

## Model: SLS-D

### Submersible level sensor

- Digital output

#### Description:

The SLS series of submersible level transmitters have been developed using an isolated diaphragm silicon piezo-resistive sensing element housed in a robust stainless steel housing. It has an integrated moulded cable assembly to provide permanent submersible in liquids up to 100m depth for continuous operation.



The internal electronics is designed to convert the analogue output from the piezo-resistive silicon sensor into SDI-12 digital communications which provides the level and temperature readings as a serial output using the environmentally friendly SDI-12 version 1.4 protocol. Coupled with our powerful SDI-12 communications software, this enables the user to calibrate the sensor and offers settings for built in density correction using the integrated temperature sensor. There is also the ability to connect up to 9 sensors, data log and diagnose the communications between the device and software.

The onboard 16-bit microprocessor enables a high level of linearisation, temperature compensation and calibration to be performed ensuring the highest accuracy, stability and repeatability are met for demanding applications such as environmental monitoring and flood defence systems.

#### Product Highlights:

- Level ranges from 1mWG up to 100mWG
- Accuracy  $<\pm 0.15\%$ ,  $<\pm 0.10\%$ ,  $<\pm 0.06\%$
- 316 Stainless steel construction
- High integrity overmolded cable assembly
- Fully verified SDI-12 Version 1.4 compliant
- Low power consumption
- Level and Temperature output as standard

#### Applications include, but not limited to:

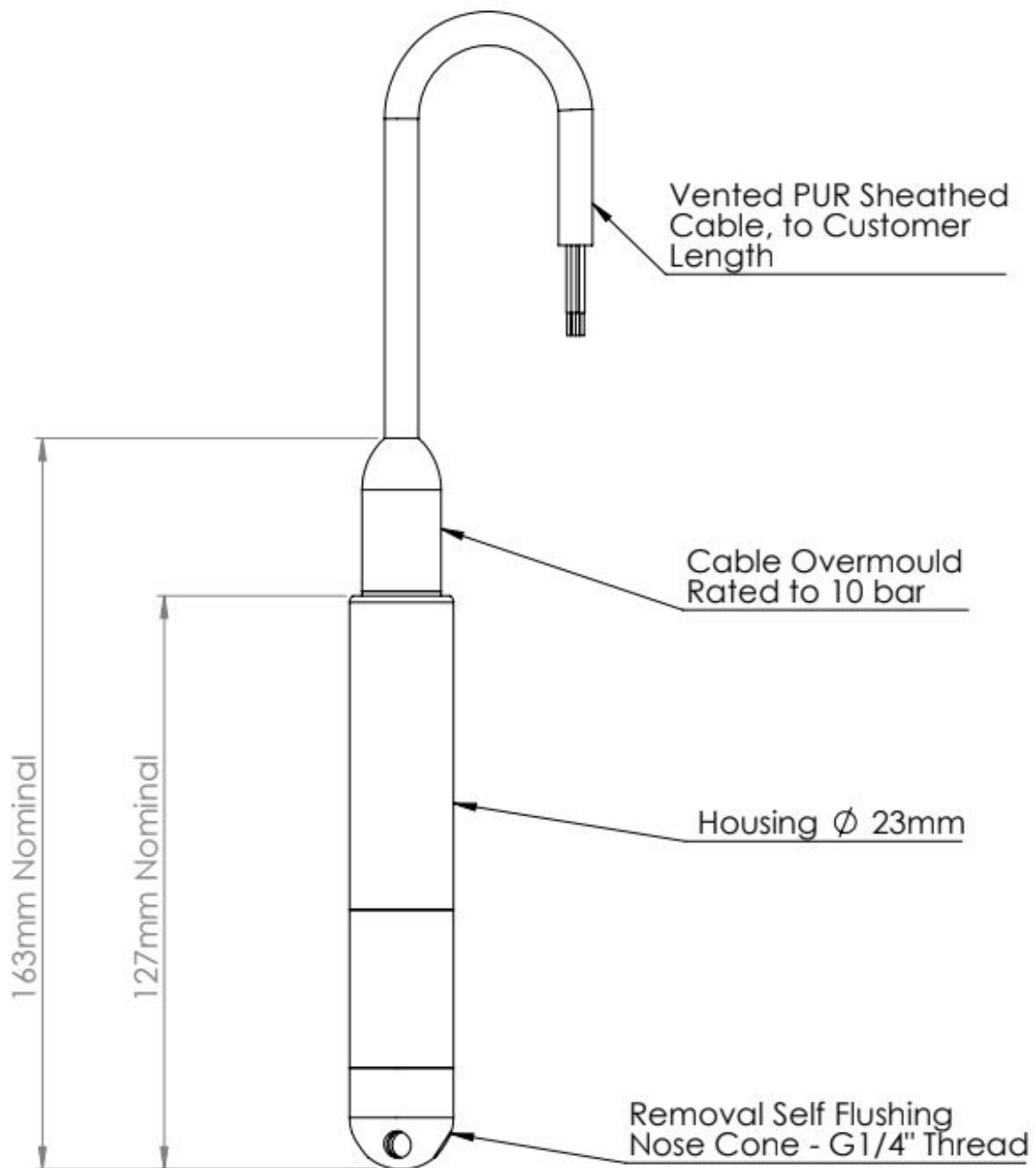
- Environmental monitoring
- V-notch weir flow measurement
- Rivers, reservoirs and boreholes
- Laboratory & research testing
- Telemetry and data logging
- Flood defence monitoring and research
- Academic research

**Specification:**

<b>Submersible Level Sensor, Digital - SLS-D</b>	
<b>Sensor technology</b>	Piezo-resistive Silicon Sensor
<b>Output Versions</b>	SDi-12, V1.4
<b>Supply voltage</b>	6-36V dc
<b>Pressure reference</b>	Gauge (standard), Sealed Gauge, Absolute
<b>Level ranges</b>	1, 2.5, 3.5, 5, 10, 20, 30, 50, 100mWG (Engineering units selectable in software include m, mm, inches, feet, mbar)
<b>Safe over pressure</b>	1.5 times rated pressure
<b>Burst Pressure</b>	3 times rated pressure
<b>Accuracy (NL&amp;H)</b>	$\leq \pm 0.15\%$ / $\leq \pm 0.10\%$ / $\leq \pm 0.06\%$ / % FS (dependant on range)
<b>Long term stability:</b>	$\leq \pm 0.10\%$ FS
<b>Temperature sensor accuracy</b>	$\leq \pm 0.50\%$ FS
<b>Temperature resolution</b>	$\leq \pm 0.01\text{ }^\circ\text{C}$
<b>Compensated temperature range</b>	$20\text{ }^\circ\text{C} \pm +20\text{ }^\circ\text{C}$
<b>Media temperature</b>	$-10\text{ }^\circ\text{C}$ to $+60\text{ }^\circ\text{C}$ , non-freezing
<b>Temperature effects</b>	Typical thermal zero and span coefficients $\pm 0.01\%$ FS/ $^\circ\text{C}$
<b>Supply reverse polarity protection</b>	No damage but also no function
<b>Lightning Protection</b>	Integral GDS (gas discharge tube) for lightning protection
<b>Electromagnetic compatibility</b>	CE Compliant
<b>Media wetted parts</b>	316 Stainless Steel, Viton, PUR (EPDM, NBR seals also available)
<b>Permissible media</b>	All fluids compatible with media wetted parts
<b>Electrical connection</b>	PUR submersible cable, terminated in tails. Internal vent tube
<b>Pressure connection</b>	Nose cone, G1/4" DIN 3852 male when unscrewed
<b>Current consumption</b>	$<250\mu\text{A}$ when idle, $<4\text{mA}$ when active
<b>Weight (g)</b>	Transmitter: $<300\text{g}$ , Cable: 48g per mtr
<b>Environmental Protection</b>	IP68, Fully submersible up to 100m depth

Dimensional Drawings:

Submersible level transmitter with moulded cable assembly

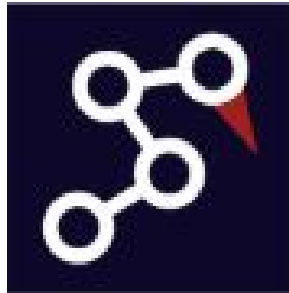


Part Numbering system:

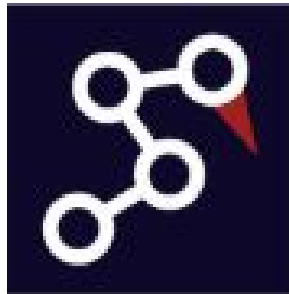
Submersible level transmitter part numbering												
SLS-D - Submersible Level Transmitter - Digital	SLS-D	-	X	X	-	X	X	X	-	X	X	X
<b>Output Type</b>												
SDi-12			A									
<b>Accuracy Class</b>												
0.15%			A									
0.10%			B									
0.06%			C									
<b>Cable Material</b>												
PUR			A									
<b>Cable Length (m)</b>												
3m					0	0	3					
5m					0	0	5					
10m					0	1	0					
15m					0	1	5					
20m					0	2	0					
25m					0	2	5					
30m					0	3	0					
40m					0	4	0					
50m					0	5	0					
Special Length... On request					9	9	9					
<b>Housing Material</b>												
316 Stainless Steel								B				
<b>Seal Material</b>												
Viton								V				
(Drinking Water Approved) EPDM								E				
NBR								N				
<b>Level Range</b>												
0 - 1mWG								0	1	0	0	
0 - 2.5mWG								0	2	5	0	
0 - 3.5mWG								0	3	5	0	
0 - 5mWG								0	5	0	0	
0 - 10mWG								1	0	0	0	
0 - 20mWG								2	0	0	0	
0 - 30mWG								3	0	0	0	
0 - 50mWG								5	0	0	0	
0 - 100mWG								1	0	0	1	
Special Range... On request								9	9	9	9	
<b>Pressure Datum</b>												
Gauge											G	
Sealed Gauge											S	
Absolute											A	
<b>Special Options</b>												
None											0	0

**Accessories:**

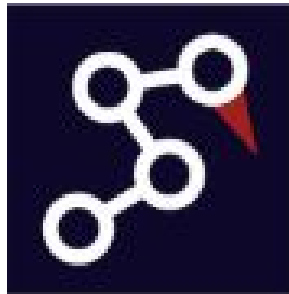
**Communications Interface**



**Programming Software**



**Vented Junction Box**



**Desiccant Filter for harsh environments**

