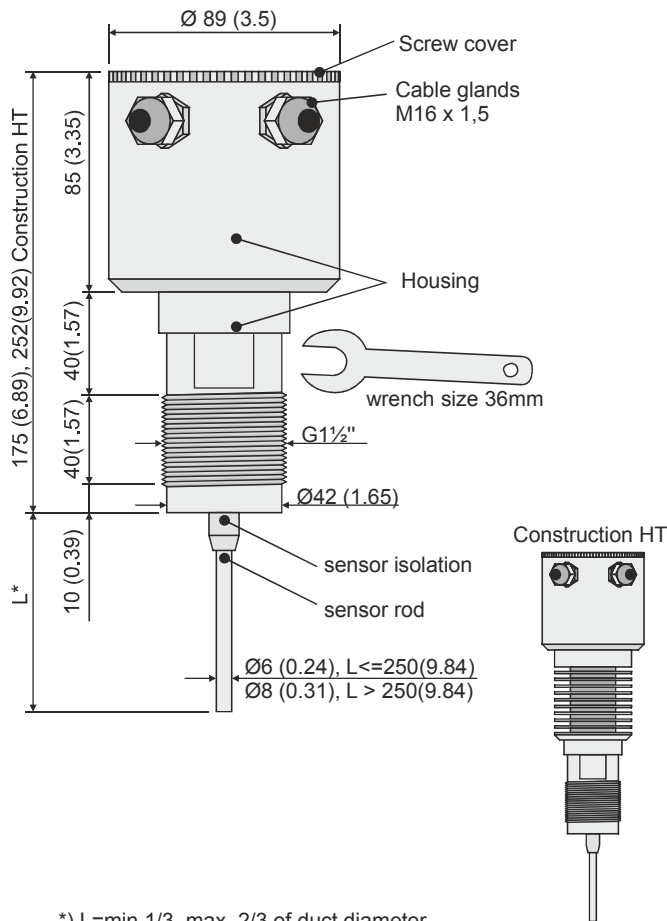
## Switching output: DYNAguard GM01 and 02



## Analog output: DYNAguard GM20

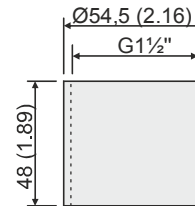


## Dimensions in mm (in)



\*) L = min. 1/3, max. 2/3 of duct diameter

## Accessory: thread bush



## Ordering key

### DYNAguard A/B/C/D/E/F/G/H/I

#### A: Output

GM01: Relay  
GM02: Transistor  
GM20: Analog output 4-20mA

#### B: Thread size

G1,5: G 1 1/2"

#### C: Length of sensor rod in mm

40...800

#### D: Material of sensor rod

20: 1.4571 (AISI 316Ti)

#### E: Material of sensor insulation

20: PTFE

30: Peek

51: PA (standard)

#### F: Material of seals

00: NBR (standard)

10: FPM

20: silicone

#### G: Options

00: without

HT: High temperature (200°C, 392°F)

#### H: Certificates

00: without

Ex2: ATEX-Zone 2 und 22

II 3G Ex nA IIB T4 Gc

II 3D Ex tc IIIC T100°C Dc IP65

#### I: Accessories

00: without

01: thread bush 1.4301 (AISI 304)

02: thread bush 1.4571 (AISI 316Ti)

#### Temperatur ranges:

DYNAguard A/B/C/D/30/20/G/H/I

T<sub>process, max</sub> = 130°C (266°F)

DYNAguard A/B/C/D/30/20/HT/H/I

T<sub>process, max</sub> = 200°C (392°F)

technical data subject to change without notice

Contact your regional representative:



## DYNA Instruments

Instrumentation for Powder and Bulk Industries