

Flow Switch for Solids in Flexible Hoses

Relay / Analog Output
Contactless Measurement
Easy Installation

Function

The flow switch DYNAguard S is used to monitor the flow of solids in flexible hoses. It indicates through a relay output when a threshold is exceeded. The version with analogue output (4...20 mA) can additionally indicate a flow trend.

When granulates, powders, blasting material, dust or other solids are (pneumatically) transported, blockages, an empty hopper or a product-bridge at the bottom of a storage tank can immediately and securely be recognized.

The measurement principle is based on the detection of moving electrical charges which naturally adhere to the solids surface and are produced e.g. through friction on the hose-wall. Only moving particles generate a signal.

The hose is simply passed through the instrument (version T) and is tightened with the hose fittings.

In applications with conductive hoses, or in cases where the hose must be cut for installation, the version E is used. Here the hose is plugged into hose fittings from two sides.

The device cannot be used if bulk solids build up an electrically conductive layer on the inner hose wall.

Technical Data		
material	electronics housing	stainl. steel 1.4305 (AISI 303)
	sensorpipe	POM (standard)
	seal	NBR (standard)
		FPM (Ex-version)
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	sensitivity	0,1 mg/m ³
	temperature	standard: max. 70°C (158°F)
	pressure	max. 10 bar (140 lbs)
output	DYNAguard S01	relay: max. 48 V AC/DC, 1A
	DYNAguard S02	transistor: galvanically isolated max. 31 V DC, 15 mA
	DYNAguard S20	4-20 mA, galvanically isolated load < 500 Ω
Supply voltage	DYNAguard S01/02	17...31 V DC, max. 60 mA
	DYNAguard S20	17...31 V DC, max. 90 mA
adjustment	sensitivity	1...180.000
	damping	0-10 s (S01/02), 0-180 s (S20)
	switchpoint	1...10 (DYNAguard S01/02)
	Zero set	4 mA (DYNAguard S20)
	output	high/low switchable



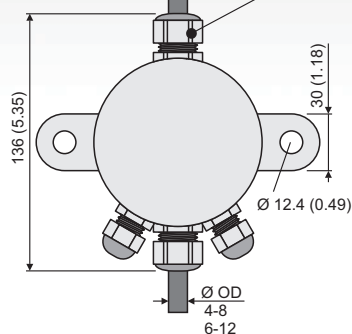
Dimensions (non Ex Version) in mm (in)

DYNAguard_S...T

DYNAguard_S...E

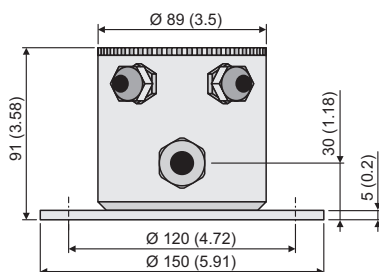
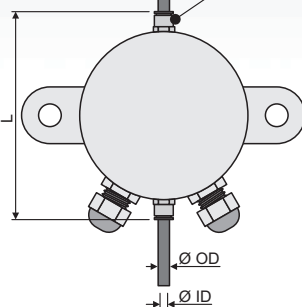
Pass through non
conductive hose
(hose not supplied)

Hose
fitting



Cut hose to plug in
(hose not supplied)

Hose fitting



Ø OD	Inlet Ø ID	L
4	2,7	113 (4.45)
6	4	116 (4.57)
8	6	132 (5.20)
10	8	129 (5.08)
12	10	144 (5.67)
14	12	146 (5.75)
16	13	155 (6.10)

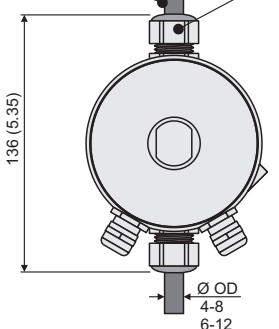
Dimensions (Ex Version) in mm (in)

DYNAguard_S...T

DYNAguard_S...E

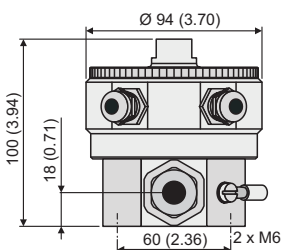
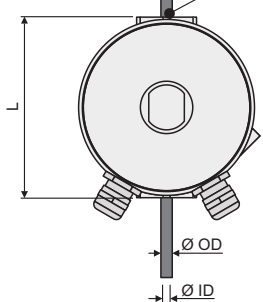
Pass through non
conductive hose
(hose not supplied)

Hose-
fitting



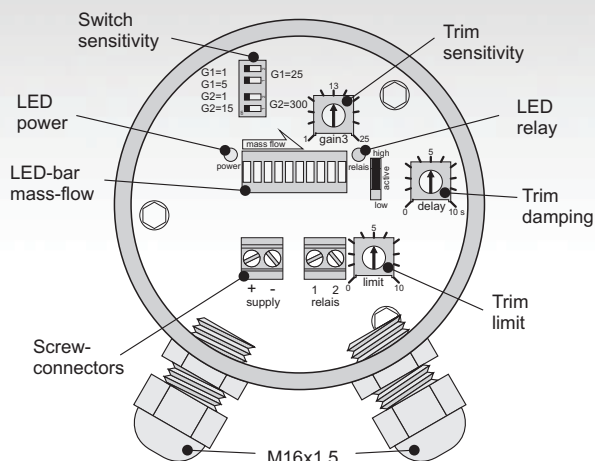
Cut hose to plug in
(hose not supplied)

Hose fitting
(covered)

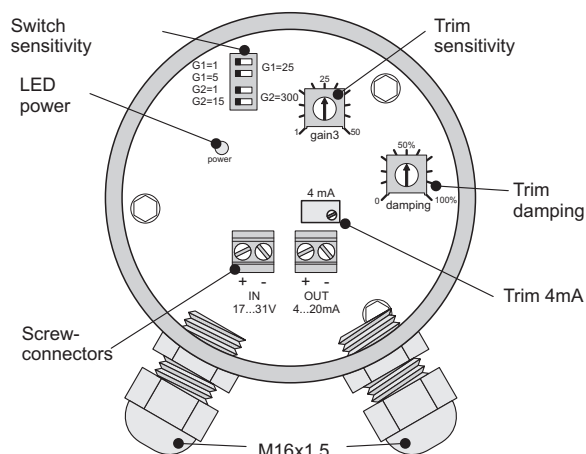


Ø OD	Inlet Ø DI	L
4	2,7	90 (3.54)
6	4	90 (3.54)
8	6	106 (4.17)
10	8	103 (4.06)
12	10	118 (4.65)
14	12	120 (4.72)
16	13	129 (5.08)

Relay output: DYNAguard S01 and S02



Analog output: DYNAguard S20



Ordering key DYNAguard S a/b/c/d/e/f

A: Output

- 01: Relay
- 02: Transistor
- 20: Analog output 4-20mA

b: Version

- T: Pass through hose fitting
- E: Plug in hose fitting

c: Hose outer diameter

- DYNAguard S...T
- 4-8: 4...8 mm (0.16...0.32 in)
- 6-12: 6...12 mm (0.24...0.47 in)
- DYNAguard S...E
- 4: 4 mm (0.16 in)
- 6: 6 mm (0.24 in)
- 8: 8 mm (0.32 in)
- 10: 10 mm (0.39 in)
- 12: 12 mm (0.47 in)
- 14: 14 mm (0.55 in)
- 16: 16 mm (0.63 in)

d: Material of sensor tube

- 51: PA (standard Ex-Version)
- 56: POM (standard non Ex)

e: Material seals

- 00: NBR (standard non Ex)
- 10: FPM (standard Ex-version)

f: Certificates

- without: Version for non EX area
- Ex2: Version for the use in ATEX-Zone 2 and/or 22



- II 3G Ex nA IIB T4 Gc
- II 3D Ex tc IIIB T100°C Dc Ip65

Wear protection inlet for
DYNAguard S...E (included)

Material:	PA	
Outer/inner dia.:	4 / 2,7	6 / 4
	8 / 6	10 / 8
	12 / 10	14 / 12
	16 / 13	

(in mm)

technical data subject to change without notice

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