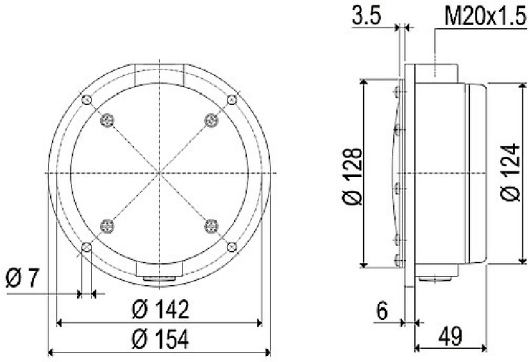
DISIBEINT

CNM 20

LEVEL CONTROL FOR SOLIDS



Application field	Level switch by membrane for the level control of materials in bulk at easy flow, at atmospheric pressure..
Operating principle	The membrane must be in touch with the material to be controlled. As the material that enters the silo accumulates and covers the membrane, the pressure on the material pushes back the membrane pressing the mechanism that drives a switch. This switch is used to operate visual or acoustic signals, or to start the loading and unloading mechanisms in silos and containers..
Product density	0,3 t/m^3 .. 2,5 t/m^3
Operating pressure	Atmospheric
Breaking pressure	+0,5 bar
Cable input	Female thread M20x1,5
Type of contact	Micro switch SPDT, 10A/250VAC resistive load. For inductive load, reduce at 50%.

Model	**CNM 20 P**		**CNM 20 A**
Body material	Reinforced polyester with galss fiber		Aluminio
Operating temperature	-20ºC .. +60ºC		-25ºC .. +80ºC
Protection	IP53/IP40 according cable gland position		IP65
Weight	0,48 kg		0,95 kg
Membrane material	NBR (**N**)	VITON (**V**)	Inoxidable AISI304 (**I**)
Application	Standard. High and medium level.	Optional. Medium and low level. Products with temperature, greasy.	Optional. Medium and low level. Higher resistance to the strain.
Sensitivity	60 .. 1000 g, according to the model. All the models are supplied adjusted to the maximum sensitivity. It must be applied the required pressure to assure the return of the membrane when it become free of material.		
Adjustment	By moving the support bracket towards the center, the material must make more force to operate the switch.		By means of a nut in a regulation column.
Membrane fastening (ring and screws)	Standard, zinc plated steel(**Z**). Optional, stainless steel AISI304 (**I**).		

Reference setup

To compose a reference, select one option of each one of the columns.

Example: **CNM 20 PNZ**

MODEL		HOUSING		MEMBRANE		MEMBRANE FASTENING	
CNM 20	Membrane switch	**P**	Polyester	**N**	NBR	**Z**	Zinc plated steel
		A	Aluminium	**V**	VITON	**I**	Stainless steel
				I	SS		

Installation and assembly

Whenever possible, it is advisable to install the controllers on vertical surfaces. This placement ensures that the material flows freely to and from the membrane facilitating the work of the controller.

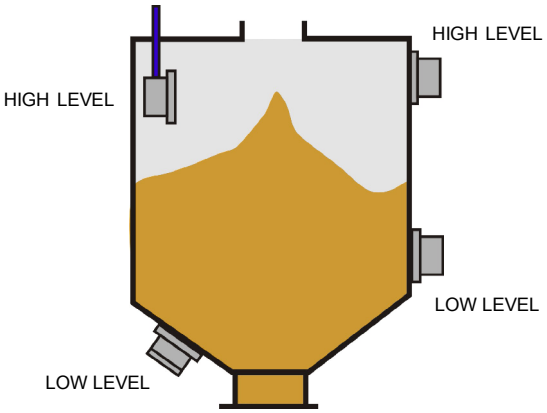
Low density materials require full membrane coverage to operate the micro switch.

They can be installed horizontally to indicate obstructions in transport systems or surfaces whose inclination does not exceed 40º of the vertical and whenever the materials that flow by the silo or conduit leave the membrane completely free when emptying.

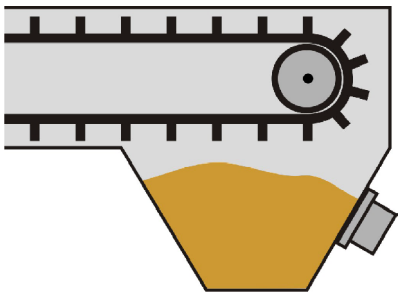
High level controllers must be mounted low enough for the material to reach and fully cover the membrane before the high level signal is required.

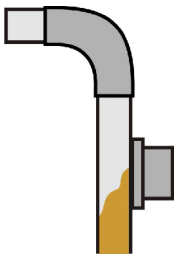
The low level controllers must be mounted high enough for the material to release the membrane with sufficient time to act on the control systems.

Assembly examples

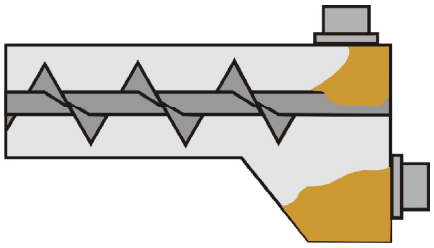


Possible placements in a silo



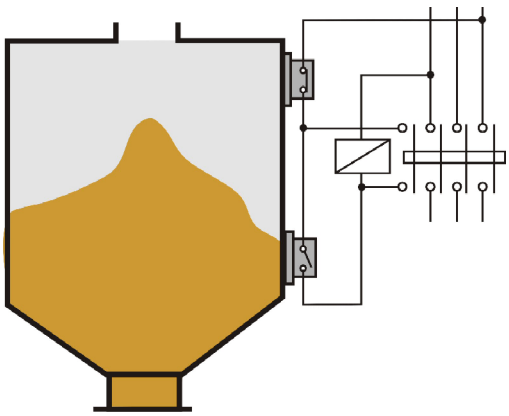


Loading control in pipes working at full tube.
Jamming control if the material flows freely.



Jamming control in transport belts and endless threads

Example of connection diagram



Schematic for an automatic control according to the level changes of the material in a silo.
When the material releases the low-level membrane, the filling mechanisms operate and it stops when the material covers the high-level membrane.
The cycle is repeated when the low-level membrane is released again.

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