

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, for larger diameters or in cases where the hose must be cut for installation, the versions E or W are used. Here the hose is plugged into hose fittings or fixed on nozzles from two sides.

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

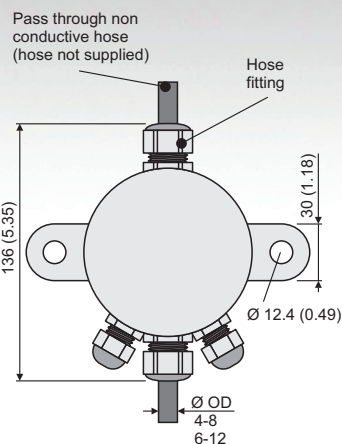
Technical Data

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

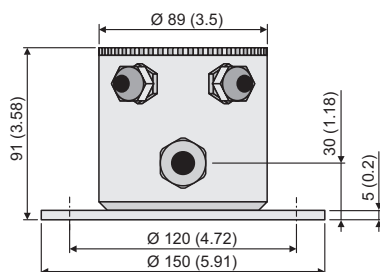
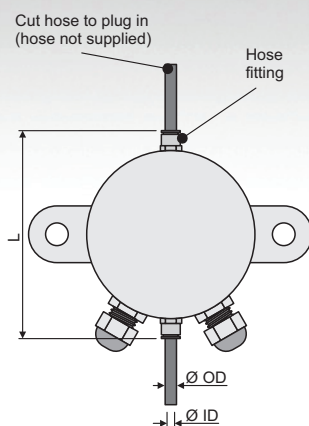


Dimensions (non Ex Version) in mm (in)

DYNAguard_S...T



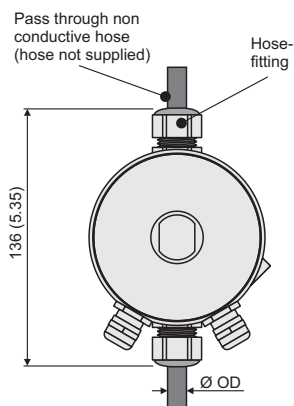
DYNAguard_S...E



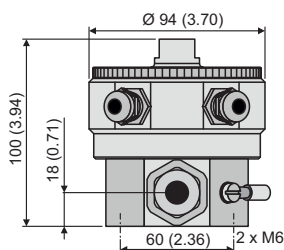
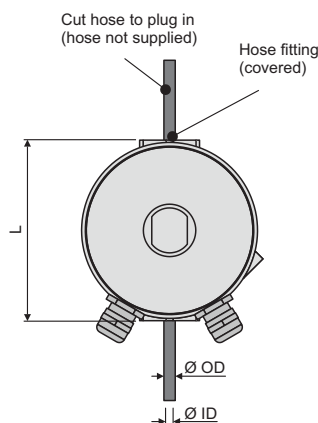
Ø OD	Inlet ØID	L
4	2,7	113 (4.45)
6	4	116 (4.57)
8	6	132 (5.20)
10	8	129 (5.08)
12	10	144 (5.67)
14	12	146 (5.75)
16	13	155 (6.10)

Dimensions (Ex Version) in mm (in)

DYNAguard_S...T

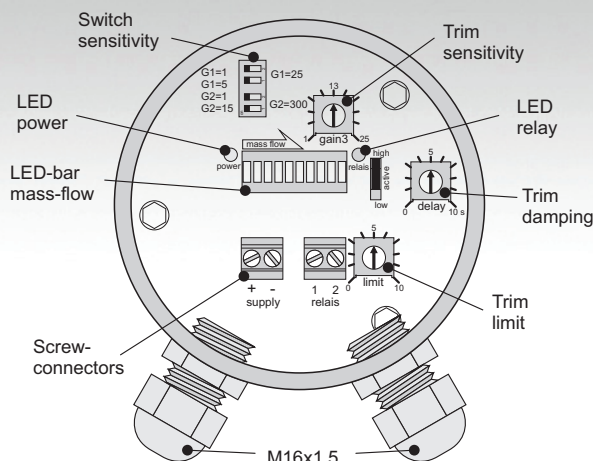


DYNAguard_S...E

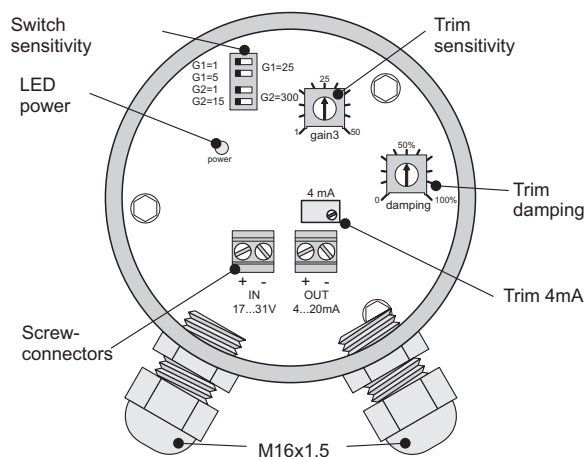


Ø OD	Inlet ØDI	L
4	2,7	90 (3.54)
6	4	90 (3.54)
8	6	106 (4.17)
10	8	103 (4.06)
12	10	118 (4.65)
14	12	120 (4.72)
16	13	129 (5.08)

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

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

c: Hose diameter

DYNAguard S...E

hose outer diameter:

- 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)

DYNAguard S...T

hose outer diameter:

- 4-8: 4...8 mm (0.16...0.32 in)
- 6-12: 6...12 mm (0.24...0.47 in)
- 11-21: 11...21 mm (0.43...0.83 in)

DYNAguard S...W

nozzle inner/outer diameter:

- 10-13: 10/13 mm (0.39/0.51 in)
- 16-19: 16/19 mm (0.63/0.75 in)
- 34-38: 34/38 mm (1.34/1.5 in)

d: Material of sensor tube

- 51: PA (standard Ex-Vision)
- 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 or DYNAguard S...W (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

Please contact your regional sales agent