



APPLIED MEASUREMENTS LTD.
Transducer Specialists...

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<https://appmeas.co.uk>

Pa993D SDI-12 Submersible Depth Sensor

Key Features:

- Ranges 0 - 1mWG up to 0-100mWG
- Measures Level and Temperature
- Digital Output: SDI-12 Version 1.4 (RS485 Modbus Optional)
- Environmental Protection: IP68 to 100 metres
- Accuracy: $<\pm 0.15\%$ /FS (Optional 0.1% or 0.06% Versions)
- Factory Calibrated Output
- Ø23mm Diameter Body
- Lightning (Surge) Protection
- Excellent Long Term Stability
- Temperature Compensated
- Outstanding Performance
- Low Power Consumption
- 3 Year Warranty



The [Pa993D SDI-12 submersible depth sensors](#) are designed for use in rivers, reservoirs, tanks, boreholes, vessels and channels. They are also suitable for the measurement of pressure within submerged pipes and vessels.

The Pa993D SDI-12 sensor's robust body and moulded cable exit fitted with vented polyurethane (PUR) cable and strain wire provide a high integrity waterproof assembly as standard, which enables the Pa993D SDI-12 depth sensor to withstand hydrostatic pressures of up to 10bar (100m submersion).

The Pa993D SDI-12 submersible depth sensors are manufactured from 316 Stainless Steel and utilise a 316 stainless steel silicon sensing element coupled with a choice of Nitrile (NBR), Viton (FKM) or EPDM (Drinking Water Approved) seals.

The submersible level sensor output is SDI-12 and provides both level and temperature readings as standard. The integral 16-bit electronics allow a complex calibration to be performed, guaranteeing superb accuracy, repeatability and stability. Power supply is wide at 6-36Vdc, while surge protection circuit protects against the effects of electrical transients created by nearby lightning strikes and power fluctuations.

The Pa993D SDI-12 series offer rugged construction, excellent long term stability and performance. To further support our claim of long term reliability we offer the product as standard with a 3-year warranty. In addition, we can offer customisation of the depth sensor to meet your specific requirements, please contact our [technical sales team](#). [See our range of depth sensors](#).

Options:

- Special Ranging Available
- Different Cable Lengths
- Higher Accuracy 0.1% and 0.06% Versions Available

Applications:

- Rivers & Reservoirs
- V-Notch Weir Flow
- Submerged Pipes and Vessels
- Fountains
- Boreholes
- Flood Defence Monitoring
- Research Applications



Specification:

CHARACTERISTICS	Pa993DA	Pa993DB	UNITS
Pressure Ranges:	1, 2.5, 3.5, 5, 10, 20, 25, 50, 75, 100		metres Water Gauge (mWG) *
Pressure Reference:	Gauge (Sealed Gauge + Absolute optional)		
Safe Overpressure:	150		% Pressure Range
Burst Pressure:	300		% Pressure Range
Supply Voltage:	6 - 36		Volts DC
Current Consumption:	<0.25 (idle), <4 (when active)		mA
Digital Output:	SDI-12 v1.4	RS485 Modbus	±1%/Rated Output
Electrical Connections:	Screened polyurethane (PUR) cable with vent tube, strain and drain wire		
Level Accuracy:	<0.15 (0.1% or 0.06% optional)		±%Pressure Range
Level Resolution	TBC		
Temperature Accuracy	0.50		±%/FS
Temperature Resolution	0.01		°C
Temperature Range Operating:	-10 to +60 (non-freezing media only)		°C
Temperature Range Compensated:	20 ± 20		°C
Temperature Effect on Output:	<0.01 typical		±%/°C
Temperature Effect On Zero:	<0.01 typical		±%/Rated Output/°C
Long Term Stability:	<0.1		±%/FS
Environmental Protection:	IP68 to 100mWG (10bar)		
Weight:	300 (sensor), 48g/metre (cable)		grams
Construction / Wetted Parts:	316 St/Steel, Viton (EPDM + NBR optional) + PUR		
Permissible Media:	All fluids compatible with wetted parts.		
Electrical Protection:	EMC Immunity: EN50082-1 & Surge (Lightning) Protection: EN61000-4-5		
Reverse Polarity Protection:	No damage but no function.		
*Other engineering units selectable in software: mm, inches, feet, mbar.			

Wiring Diagram:

Wire	Designation
Red	+ve supply
Blue	-ve supply
Yellow	SDI-12 output
White	transmitter body
Green	cable screen

The cable is 4-core but we add a green wire connection to the screen in the cable for the user.



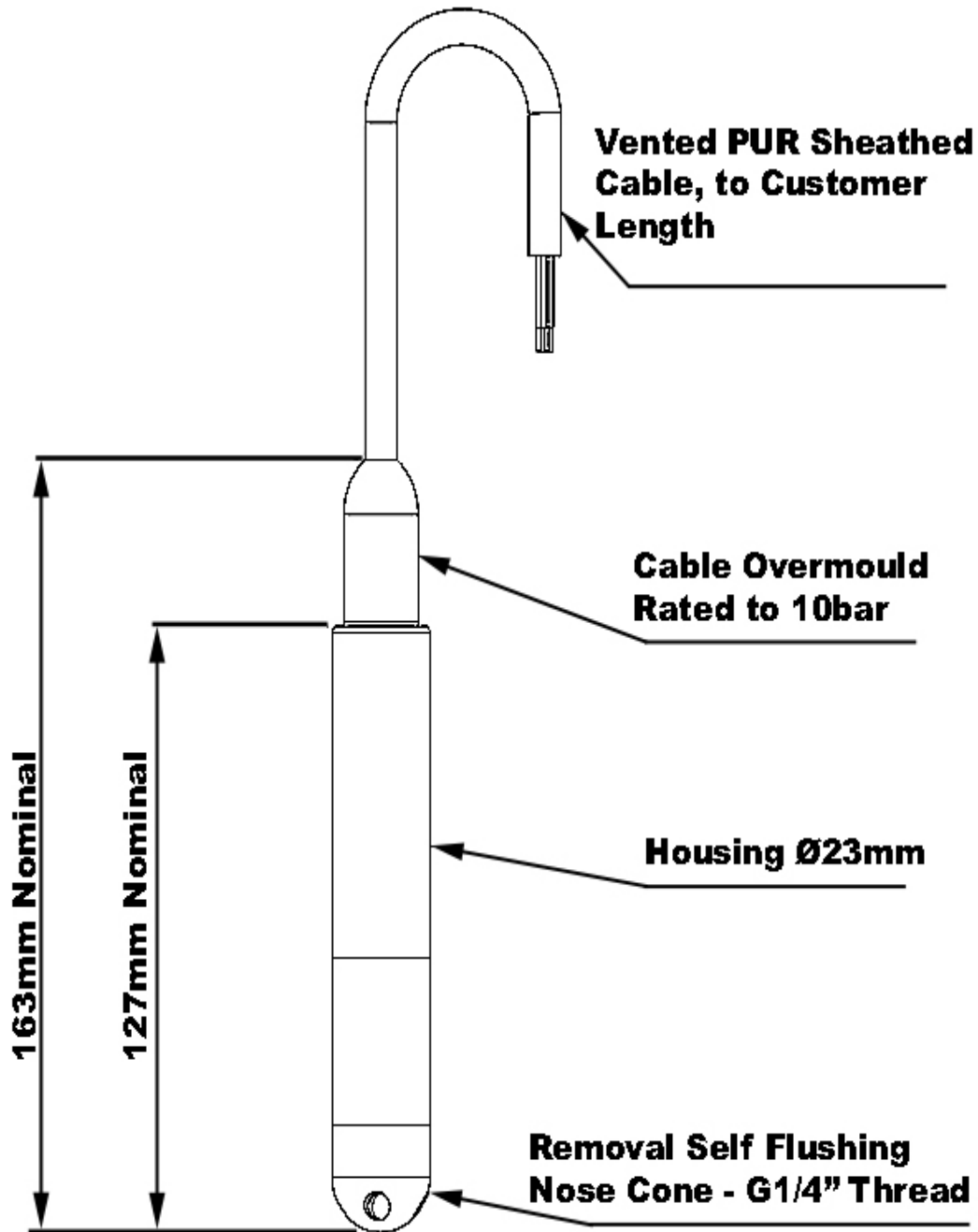
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Dimensions (mm):





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Ordering Codes:

Pa993DA-10mWG-AAAV-01-000	Pa993D	A	-	10mWG	-	A	A	A	V	-	01	-	000
Product Family <i>Example Code</i>													
Pa993D	Pa993D												
Electrical Output													
A = SDI-12 v.1.4		A											
B = RS485 Modbus		B											
Pressure Range													
10mWG = 0 to 10 metres of water gauge (H2O)				10mWG									
10mWA = 0 to 10 metres of water absolute (H2O)				10mWA									
10mWSG = 0 to 10 metres of water sealed gauge (H2O)				10mWSG									
Accuracy (Non-Linearity & Hysteresis)													
A = $\pm 0.15\%/FS$						A							
B = $\pm 0.1\%/FS$						B							
C = $\pm 0.06\%/FS$						C							
Process Connection													
A = Nose Cone (G1/4" DIN 3852 male when removed)							A						
Housing Material													
A = 316 Stainless Steel							A						
O-Ring Material													
V = Viton (FKM)									V				
N = Nitrile (NBR)									N				
E = EPDM (Drinking Water Approved)									E				
Cable Length (in metres)													
01 = 1 metre											01		
10 = 10 metres											10		
Specials Code													
000 = No Special Requirements													000