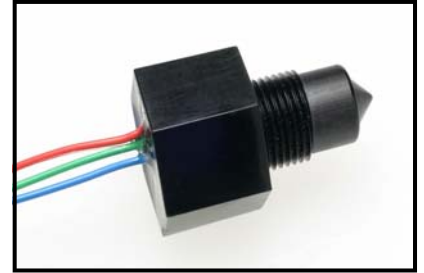




## Industrial Optical Liquid Level Switch Sensors

### OPT Series: 8-30vdc Optical Level Sensors

For industrial level sensor applications, optical sensors can be used to provide a switch output with no moving parts. This Polysulphone liquid level sensor provides a single point liquid level detection via N-type transistor output designed for price sensitive OEM applications. The liquid sensor provides a low power signal, making these optical sensors ideal for microcontrollers, when needing to detect the absence or presence of clean liquids. An infra-red LED and phototransistor ensures dependable optical coupling when the sensor is in air to prevent false readings. When the sensing tip is immersed in liquid, the phototransistor senses the liquid to switch the output state.



#### STANDARD SENSORS AND MOUNTING THREAD TYPES

Sensor Model	Thread Type	Sensor Type	Availability	Wetted Material
OPT4210-24P1	M12x1	Wet - (High in Air)	Call	Polysulphone
OPT4210-24P2		Dry - (Low in Air)	Call	Polysulphone
OPT4610-24P1	1/2" SAE	Wet - (High in Air)	Call	Polysulphone
OPT4610-24P2		Dry - (Low in Air)	Call	Polysulphone
OPT4710-24P1	1/4" NPT	Wet - (High in Air)	Stock - 6 wks	Polysulphone
OPT4710-24P2		Dry - (Low in Air)	Call	Polysulphone

#### SENSOR SPECIFICATIONS

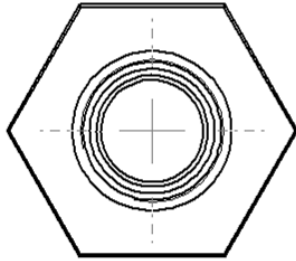
Supply Voltage (Vs)	+8Vdc to +30Vdc	Output Voltage (Vout) Vs = 8 - 30Vdc Iout = 1A	<b>Output High</b> Vout = Vs - 1.8V Max <b>Output Low</b> Vout = 0V + 0.7V Max
Output Type	-P1 (Wet Sensing) V output high in air -P2 (Dry Sensing) V output low in air	Output Voltage (Vout) Vs = 8 - 30Vdc Iout = 0mA	<b>Output High</b> Vout = Vs - 0.3V Max <b>Output Low</b> Vout = 0V + 0.1V Max
Output Sink	N-Type up to 1Amp		
Operating Temperatures	-40°C to +125°C (Extended)		
Housing Material	Polysulphone		
Standard Leads	24AWG, 250mm PTFE wire		
Pressure Rating	100 psi Max		

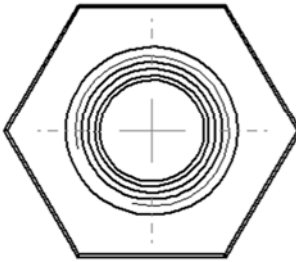
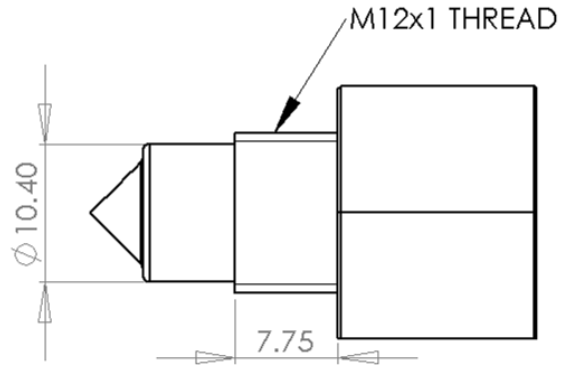
WIRE	DESIGNATION
RED	Vs (supply)
GREEN	OUTPUT
BLUE	0V (Gnd)

#### Sensor Cleaning and Compatibility

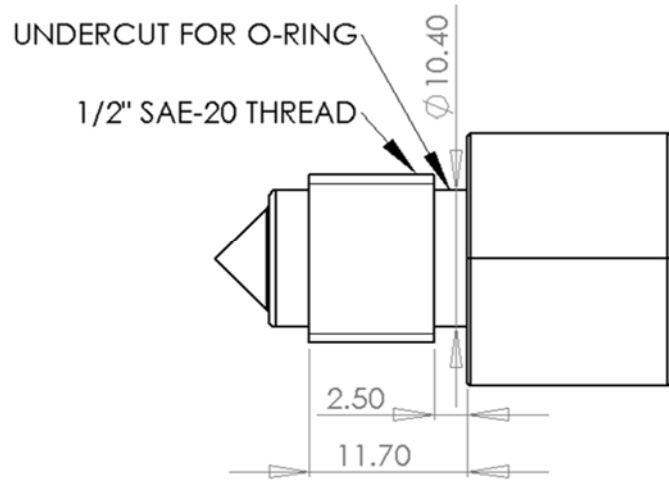
Clean with alcohol or Freon based solvents. DO NOT use chlorinated solvents such as trichloroethane which can affect the sensor surface. Check chemical compatibility chart before fluid installation.



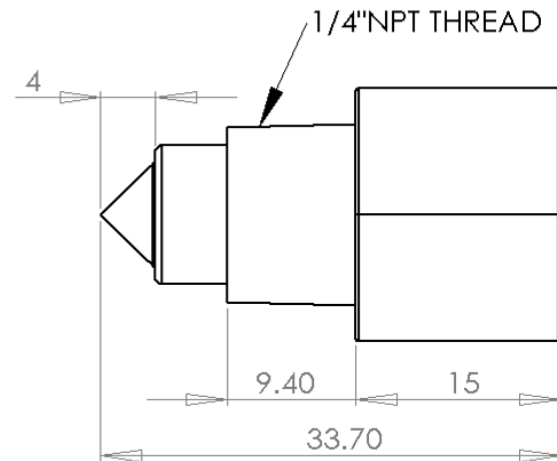
OPT4210-24xx (Mounted from Outside)



OPT4610-24xx (Mounted from Outside)



OPT4710-24xx (Mounted from Outside)

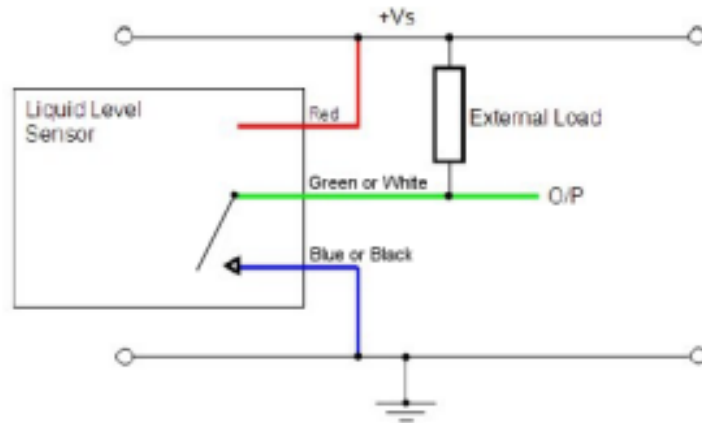


**PRODUCT DIMENSIONS**  
(All dimensions in mm)

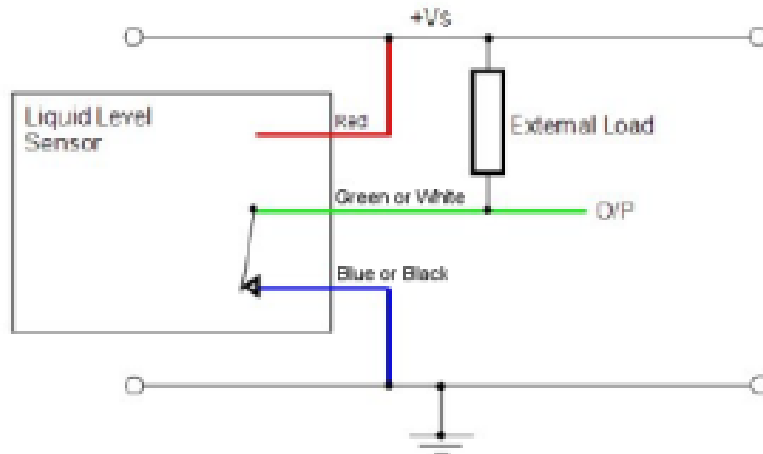
N-Type : Equivalent output circuit

10V—45V<sub>DC</sub>

N-Type High in Air



N-Type Low in Air





## Application Notes

### POLYSULPHONE

The list below may be used as a guide and gives common industrial fluids that are typically compatible with polysulphone. We recommend that before use you should test that the fluid you wish to use this device in is compatible with polysulphone.

Acetic acid - Glacial Acetic acid - 10% Ammonia - 88 Ammonium Hydroxide - 10% Ammonium Chloride - 10% Aviation spirit Benzene Benzoic acid Bleach Brine Butane Calcium Nitrate Calcium Hypochlorite Carbon Tetrachloride Chromic acid Copper Sulphate Creosote Cyclohexane Cyclohexanol	Detergent solutions Diesel fuel Diethylamine Diethyl Ether Dioctyl Phthalate Edible fats & oils Ethanol 50% Ethyl Alcohol Ethylene Glycol Ferric Chloride Formaldehyde Formic acid Glycerol Heptane Hydrochloric acid 10% Hydrochloric acid conc. Hydrogen Peroxide Isopropanol Iso-Octane Kerosene Linseed oil	Magnesium Sulphate Methanol Motor oil Nitric acid 10% Oils - Vegetable Oxalic acid Petroleum Ether Potassium Hydroxide 10% Potassium Hydroxide 50% Silicone fluids Silver Nitrate Soap solution Sodium Chloride Sodium Hydroxide 10% Sodium Hydroxide 50% Sulphuric acid 10% Transformer oil Turpentine Varnish Water White Spirit
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### TROGAMID

The list below may be used as a guide and gives common industrial fluids that are typically compatible with trogamid. We recommend that before use you should test that the fluid you wish to use this device in is compatible with trogamid.

Acetone Benzene Break Free (lubricating oil) Carbon tetrachloride Diesel fuel Econa PG32 (Hydraulic fluid) Ethanol Ethyl acetate Eucalyptus oil Formaldehyde solution Glycerine (DAB6) Heating oil	Isopropanol Methanol Mountain pine oil Petroleum ether Potassium hydroxide (25 w/w-%) Potassium hydroxide (50 w/w-%) Premium gasoline 1,2-propane diol Regular gas Test fuel (M15) Toluene Xylene
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