PVI

Technical data

PVI

825B017B

Pressure/current converter

Power supply:	**24, 115, 230 Vac**
Power consumption:	**5 VA max.**
Storage temperature:	**-30÷+80 °C**
Working temperature:	**-10÷+50 °C**
Pressure range:	**0÷5000 mmH_2O**
Sensibility:	**<2mV/Pa - <3,2microA/Pa**
Analog Outputs:	**0÷10V on min 3Kohm**
	4÷20mA on max 500ohm
Digital outputs:	**4 change-over contacts**
	(only some version)
Contact rating:	**3A 250Vca**
Hysteresis:	**1% o 2 % selectable**
Display:	**green led - supply**
	red led - threshold

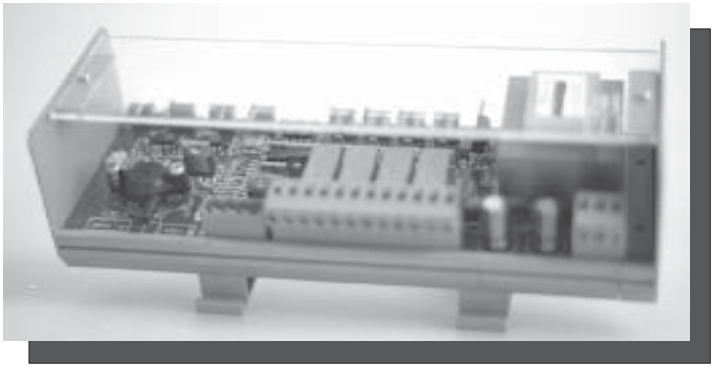


fig.1

PVI General

PVI is a device that converts a pressure into the standard electric signals 0/4÷20mA and 0÷10V; it has incorporated 4 thresholds adjustable within the range of the pressure from 0 to 100%.
PVI could be therefore used as level measurer, level detector or level regulator.
The particular constructive technology of the transducer allows to get excellent performances as precision, repeatability, linearity and hysteresis; the sensor house a single monolithic silicon die and it is laser trimmed for precise span, offset calibration and temperature compensation.

PVI Application

Level control with insufflating method.

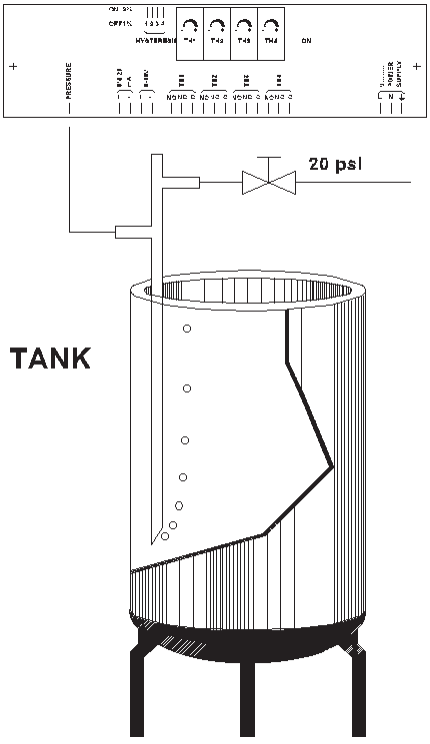
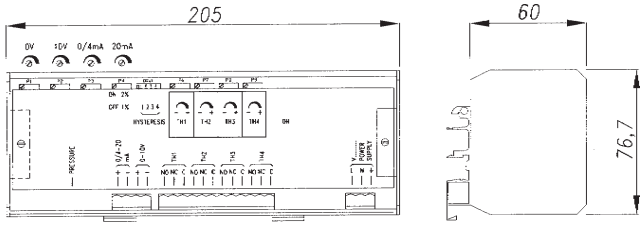


fig.3

PVI Mechanical installation

· Fix the APS probe on the tank just to the point in which you must be effected the control of the minimum level; the extremity of the probe must be cut to “beak of flute.”
· Power on the probe with air to 20 psi; carry the level of the liquid within the reservoir to the maximum level and act on the regulator of flow until to get a continuous and regular bubbling of air from the extremity of the probe in the liquid.
The regulator of flow must be mounted most possible near to the probe.
If more probes have powered from the same line of air, this must be calibrated in way to don’t have again of the fall of pressure.
· you don’t must mount the probes near to the aspiration of the pumps.
· turbulence provoked to the presence in the reservoir of a mixer they create instability in the determination of the level; the variations to the turbulence they could be reduced using a pipe of calm to protect the extremity of the probe.



PVI Electrical connections

The diagram of the electric connections has shown in figure 4.
Minimum section of the cables: 0.5 mm2
Maximum length of the cables: 250 m
The cables of connection must have separate run from the cables of power.

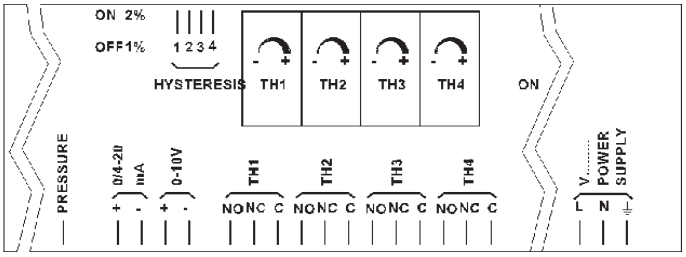


fig.4

PVI Warranty

The warranty expires when damages they have provoked from the use not quite or from not correct installations. The warranty is valid for a period of 12 months from the acquisition behind presentation of the manual present of installation. All the reparations in warranty will have realised beside our establishment in Rodano (MI), the costs of dismounting and reinstalling of the device and the costs of transport will be paid by the customer.

PVI Factory test certificate

In conformity to the production and check procedures I certify the equipment:

PVI ..... serial n. .....
satisfy technical characteristics as write in TECHNICAL DATA
and it is conform to the internal procedures

Quality control Manager

.....

Date of manufacture:

.....

CE

PVI Calibration

The measure range specified in the ordering code represent the maximum limit to which the device could work; by changing the gain the measure range specified could be reduced to one half. Standard calibration (0÷10V, 4÷20mA) is achieved by only regulating the output voltage; the output current is set automatically. If a different calibration for the voltage and current is required you can act on the corresponding trimmers, shown on the card, to achieve it.
The 4 thresholds are totally independent and adjustable within all the level range.
The hysteresis of the thresholds could be equal to 1% or 2% of the bottom scale value and it is selectable by setting a dip-switch.

0÷10V 4÷20mA calibration.

This is the standard calibration. If your measure range is equal to that specified in the ordering code then the device don't require any calibration. If you want a different measure range you must act as follows:
a) measure the output voltage with a good voltmeter;
b) set the liquid level in the tank to 0% and, acting on the trimmer P0, set the output voltage to 0V. Automatically the output current is set to 4mA;
c) set the liquid level in the tank to 100% and, acting on the trimmer P10, set the output voltage to 10V. Automatically the output current is set to 20mA.

Particular calibrations.

If you want a different calibration for the output current you must proceed as follows:
a) measure the output voltage with a good voltmeter and the output current with a good amperometer;
b) set the liquid level in the tank to 0%.Acting on the trimmer P0 set the output voltage to 0V. Acting on the trimmer P0/4 set the output current to the minimum value (for example 0mA);
c) set the liquid level in the tank to 100%. Acting on the trimmer P10 set the output voltage to 10V. Acting on the trimmer P20 set the output current to the maximum value (for example 20mA).

Note

The current calibration depends on the voltage calibration so you must first regulate the voltage trimmers and then the current trimmers. If you don't want a wrong calibration you must follow the instructions scrupulously.

Thresholds calibration.

The calibration of the thresholds is performed in the following way:
a) set the liquid level in the tank to the alarm level;
b) starting from minimum, turn slowly the trimmer of the threshold to be calibrate until to get the desexcitation of the relay; at this point turn the trimmer toward the minimum until to get the excitation of the relay. The trimmer must be positioned between the two points that determine the relay release.

Hysteresis calibration.

The hysteresis threshold could be equal to 1% or 2%. The standard setting is 2%; if you want a more precise threshold the hysteresis could be led to 1% by setting the deep-switch on the OFF position.

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