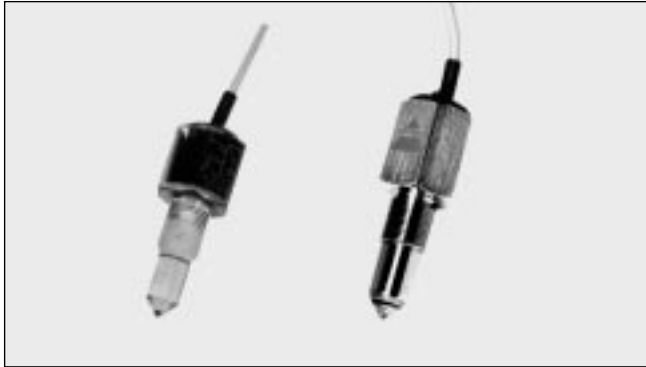


Level Sensors Optical Types VP, Modulated

CARLO GAVAZZI



- Modulated infrared sensor for liquid level detection
- Built-in amplifier, Ga-As diode
- Output: Transistor NPN/PNP, make or break switching
- High chemical resistance to most acids and bases
- VP01/03/05/23: Output OFF when sensor in liquid
- VP02/04/06/24: Output ON when sensor in liquid
- No electrical or thermal connection between liquid and electrical circuit
- LED-indication for output ON
- Power supply 10 to 40 VDC

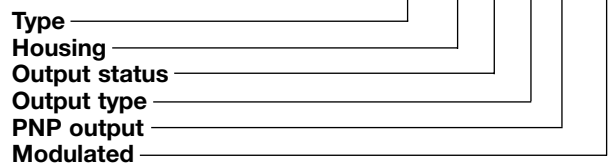
Product Description

Optical level sensor with modulated, infrared light for the detection of liquids. Fitted with built-in amplifier. Transmitter and receiver are completely self-contained in solid plastic designed for mounting into container wall. VP01/02 are available in a

Polysulfone housing resistant to most acids and bases. VP03/04EM are available in a Polyamide 12 housing resistant to various solvents. VP05/06 are available in a TPX housing. VP23/24 are available in a stainless steel housing.

Ordering Key

VP 0 3 E P M



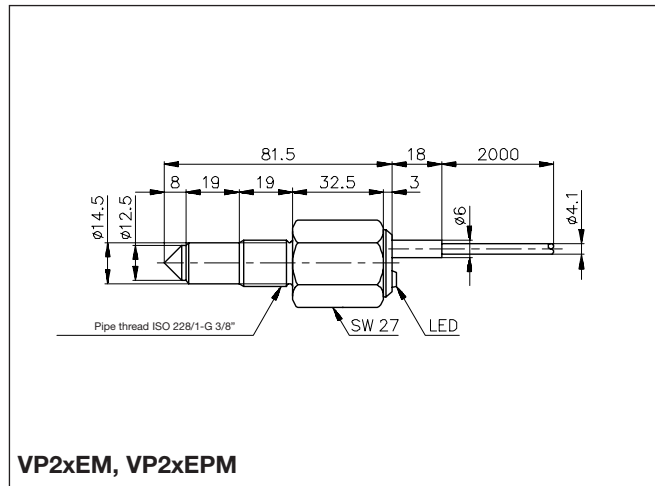
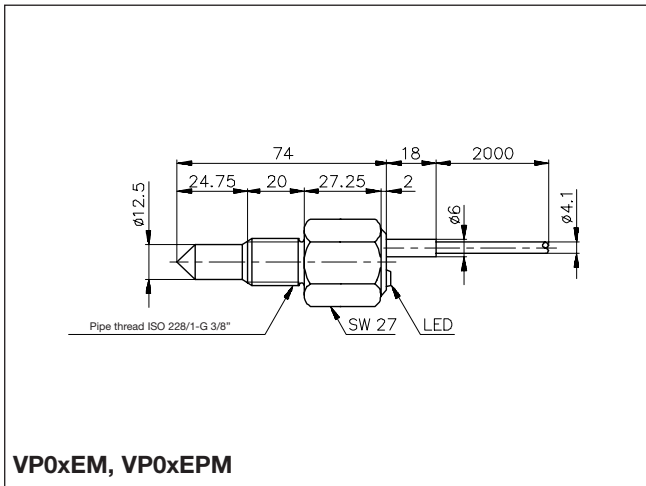
Type Selection

Housing material	Ordering no. Transistor NPN Make switching	Ordering no. Transistor NPN Break switching	Ordering no. Transistor PNP Make switching	Ordering no. Transistor PNP Break switching
Polysulphone	VP 02 EM	VP 01 EM	VP 02 EPM	VP 01 EPM
Polyamide 12	VP 04 EM	VP 03 EM	VP 04 EPM	VP 03 EPM
TPX	VP 06 EM	VP 05 EM		
Stainless steel	VP 24 EM	VP 23 EM	VP 24 EPM	VP 23 EPM

Specifications

Rated operational voltage	10 - 40 VDC	Indication for output status	LED, yellow
Rated operational current Continuous	200 mA	Housing material VP01/02 VP03/04 VP05/06 VP2x	Polysulphone Polyamide 12 TPX Stainless steel (AISI 304)
Voltage drop	≤ 1.0 VDC	Tip material VP01/02 VP03/04, VP23/24 VP05/06	Polysulphone Polyamide 12 TPX
No-load supply current	≤ 7 mA	Weight VP0x VP2x	90 g 190 g
Sensing accuracy Liquid level difference	Horizontal mounting: ± 5 mm Vertical mounting: ± 2.5 mm	Connection	Cable PVC, 2 m
Ambient light	0 - 50.000 lux	Pressure VP0x VP2x	10 bar at + 60°C 10 bar at + 80°C
Frequency of operating cycles (f)	30 Hz	Pipe thread	3/8" PT
Environment Degree of protection Operating temperature Storage temperature	IP 67 -20° to +80°C (-4° to +176°F) -40° to +100°C (-40° to +100°F)		

Dimensions



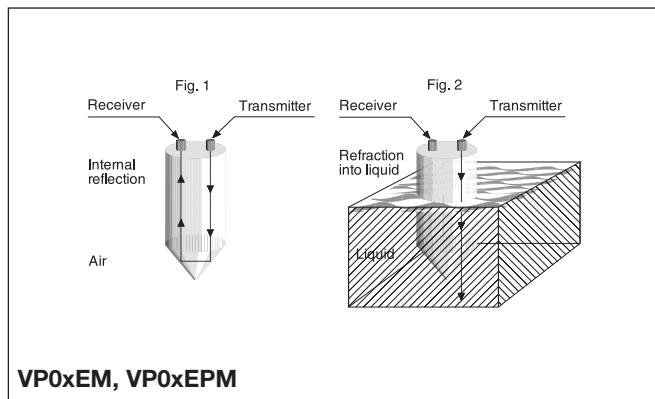
Mode of Operation

The sensor contains IR transmitter, receiver and amplifier with transistor output. The light source is a Ga-As diode emitting infrared light in short pulses.

The conical tip of the sensor forms an angle of 90°C. This angle acts as a prism, i.e. the beam, emitted from the Ga-As diode placed in one side of the sensor head, is reflected internally to the phototransistor placed in the other side of the sensor head, provided

that the tip of the sensor is situated in free air. If the sensor tip is immersed in a liquid, always having a refractive index different from air, the beam will not be refracted by the prism and the photo transistor will not receive any signal.

The sensor types can operate in oil, waste water, aqueous solutions such as beer, wine, alcohol etc. without any kind of accessory.



Wiring Diagrams

