



# DIGITAL VACUUM AND PRESSURE SWITCHES

3D drawings are available on [vuototecnica.net](http://vuototecnica.net)

These compact and extremely light switches come enclosed in a sturdy ABS casing; these features allow their installation on the machine and close to the application.

These digital switches are accurately calibrated and compensated for temperatures and therefore are able to give very precise measurements values. The detected values are shown on the display, making it unnecessary to use a vacuum gauge. The two LEDs, one red and one green, built-in the control panel, indicate the commutation status of the two digital output signals.

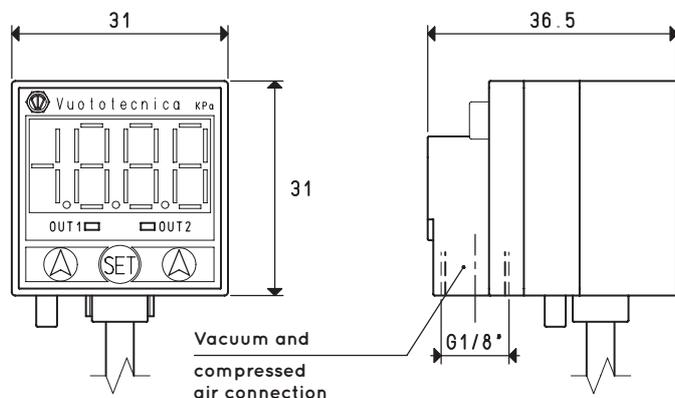
The two commutation outputs are completely independent.

The switching points within the scale values, including hysteresis, are easily programmable via the buttons located on the control panel.

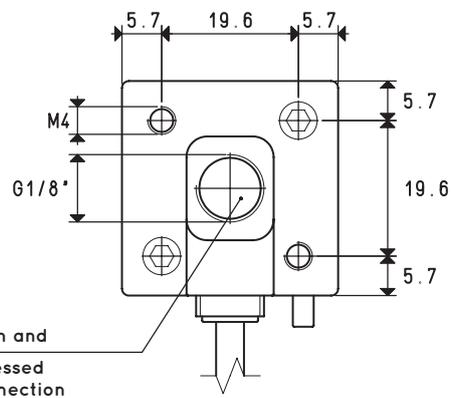
Additional functions are also programmable, such as comparison between two values, NO and NC contacts, choice of the unit of measurement, programmed value and function blocking, etc.

The vacuum or the pressure connections can be carried out via a dual connection with female G 1/8" thread, while the electrical connection is carried out through the 4-conductor cable with which they are equipped. These switches are suited for measuring and controlling dry air and non-corrosive gas.

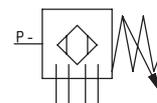
They are recommended in all those cases that require a signal when a certain level of vacuum is reached set for safety, for starting a cycle, for checking the cup grip, etc. Moreover, the hysteresis function allows managing the vacuum generator compressed air supply, allowing considerable energy saving.



Vacuum and compressed air connection



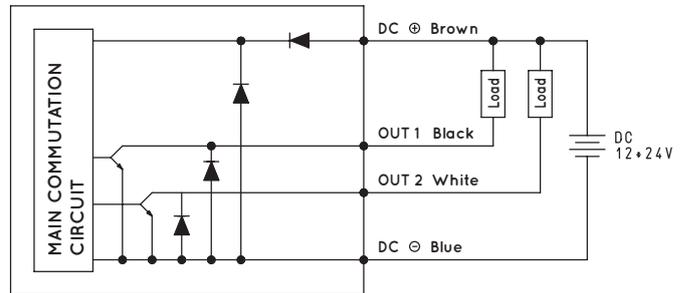
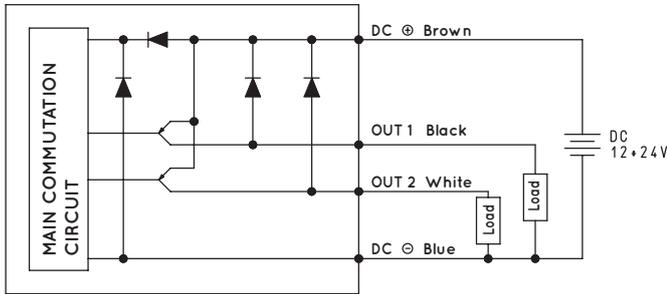
Vacuum and compressed air connection



## WIRING DIAGRAMS

PNP

NPN



Characteristics and electrical specifications	Item 12 20 10 P Vacuum switch	Item 12 35 10 P Pressure switch
Measuring range	-100 ÷ 0 kPa -1000 ÷ 0 mbar	0 ÷ 10 bar
Maximum overpressure	5 bar	15 bar
Minimum detectable values	1 mbar	10 mbar
	0.1 kPa	0.001 MPa
	0.001 Kgf/cm <sup>2</sup>	0.01 Kgf/cm <sup>2</sup>
	0.001 bar	0.01 bar
	0.01 psi	0.1 psi
	0.1 InHg	--
	1 mmHg	--
	10 mmH <sub>2</sub> O	--
Operating voltage	12 - 24 VDC ±10% (Protection against polarity inversion)	
Electrical absorption	≤55 mA	
Commutation output	2 digital PNP, NO or NC, maximum commutation current 80 mA	
Display tolerance	≤ ±2% F.S. ±1 digit	
Reaction time	≤2.5 ms	
Hysteresis	Adjustable	
Repeatability	±0.2% of the measuring range	
Display	LED at 3 1/2 digit, 7 segments, OUT 1 green OUT 2 red	
Insulation resistance	50 MΩ to 500 VDC	
Test voltage	1000 VAC, 1 min	
Degree of protection	IP 40	
<b>Environmental operating conditions</b>		
Installation position	Any	
Measurable fluids	Non-corrosive gas and dry air	
Operating temperature	0 - +50 °C	
Storage temperature	-20 - +60 °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	ABS plastic - PC	
Connection material	Nickel-plated brass	
Weight	105 g, including electrical cable	
Electrical connection	With 4-conductor wire cable length 2 m	
Connection to the fluid	Female G 1/8" threading	
<b>Accessories</b>		
Fixing kit	wall - Item 00 12 30 table - Item 00 12 31 panel - Item 00 12 32	

Note: Add the letter N after the item (for example 12 20 10 N) for NPN and non PNP commutation output.