Installation Instructions for
High Performance Metal Housed Liquid Level Sensors

GENERAL DESCRIPTION

The High Performance liquid level sensor provides a single point detection via various electrical outputs to suit different applications.

Sensor range designed for aggressive environments, capable of withstanding high and low temperatures and mechanical shock and with options for high switching currents.

An infra-red LED and phototransistor accurately positioned at the base of the tip ensure good optical coupling between the two when the sensor is in air. When the sensor's tip is immersed in liquid, the infra-red light escapes from the tip causing a change in the amount of light at the phototransistor which makes the output change state.

CLEANING

Proper fluids should be selected based on type of contamination to be removed. SST Sensing 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.
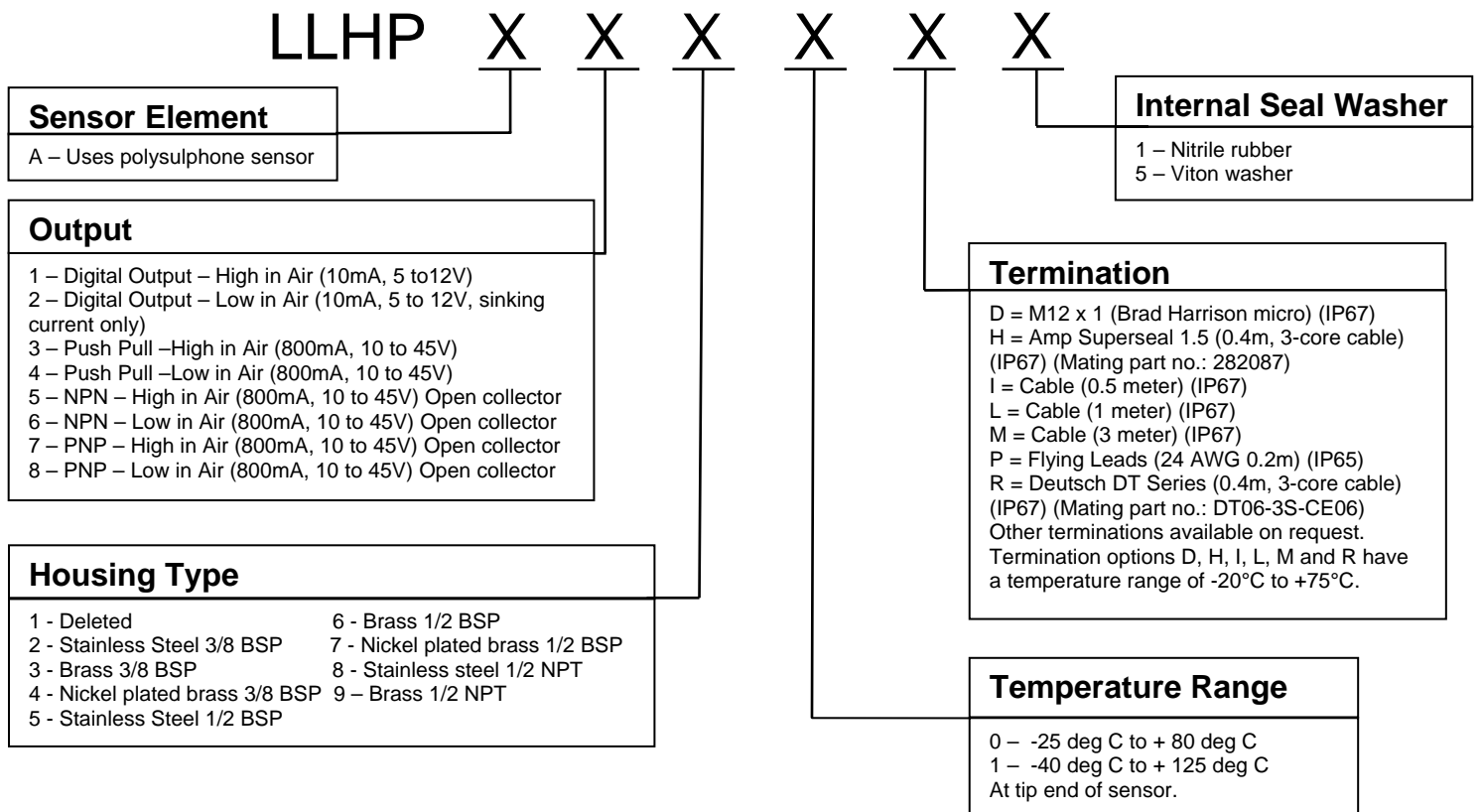
ELECTRICAL SPECIFICATIONS

Supply voltage (Vs)	5 to 12Vdc (±5%) / 10 to 45Vdc (±5%)
Supply current	15mA / 35mA
Output Type	High in Air or Low in Air,
Output Configuration	Digital Output or NPN / PNP Open Drain or Push-Pull (see page 2)
Output sink/source current (Io)	10mA max / 800mA max
Operating temperature	-25 to +80°C (standard temperature range) -40 to +125°C (extended temperature range)
Storage temperature	-30 to +85°C (standard temperature range) -40 to +125°C (extended temperature range)

LLHPA650L1

MOUNTING

Thread	1/2" BSP or 3/8"BSP or 1/2"NPT
Pressure (using sealing washer/O-ring)	25 bar max
Housing Material	Polysulphone with Stainless Steel or Brass or Nickle Plated Brass (see page 2)
Sensor Termination	Various (see page 2)

PART NUMBERING SYSTEM

LLHP X X X X X X

Sensor Element

A – Uses polysulphone sensor

Output

1 – Digital Output – High in Air (10mA, 5 to12V)
2 – Digital Output – Low in Air (10mA, 5 to 12V, sinking current only)
3 – Push Pull –High in Air (800mA, 10 to 45V)
4 – Push Pull –Low in Air (800mA, 10 to 45V)
5 – NPN – High in Air (800mA, 10 to 45V) Open collector
6 – NPN – Low in Air (800mA, 10 to 45V) Open collector
7 – PNP – High in Air (800mA, 10 to 45V) Open collector
8 – PNP – Low in Air (800mA, 10 to 45V) Open collector

Housing Type

1 - Deleted	6 - Brass 1/2 BSP
2 - Stainless Steel 3/8 BSP	7 - Nickel plated brass 1/2 BSP
3 - Brass 3/8 BSP	8 - Stainless steel 1/2 NPT
4 - Nickel plated brass 3/8 BSP	9 – Brass 1/2 NPT
5 - Stainless Steel 1/2 BSP	

Internal Seal Washer

1 – Nitrile rubber
5 – Viton washer

Termination

D = M12 x 1 (Brad Harrison micro) (IP67)
H = Amp Superseal 1.5 (0.4m, 3-core cable) (IP67) (Mating part no.: 282087)
I = Cable (0.5 meter) (IP67)
L = Cable (1 meter) (IP67)
M = Cable (3 meter) (IP67)
P = Flying Leads (24 AWG 0.2m) (IP65)
R = Deutsch DT Series (0.4m, 3-core cable) (IP67) (Mating part no.: DT06-3S-CE06)
Other terminations available on request.
Termination options D, H, I, L, M and R have a temperature range of -20°C to +75°C.

Temperature Range

0 – -25 deg C to + 80 deg C
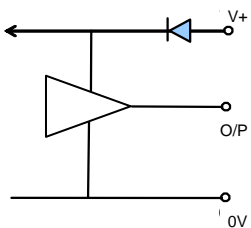1 – -40 deg C to + 125 deg C
At tip end of sensor.

Not all combinations are manufacturable and MOQs may apply in some cases.
Please contact SST Sensing for details.

OUTPUT TYPES

In order to suit any application, these sensors have been designed with various output circuit configurations.
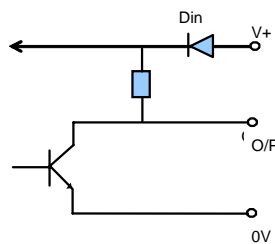
LLHPA1XXXX

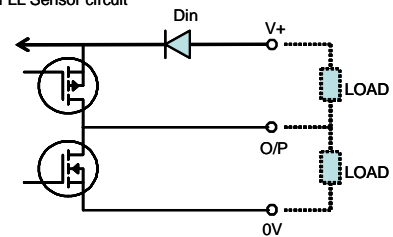Direct Comparator Output (sinking and sourcing current)

LLHPA2XXXX

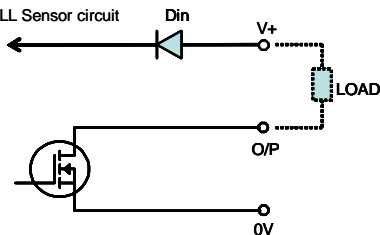Digital Output (sinking current only)

LLHPA3XXXX or LLHPA4XXXX

ITEM = -005
N & P-Channel Open Drain Push-Pull Output
To rest of LL Sensor circuit

LLHPA5XXXX or LLHPA6XXXX

ITEM = -003
N-Channel Open Drain
To rest of LL Sensor circuit

LLHPA7XXXX or LLHPA8XXXX

ITEM = -004
P-Channel Open Drain
To rest of LL Sensor circuit