

DATA SHEET

Plastic Optical Switches

OPT4210 Series

Miniature plastic liquid level sensors provide a single-point liquid detection via a TTL-compatible switch-like output. The low-power signal makes these optical switches ideal for microcontrollers when needing to detect the absence or presence of non-coating, clean liquids. An infrared LED and phototransistor ensure dependable optical coupling when the sensor is in the air to prevent false readings. When the sensing tip is immersed in liquid, the phototransistor senses the liquid to switch the output state.

Applicable Industries

- Analytical instrumentation
- Medical devices
- Semiconductor processing equipment

Features

- Detects high/low levels in a container
- Can sense a variety of clean, non-coating liquids such as ultra-pure water, oil and carbon dioxide
- Stable even under continuous use in hot water and steam at temperatures up to 257°F

Wetted Material

- Polysulphone

Specifications

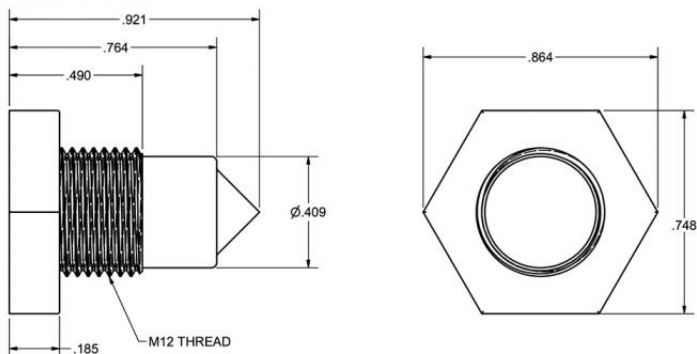
- Input voltage: 4.5-15.4V DC
- Lead wires: 9.8", 24 AWG, PTFE insulated
- Electrical rating: 100mA Iout Max
- Max. pressure: 100 psi
- Max. temperature: 257°F / 125°C
- Approval: CE

Part Numbers	Mount	Sensor Type / Output Type
OPT4210-P1	M12x1	Wet, high in air
OPT4210-P2		Dry, low in air

NOTE: Other fittings and voltages are available. [Contact us](#) to discuss your application.

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.



Custom Configurations

Contact us directly for custom solutions.
Email: info@madisonco.com

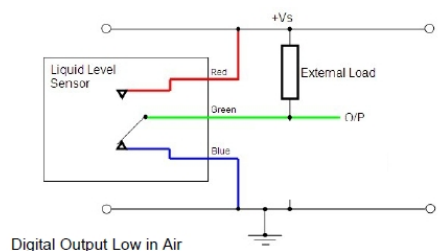
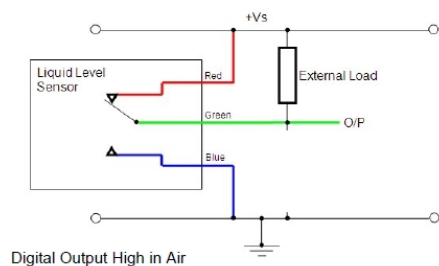


Output Voltage

Output Voltage (Vout) @ Iout = 100mA	Output High Vout = Vs - 1.5V Max
	Output Low Vout = 0V + 0.5V Max
Output Voltage (Vout) @ Iout = 0mA	Output High Vout = Vs - 0.3V Max
	Output Low Vout = 0V + 0.1V Max

Cable	Designation
RED	Vs (supply)
GREEN	OUTPUT
BLUE	0V (Gnd)

Digital Output: Equivalent Output Circuit



Polysulphone

Before use, we recommend that you test that the fluid you wish to use this device in is compatible with polysulphone.

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

Trogamid

We recommend that before use you should test that the fluid you wish to use this device in is compatible with trogamid.

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



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