



## S12S

### Submersible Level Transmitter with Silicon sensor and SDI-12

- Highly stable piezo-resistive pressure sensor
- Accuracy:  $<\pm 0.1\%$  FS Total Error
- ranges from 0.5mWG to 100mWG
- Gauge, Sealed Gauge or Absolute reference
- Level and Temperature output as standard

The S12S hydrostatic submersible level transmitter, has a stainless steel piezo-resistive silicon pressure sensor offering the ability to measure low pressure ranges from as little as 0.5mWG to be measured accurately. The use of a silicon sensor improves the resolution and stability of the device and offers a higher level of overall accuracy compared to other sensing technologies. Every device is temperature compensated and calibrated and supplied with a traceable serial number and calibration certificate. The electronics incorporate a microcontroller based electronics circuit, this means there are no adjusting pots and therefore the electronics are very stable. Every device is compensated and calibrated to a total error band of  $<\pm 0.1\%$  over -5 to +45°C. As well as the level measurement the device outputs the temperature value also.

#### The options available on the S12S Level transmitter include the following :

- Pressure range and engineering units
- Pressure reference (G, SG or Abs)
- Cable material
- O ring seal material

#### Suitable for the following applications:

- River and reservoir level
- Tank and vessel level
- Borehole level
- Environmental monitoring
- V-notch weir flow measurement

S12S Submersible Level Transmitter

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## Submersible Level Transmitter

## Input Level Range

|                                 |    |     |    |     |     |    |    |    |    |     |     |     |
|---------------------------------|----|-----|----|-----|-----|----|----|----|----|-----|-----|-----|
| Nominal pressure, Gauge         | mW | 0.5 | 1  | 2.5 | 3.5 | 5  | 7  | 10 | 20 | 35  | 70  | 100 |
| Nominal pressure, Absolute & SG | mW | -   | -  | -   | -   | -  | -  | -  | 20 | 35  | 70  | 100 |
| Permissible Overpressure        | mW | 10  | 10 | 10  | 10  | 10 | 21 | 21 | 60 | 105 | 210 | 210 |

## Input Temperature Range

|                   |              |
|-------------------|--------------|
| Temperature Range | -20 to +60°C |
|-------------------|--------------|

## Output Signal &amp; Supply Voltage

| Wire system | Output  | Supply Voltage |
|-------------|---|----------------|
| 3-wire      | SDI-12<br>(version 1.3, <a href="http://www.sdi-12.org/">http://www.sdi-12.org/</a> ) | 6 – 40V dc     |

## Level Sensor Performance

|                                       |  |
|---------------------------------------|--|
| Accuracy (Non-linearity & hysteresis) | <±0.06% / FS (BFSL)                    |
| Setting Errors (offsets)              | Zero: <±0.25% / FS, Span: <±0.25% / FS |

## Temperature Sensor Performance

|                               |          |
|-------------------------------|----------|
| Accuracy                      | <±0.5°C  |
| Temperature sensor resolution | <±0.01°C |

## Permissible Temperatures &amp; Thermal Effects

|                               |                               |
|-------------------------------|-------------------------------|
| Media temperature             | -20°C to +60°C (non-freezing) |
| Storage temperature           | -20°C to +70°C                |
| Compensated temperature range | 20°C ±25°C                    |
| Total thermal error band      | <±0.1% / FS                   |

## Electrical Protection

|                                    |                                |
|------------------------------------|--------------------------------|
| Supply reverse polarity protection | No damage but also no function |
| Lightning Protection               | Internally fitted              |
| Electromagnetic compatibility      | CE Compliant                   |

## Materials

|                    |                                      |
|--------------------|--------------------------------------|
| Housing material   | 316L Stainless Steel                 |
| 'O' ring seals     | Viton                                |
| Diaphragm          | 316L Stainless Steel                 |
| Media wetted parts | Housing, diaphragm and 'O' ring seal |

## Miscellaneous

|                       |   |
|-----------------------|---|
| Current consumption   | <250µA when idle<br><4mA when active                        |
| Weight                | Transmitter: 300g including nose cone<br>Cable: 48g per mtr |
| Installation position | Any   |

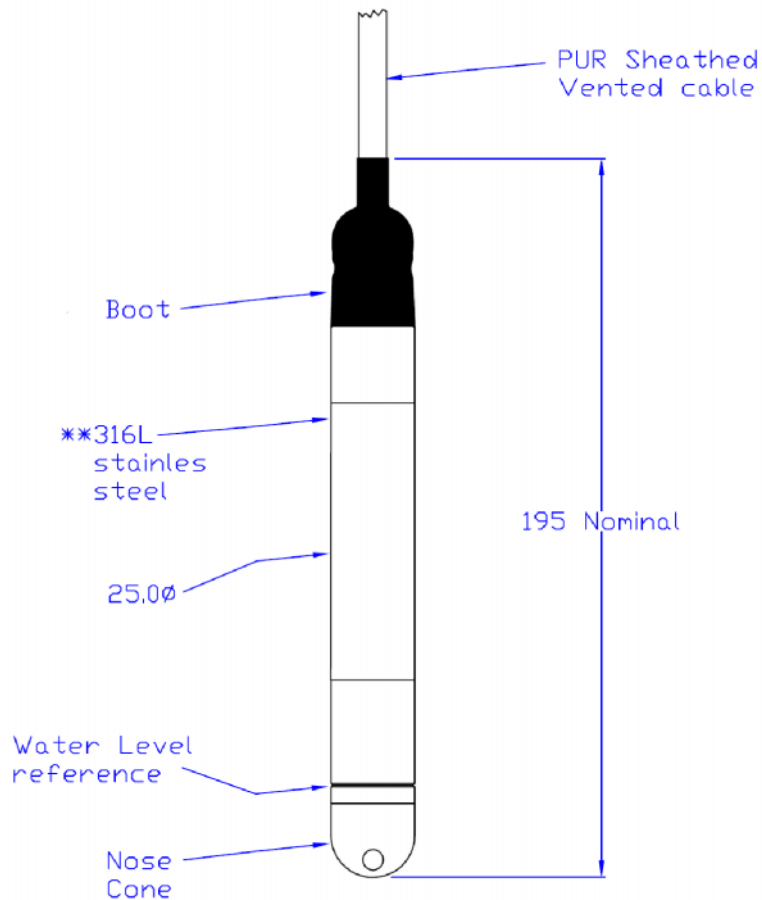
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## Submersible Level Transmitter

### Wiring Designation

|        |                  |
|--------|------------------|
| Red    | Positive Supply  |
| Blue   | Negative Supply  |
| Yellow | SDI-12 Output    |
| Green  | Cable Screen     |
| White  | Transmitter Body |

### Outline Drawing



### Accessories



Cable support hanger



Cable Terminal Box with Vent



Wall mounted digital indicator

### Supported Commands

Devices can be addressed 0 through to 9, refer to SDI-12 spec at <http://www.sdi-12.org/> for further information!

Visit the website: [www.impress-sensors.co.uk](http://www.impress-sensors.co.uk)

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