

# Flow Switch for Solids

-Microwave technique

-Relay output

## System Description

The flow switch **DYNAguard M** is used for monitoring the mass flow in open and closed transport processes.

Independent of particle moving direction solid materials with velocity of at least 0.1 m/s in the detection field will be detected.

Flow problems with transports or the feeding of powders, pellets or granules can be detected early with this device. This helps to prevent serious difficulties that can occur due to clogged piping, material loss or other technical problems with the system.

The DYNAguard M has to be installed with an angle of 45° up to 90° of flow direction. Moving mechanical parts e.g. rotary valves, screw conveyors, or similar should not be in the detection field, because they might be detected as flow of material. If these parts are not avoidable, they have to be shielded or a different flow switch of the DYNAguard series has to be used.

CE



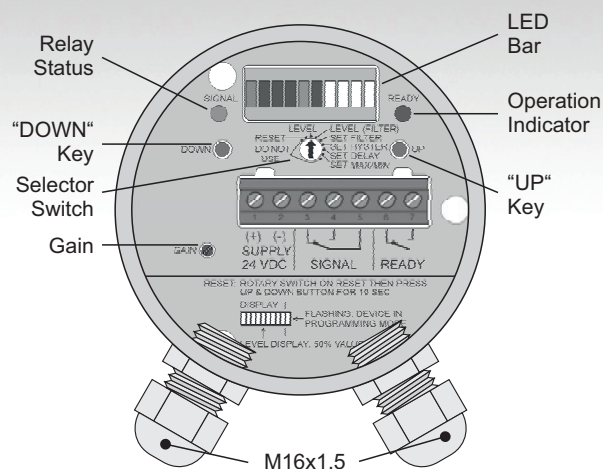
## Technical Data

|               |                      |                                |
|---------------|----------------------|--------------------------------|
| material      | housing              | stainl. steel 1.4301           |
|               | window (standard)    | PTFE                           |
|               | sealing (standard)   | NBR                            |
| ambient cond. | temperature          | -20°C...+70°C (-4°F ... 158°F) |
|               | degree of protection | IP 65 (EN 60529)               |
|               | EMC                  | according to EN 61326-1        |
| process cond. | temperature          | -20...90°C (-4...194°F)        |
|               | pressure             | max. 2 bar (29 lbs)            |
|               |                      | opt. 25 bar (363 lbs)          |
| relay         | switching voltage    | max. 45 VDC / 35 VAC           |
|               |                      | min. 10 mVDC                   |
|               | switching current    | max. 1 A                       |
|               |                      | min. 10 µA                     |
|               | switching power      | 30 W / 35 VA                   |
| microwave     | transmitting power   | 10 dBm                         |
|               | frequency            | 24,125 GHz                     |
| supply        | voltage              | 18 ... 30 VDC                  |
|               | current consumption  | max. 80 mA                     |
| adjustment    | sensitivity          | adjusted to process            |
|               | damping              | 0 ... 16 s                     |
|               | hysteresis           | 0 ... 40 %                     |

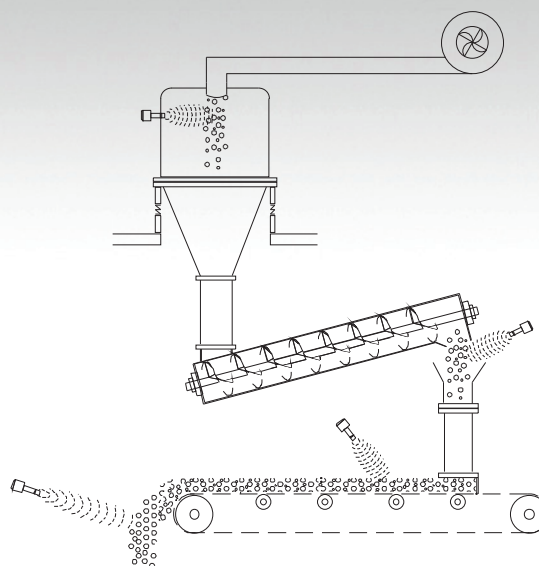
## Function

The measurement procedure of the DYNAguard M is based on the physical principle of the Doppler effect. The sensor sends out a microwave field. If solids move through this field, the microwaves are reflected and received by the sensor again. The electronics unit converts this into a switching operation.

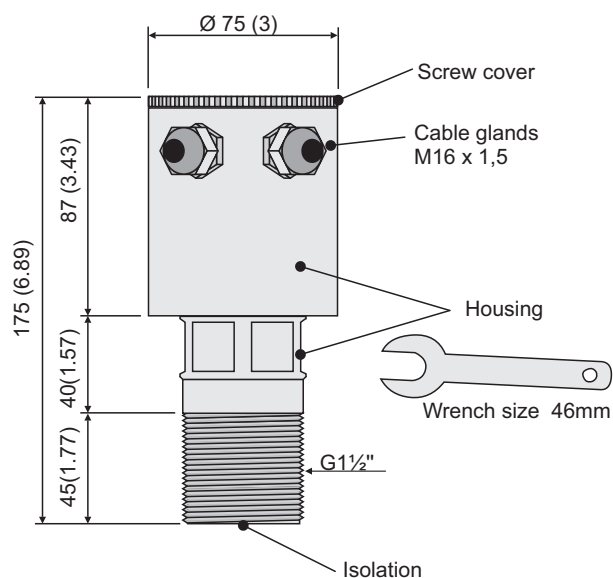
### Control- / Display units



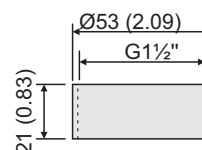
### Application



### Dimensions in mm (in)



### Accessory: thread bush



### Ordering key

#### DYNAguard A/B/C/D/E

- A: Output**
- M01: Relay
- B: Thread size**
- G1,5: G 1 1/2"
- C: Material housing**
- 10: 1.4301 (AISI 304)
- D: Material window**
- 20: PTFE (standard)
- 30: Peek
- 40: Ceramic
- 51: PA
- E: Material of seals**
- 00: NBR (standard)
- 10: FPM
- 20: Silicone

technical data subject to change without notice

## HAUSNET S.R.L.

Tel Argentina: (+54-11) 5219-2211

Tel Chile: (+56-2) 2897-3999

E-Mail: [hausnet@hausnet.com.ar](mailto:hausnet@hausnet.com.ar)

Web: [www.hausnet.com.ar](http://www.hausnet.com.ar)

## DYNA Instruments

Instrumentation for Powder and Bulk Industries