# Installation Instructions for
# **Metal Housed Industrial Optical Liquid Level Sensor Series**

**GENERAL DESCRIPTION**

The Metal Housed Industrial Series liquid level sensor provides a single point detection via a MOSFET output.

The sensor range was designed to directly switch incandescent indicators, sounders or relays.

An infra-red LED and phototransistor accurately positioned at the base of the cone ensure good optical coupling between the two when the sensor is in air. When the sensor's cone is immersed in liquid, the infra-red light escapes from  the cone causing a change in the amount of light at the phototransistor which makes the output change state. Various electrical outputs are available to suit different applications.

**CLEANING**

Proper fluids should be selected based on type of contamination to be removed. SST recommends freon and alcohol based solvents. DO NOT use chlorinated solvents such as tricholorethane as these are likely to attack the sensor material.

**Liquid Media Compatibility**

Before use check that the fluid in which you wish to use these devices is compatible with polysulphone.

## ELECTRICAL SPECIFICATIONS

| | |
|---|---|
| Supply voltage (Vs) | 5 to 15Vdc or 10 to 28Vdc (±5%) |
| Supply current | 15 mA nominal |
| Output Type | An "L" in the part number imdicates that the sensor output will go low in air. Otherwise the output will be high in air (see part numbering system). |
| Output sink/source current (lo) | 500 mA max |
| Operating temperature | -40 to +125°C (extended temperature range) |
| Storage temperature | -40 to +125°C (extended temperature range) |



**LLM710D3L24-003**

## MOUNTING

| Housing Type | LLM610 series | LLM710 series |
|---|---|---|
| Thread | ½" SAE with o-ring * | 1/4" NPT |
| Pressure (using sealing washer/O-ring) | 20 bar max | |
| Mounting hole | Ø 12.7mm | Ø 13.7mm |
| Housing Material | Brass | |
| Sensing Tip Material | Polysulphone | |
| Sensor Termination | 20AWG, 250mm PTFE Wires, 8mm Tinned | |

* O-rings sold separately, please contact us for details.

**Sensor Schematic**
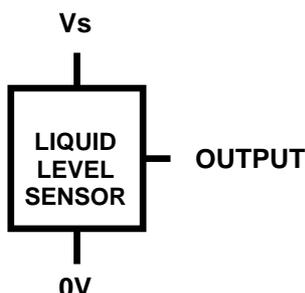


| WIRE | DESIGNATION |
|---|---|
| RED | Vs |
| GREEN | OUTPUT |
| BLUE | 0V |

## PART NUMBERING SYSTEM

LLM X X XD 3 X X - ITEM

**Housing Style**

6 – LLM600
7 – LLM700

**Temp. Range**

1 – -40°C to +125°C

**Output Current**

0 – 250mA Max.
5 – 500mA Max.

**Output Polarity**

L – Output low in air
Blank – Output high in air

**Supply Voltage**

24 – 10 to 28V d.c.
Blank – 5 to 15V d.c.

**Output Circuit**

001 – N-Channel Open Drain with flyback diode[*]
002 – Digital Output (Sink Current Only)
003 – N-Channel Open Drain
004 – P-Channel Open Drain
005 – N & P Channel Push-Pull Output
[*] For use with inductive loads

## OUTPUT TYPES

In order to suit any application, these sensors have been designed with various output circuit configurations. They are identified by the a 3-digit code at the end of part number and are as follows:

ITEM = -001
N-Channel Open Drain with Flyback protection diode for use with inductive loads



ITEM = -002
Digital output with internal pull-up resistor - Intended for connection to digital interface



ITEM = -003
N-Channel Open Drain



ITEM = -004
P-Channel Open Drain



ITEM = -005
N & P-Channel Open Drain Push-Pull Output