

System Description

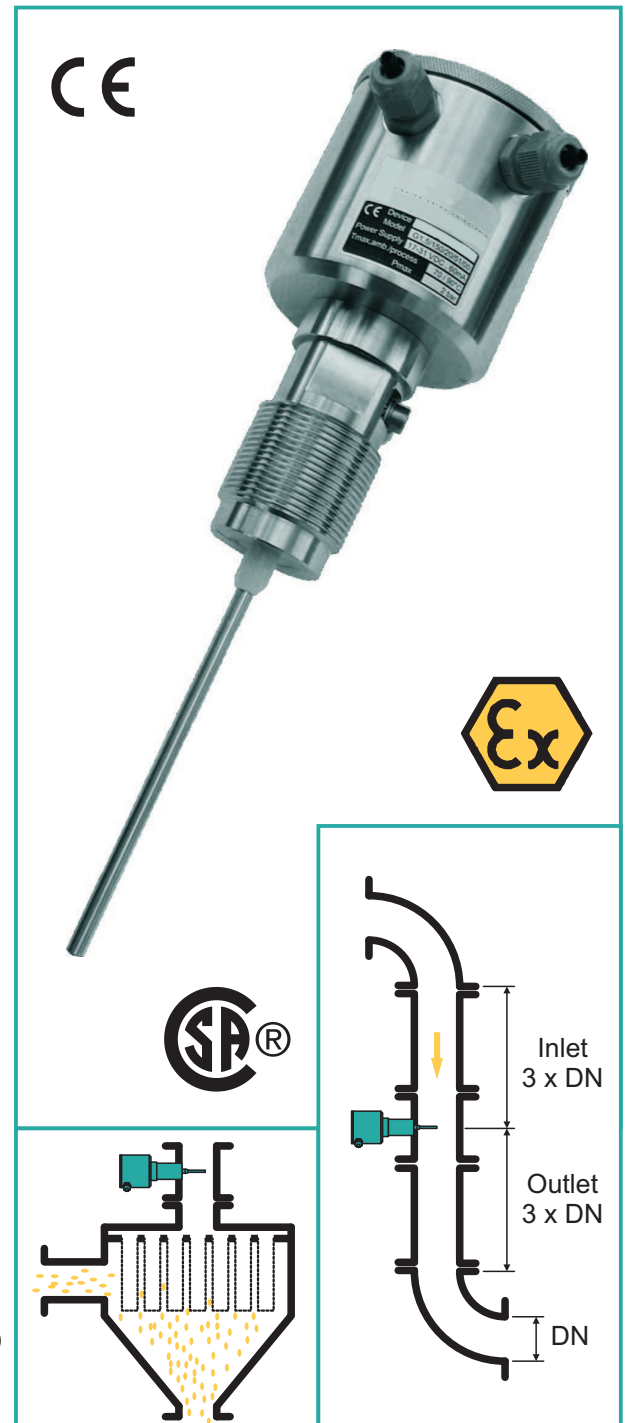
The DUSTguard is used for the detection or trending of high level emissions or filter malfunctions like broken bags. The DUSTguard technology is based on a modified triboelectric principle detecting particles interacting with the sensing rod and such particles just passing by the rod. Build up on the 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, DUSTguard'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 DUSTguard. 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.

DUSTguard Broken Bag Detector

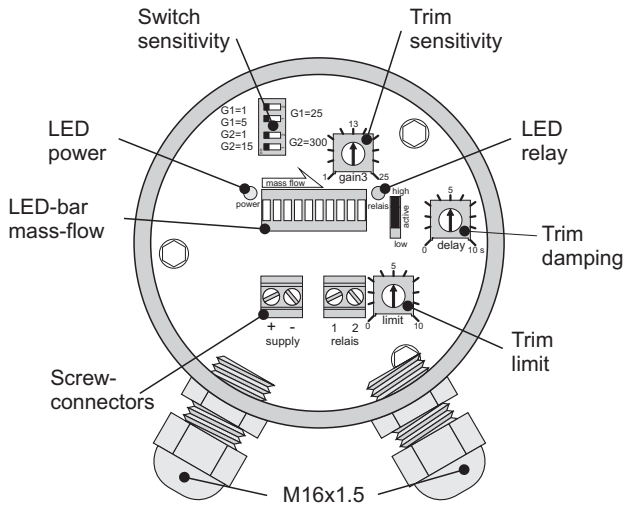


Technical Data

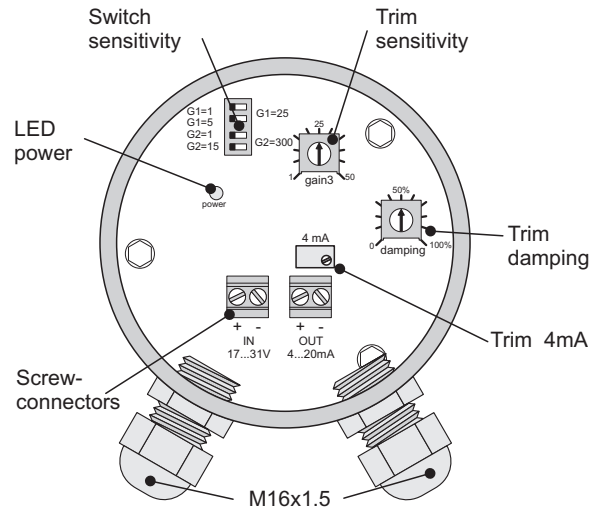
material	housing	stainl. steel 1.4305 (AISI 303)
	sensor rod	standard: stainl. steel 1.4571 (AISI 316Ti)
	isolation	standard: polyamide (PA), 2mm
	sealing	standard: NBR
ambient cond.	temperature	-20°C...+70°C (-4°F...158°F)
	degree of protection	IP 67 (EN 60529)
	EMC	according to EN 61326-1
process cond.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

DUSTguard - GM Series

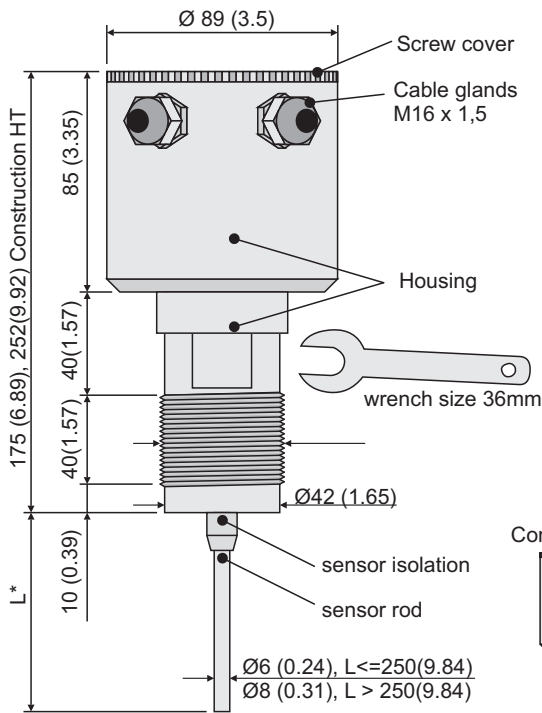
Switching output: DUSTguard GM01 and 02



Analog output: DUSTguard GM20

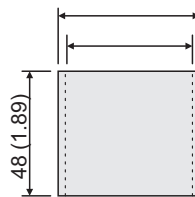


Dimensions in mm (in)



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

Accessory: thread bush



Optional: Tri-clover Clamp available

Ordering key

DUSTguard A/B/C/D/E/F/G/H/I

A: Output

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

B: Thread size

G 0.5" or G 1.5"
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 (130°C, 266°F)
HT: High temperature (200°C, 392°F)

H: Certificates

00: without
Ex2: ATEX-Zone 2 and 22
II 3G EEx nA II T4
II 3D IP67 T100°C

I: Accessories

00: without
01: thread bush 1.4301 (AISI 304)
02: thread bush 1.4571 (AISI 316Ti)

technical data subject to change without notice



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