

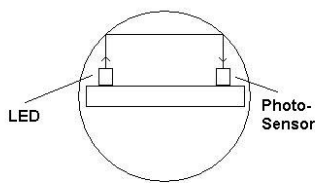


PRODUCT INNOVATION LIMITED

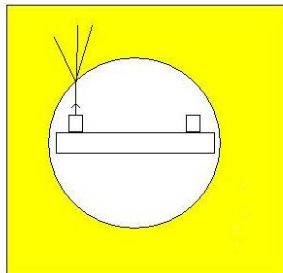
Optical Level Sensor Technical Specification

Method of Operation

The sensor uses the known optical principle of Total Internal Reflection. See diagram below:



Sensors above liquid
Light is internally
reflected



Sensors below liquid. Light passes
into liquid. It is not reflected.

The patented technology allows this principle to work in a continuous probe. In this way a level sensor with virtual analogue output is achieved.

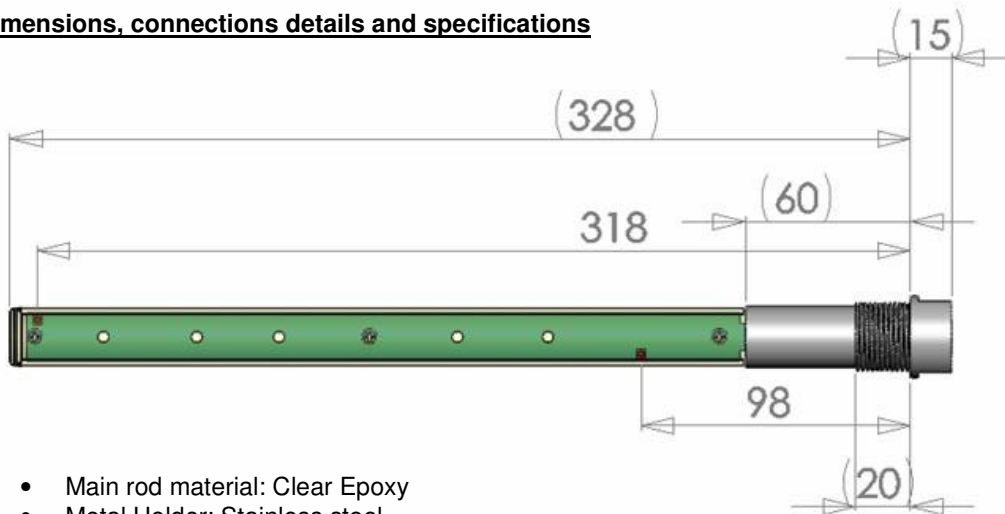
A long narrow PCB incorporating a ladder of IR LED's and sensors is encapsulated into a smooth rod, typically using clear epoxy resin. The Infra Red components are arranged so that they can be powered in pairs (one transmitter and one sensor). The electronics is used to scan these pairs until the point at which the Total Internal Reflection does not occur. This point is then interpreted as the Liquid Level. This level is of course independent of the type of liquid being measured. Unlike capacitance methods it does not depend on the dielectric of the liquid, nor does any conductivity affect the result.



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Dimensions, connections details and specifications

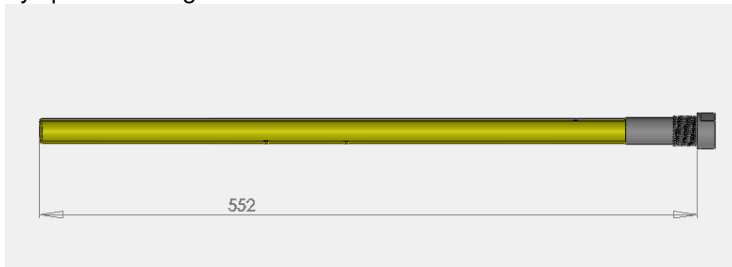


- Main rod material: Clear Epoxy
- Metal Holder: Stainless steel.
- The unit incorporates 56 sensors placed at 4mm spacing. The dimensions 318mm and 98mm relate to the lowest and highest sensor.
- The input is 12 -24VDC
- The output is in the range 0 – 5V DC.
- Metal Holder material: Stainless Steel
- The screw thread: 3/4 " BSP straight.
- O ring seals: EPDM
- Cable: 3 Core with strain relief grommet
- Cable Length: 6 metres (or to customer specification)
- Temperature range: -10C to +50C
- Max Pressure: 25 bar
- Connections:
 - Red 12/24VDC
 - Blue Ground
 - Yellow V Out

Note: Other lengths, resolutions and outputs are available on request. See below:

Length:

A similar, but longer, product is currently available. See dimensions below. Other lengths can be supplied by special arrangement.



Resolution:

The resolution is 4mm. This can readily be altered to suit customer needs. The minimum resolution is approx 1.5mm

Output:

The output is analogue 0 – 5V. This can be changed to meet customer needs. For example: 4 – 20mA, and digital can be supplied.