



## MICRO DIGITAL VACUUM SWITCHES

If accurately calibrated and compensated for temperatures, these small devices are able to give very precise digital signals to the set maximum measuring value.

The switching point, which is within the scale value, can be easily programmed by means of an adjustment screw located on the upper part of the device.

A red LED near the screw indicates the digital output signal commutation status.

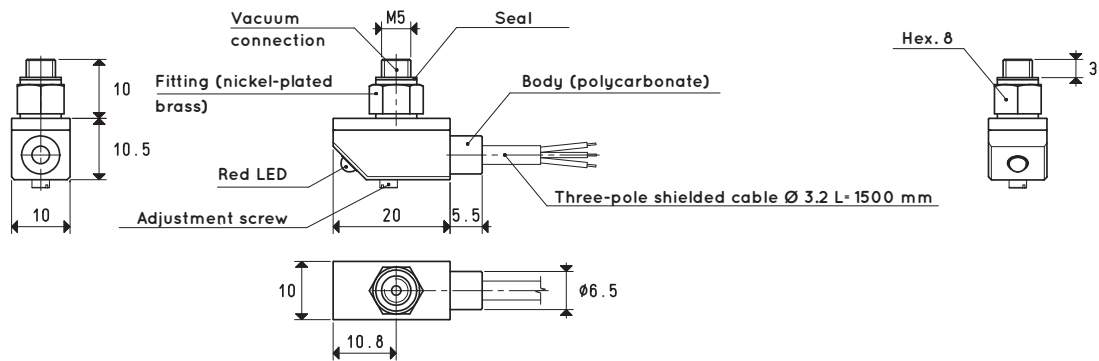
The pressure differential (hysteresis) between the set maximum value and the value of reset of the rest signal is 2% of the set value and cannot be adjusted.

They are composed of a polycarbonate enclosure, which includes the sensor and the electric circuit, and of a coupler or a small aluminium manifold with the vacuum connections.

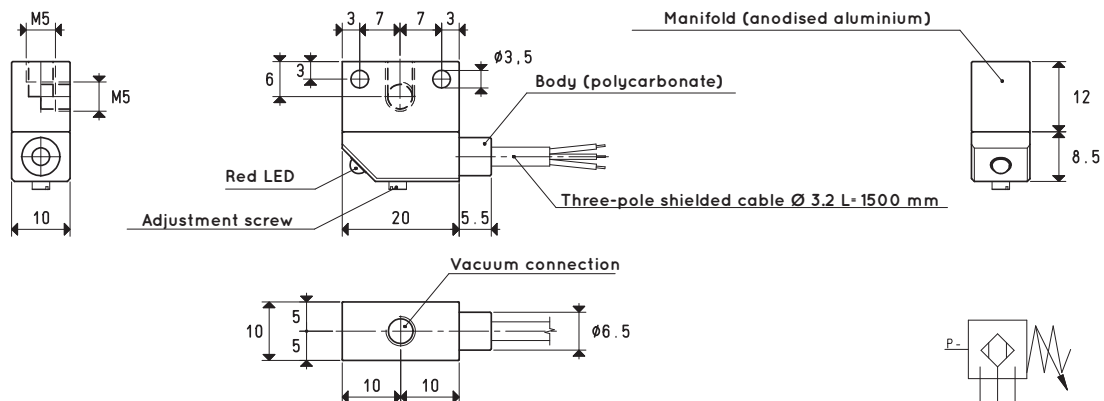
Item 12 05 10 can also be rotated freely to place the display in the desired position, without having to unscrew it from the vacuum connection. The vacuum connection can be carried out via male or female M5 connectors, while the electrical connection is made via a three-connector cable with which they are equipped. Mini digital vacuum switches are suited for controlling dry air and non-corrosive gasses. They are recommended in all those cases that require a signal when a certain level of vacuum is reached, for safety, for starting a cycle, for checking the cup grip, etc.



### Item 12 05 10



### Item 12 05 11



Cable colour	Delivery
<b>brown</b>	positive pole ⊕
<b>black</b>	output signal
<b>blue</b>	negative pole ⊖

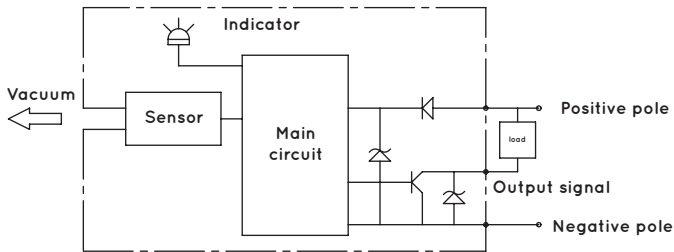
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity)

inch =  $\frac{\text{mm}}{25.4}$  ; pounds =  $\frac{\text{g}}{453.6} = \frac{\text{Kg}}{0.4536}$

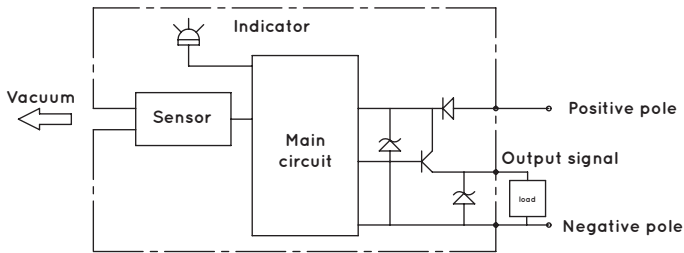
INTERNAL ELECTRICAL DIAGRAMS

OUTPUT CONTACT DIAGRAM

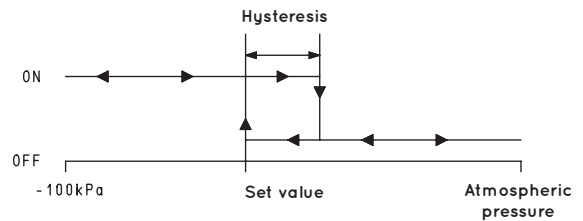
NPN open contact



PNP open contact



The LED lights up at the pre-set pressure and switches off at the pre-set pressure minus the hysteresis



Characteristics and electrical specifications	Item 12 05 10 P Item 12 05 11 P	Item 12 05 10 N Item 12 05 11 N
Adjustment range	from 0 to -1 bar	
Maximum overpressure	2 bar	
Operating voltage	10.8 - 30 VDC (Protection against polarity inversion)	
Electrical absorption	≤20 mA	
Commutation outputs	1 digital PNP, NO	1 digital NPN, NO
Reaction time	≤1 ms	
Commutation frequency	1000Hz	
Hysteresis	Not adjustable, 2% of the maximum set value	
Repeatability	±2% of the measuring range	
Commutation indicator	Red LED	
Insulation resistance	100 MΩ	
Test voltage	500 VAC, 1 min	
Degree of protection	IP 40	
<b>Environmental operating conditions</b>		
Installation position	Any	
Controllable fluids	Dry air and non-corrosive gas	
Operating temperature	-10 - +60 °C	
Storage temperature	-20 - +70 °C	
Interference emission	In compliance with EN 55011, Group 1, Class B	
Resistance to interference	In compliance with EN 61326 – 1	
<b>Characteristics and mechanical specifications</b>		
Container material	Polycarbonate PC	
Connection material	Nickel-plated brass and aluminium	
Weight (without cable)	About 5g	
Electrical connection	Three-conductor cable, 1.5 m long	
Connection to the fluid	M5 male or female threading	