

Membrane Level Switch for Bulk Media

- ❖ Easy to Install
- ❖ Self Cleaning
- ❖ Handles a Wide Range of Bulk Material
- ❖ Membrane Material : NBR
- ❖ Continuous operation without maintenance
- ❖ No auxiliary energy necessary
- ❖ No sensor parts inside of the silo, hopper, or bin
- ❖ Adjustable sensitivity
- ❖ High reliability
- ❖ Versatile and universally even in very coarse grain bulk solids applicable



Areas of Application

Membrane level switches allow economic level monitoring of bulk media in storage tanks. They may be used to indicate full and empty states and load demand for dusty, powdery, granulated, and grainy bulk solids. They are suitable for use with bulk materials (19 to 144 lb/ft³) and particle sizes up to 30 mm. They will operate properly provided the bulk media flows easily and does not pile up at a sharp angle. Only such materials exert sufficient operating pressure on the detector fitted in the wall of the silo.

Method of Operation

The housing, made of cast aluminum or glass reinforced plastic, incorporates the membrane retained by a screwed on ring. With its own weight, the bulk material presses against the membrane which is prestressed with a spring through to a support. A plunger fixed to the membrane transfers the pressure directly to a microswitch with a SPDT contact. If the bulk material subsides, the membrane is relieved and the contact is switched back. The sensitivity can be adjusted with a spring. The switch can thus be optimized for the type of fill and the installation conditions.

Installation with Very Coarse and/or Sharp-Edged Bulk Media:

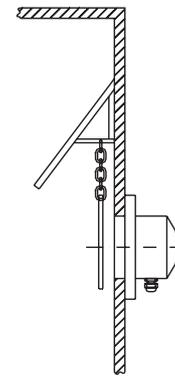
The installation of a guard is recommended for very large grained and/or sharp-edged materials with high bulk density. A proposal for such a guard is shown to the right. The guard mounted over the level switch protects sensor and membrane from damage from incoming bulk material. The curtain (made of rubber or plastic, for instance) protects the membrane from excessive wear by hanging against the membrane as the amount of bulk material increases. Make sure that the switch is not in the path of the incoming material, as the switch and membrane could be destroyed very quickly.

Common Media

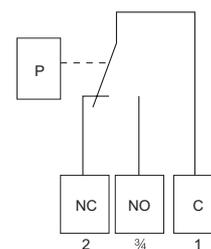
- ❖ Alum
- ❖ Bauxite
- ❖ Ceramics
- ❖ Dolomite
- ❖ Peas, Peanuts
- ❖ Fish Meal
- ❖ Gravel
- ❖ Oats, Hazelnuts
- ❖ Insulating Materials
- ❖ Coffee Beans
- ❖ Long Grain Rice
- ❖ Corn, Almonds
- ❖ Nuts
- ❖ Fruit
- ❖ Pearlite
- ❖ Quartz sand
- ❖ Rice
- ❖ Sand, Slag
- ❖ Clay
- ❖ Various Granulates
- ❖ Wheat
- ❖ Miscellaneous Grains
- ❖ Sugar



Example Guard



Wiring Diagram

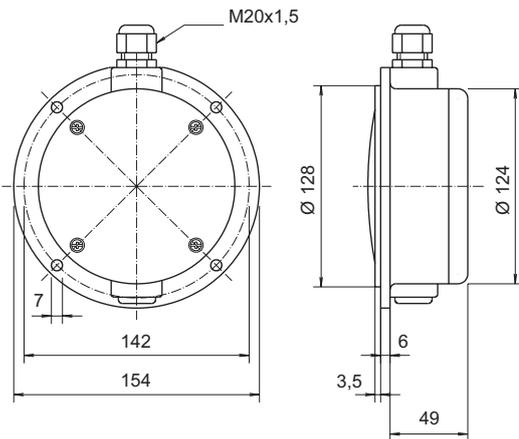


Technical Details

- Installation Position : Vertical
- Maintenance : None
- Cable Entry Fitting : M20 x 1.5
- Contact Loading Capacity : 15 A / 250 V AC (for resistive loads)

Model - CD

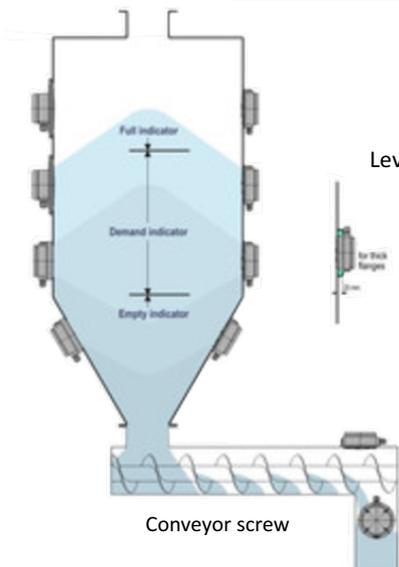
Most Economical (Dim. in mm)



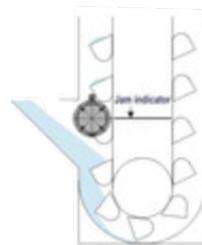
Technical Specification

- ❖ Membrane : NBR
- ❖ Mounting ring & screws : Galvanized Steel or 301 Stainless Steel
- ❖ Housing : Glass Reinforced Plastic GRP
- ❖ Weight : 480 g
- ❖ Sensitivity : 60 – 1000 g Adjustable
- ❖ Protection : IP 40 (Screwed Fitting Bottom)
IP 53 (Screwed Fitting Top)
- ❖ Contact Loading : 15 A / 250 V AC (for resistive loads)
- ❖ Temperature Range : -25°C – +80°C
- ❖ Pressure : +0.5 bar
- ❖ Cable Entry : M20 x 1.5 Fitting
- ❖ Mounting : Vertical
- ❖ Contact function : 1 NO + 1 NC

Silos and container



Level indicators for bulk solids



Application :

- ❖ High level indicator in a container for fine sand
- ❖ Empty detection in silos filled with plastic granular
- ❖ Level control in flour silos of large bakeries
- ❖ Jam control in a screw conveyor for blanched pulp