SOP400 Opto Eletronic Level Switch

Characteristics

- Reliable optical reflection technology with no moving parts
- Accurate, repeatable switch point for a wide variety of liquids
- Multiple output options including PNP (NO) or NPN (N/O or N/C) standard or remote controller with relay output
- Small size is ideal where space is limited
- Reverse polarity, short circuit and over voltage protection
- Work temperature -40...100°C (up to 135°C upon request)
- Class Protection IP67 (IEC 60529)

Description

The SOP400 Opto Eletronic Level Switches are used for level detection in liquids, independent of physical characteristics such as density, dielectric constant or the conductivity of the medium. The SOP400 provides an accurate, repeatable point level switch which can be mounted in any position, especially where space is limited. This unit is often the ideal solution for point level detection of all types of industrial and food grade oil products.

Operating Principle:

The electro-optic sensor contains an infrared LED transmitter and light receiver. Light from LED is directed into a prism which forms the tip of the sensor. With no liquid present, light from LED is reflected within the prism to the receiver. When liquid immerses the prism, the light is refracted out into the liquid. Sensing this change, the receiver actuates electronic switching within the unit to operate an external alarm or control circuit.

Electrical characteristics

SOP400 Series

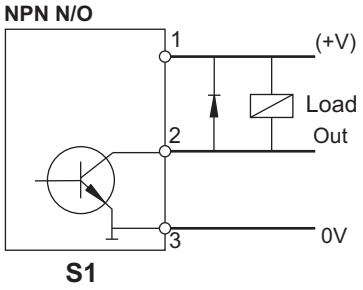
Power Supply:	(SOP430) 9...32 Vdc / (SOP412) 5...12Vdc
Consumption:	15mA
Output Indication:	LED (Red)
Output:	PNP (N/O) or NPN (N/O or N/C) open collector
Output Current (Load):	100mA
Protection:	Polarity Reversal / Electrical Surges / Short Circuit
Electrical Connection:	Cable or M12 Connector
Class Protection:	IP67 (M12) / IP67 (Cable)
Max Pressure:	20 Bar
Ambient IR limit (940nm):	Max 10.000 Lux (ambient)
Work Temperature:	-40...+100°C (up to 135°C upon request)
Ambient Temperature:	-25...+70°C
Repeatability:	+/- 0.5mm
Hystereses:	<1 mm
Response Time:	1s (Rising) / 50us (Falling) (Depending on viscosity)
Process Connection:	NPT / BSP / Sanitary Connection
Body Material:	316 S.S or PVC =/> 3/4”
Sensor Material:	Borosilicate Glass
Sensor Length (L):	35mm (Standard)

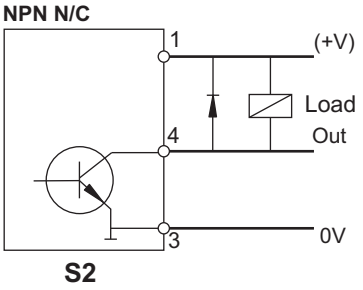
LV400 - Remote Relay

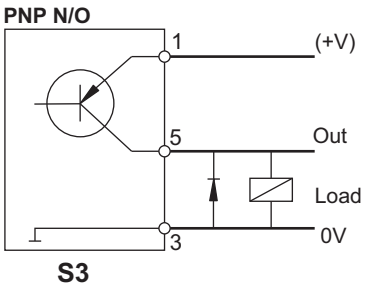
Power Supply:	(LV400/24) 24Vdc (+/-10%) / (LV400/11) 110 Vac / (LV400/23) 220Vac (50/60Hz)
Consumption:	2VA
Output:	Relay NO / NC (5A - 250Vac)
Output Indication:	LED (Red)
Enclosure:	ABS (Resistant thermoplastic)
Class Protection:	IP40
Work Temperature:	-10...+60°C
Fixation:	DIN rail 35mm

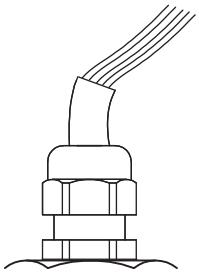
Electrical Connections

SOP400 Series



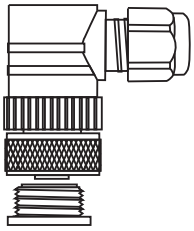




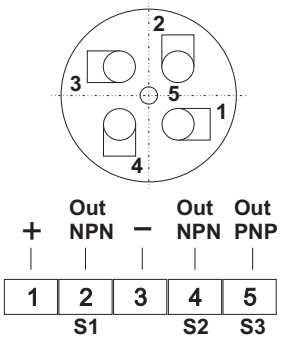


Red - (+V)
Black - (0V)
Blue - NPN
Yellow - NPN
Green - PNP

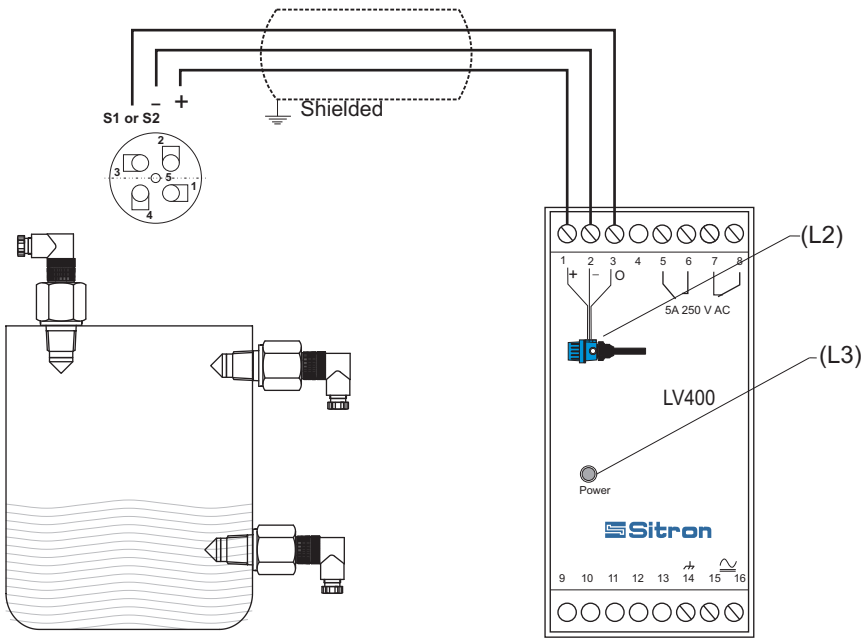
Cable Gland



M12 Connector



LV400 - Remote Relay



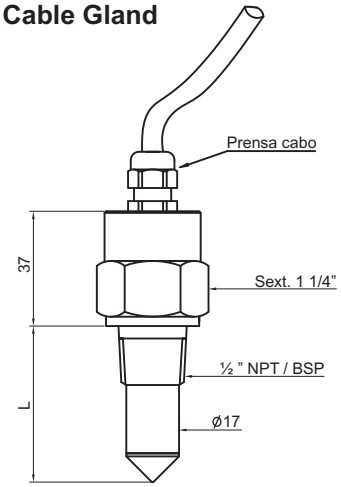
Relay Pins

1-
2-
3- } Input (SOP)
5- Contact NO
6- Common
7- Common
8- Contact NC
14- Ground
15- Power Supply (—)(∿)
16- Power Supply (—)(∿)
L2- Led: Level Indication
L3- Led: Power

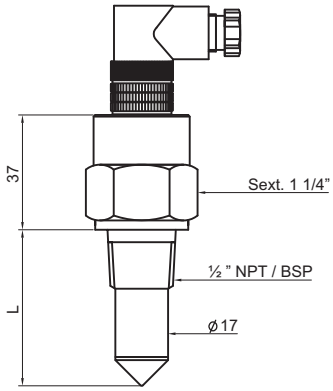
Dimension (mm)

SOP430 / SOP412

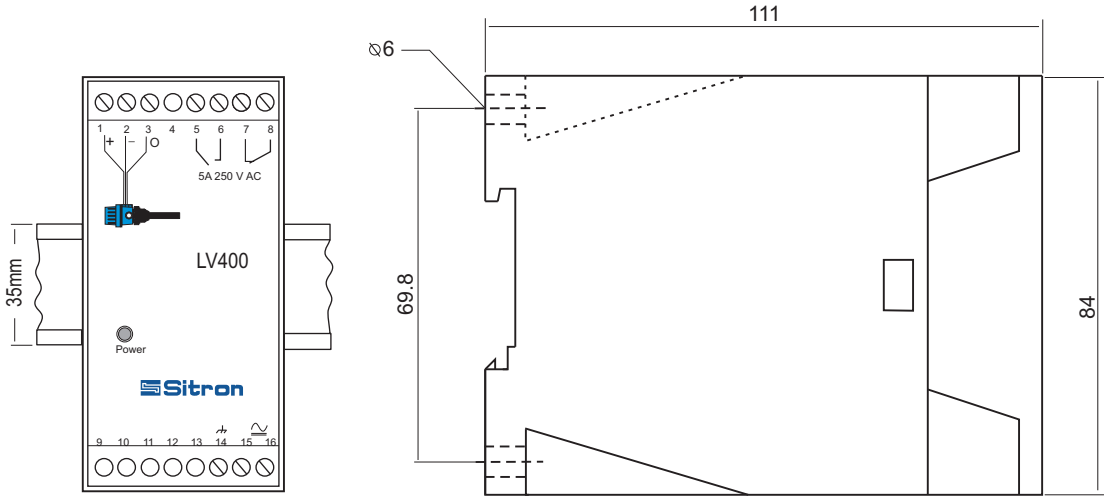
Cable Gland



M12 Connector



LV400 - Remote Relay



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