



APPLIED MEASUREMENTS LTD.
Transducer Specialists...

+44 (0) 118 981 7339

info@appmeas.co.uk

www.appmeas.co.uk

Pi9941 Slimline Borehole Depth Sensor

Key Features:

- Ranges 0-2mWG up to 0-250mWG
- Outputs: 4-20mA, 0-5Vdc or 0-10Vdc
- Environmental Protection: IP68 to 250 metres
- Accuracy: $<\pm 0.5\%$ /FS (Optional 0.25% & 0.1% Versions)
- Ø19mm Diameter Body
- Lightning (Surge) Protection (2-wire)
- Piezoresistive Measuring Element
- Excellent Long Term Stability
- 3 Year Warranty



The Pi9941 submersible depth sensors are ideal for use in borehole and stilling tube level measurements due to its 19mm diameter. It is equally suited for use in rivers, reservoirs, tanks and channels and for the measurement of pressure within submerged pipes and vessels.

The Pi9941 level sensor's all-stainless steel construction and environmental protection of IP68, gives it excellent media compatibility characteristics across a wide range of potable water and harsh media applications.

The standard output is a 2-wire 4-20mA signal has a surge protection circuit to protect against the effects of electrical transients created by nearby lightning strikes and power fluctuations.

The borehole level sensor's piezoresistive sensing element offers excellent resolution through its low noise characteristics coupled with very good accuracy and long-term stability.

Options:

- Accuracy 0.25% and 0.1% Versions Available

Applications:

- Rivers
- Reservoirs
- Tanks and Channels
- Submerged Pipes and Vessels
- Fountains
- Boreholes
- Pots
- Waters



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Specification:

Pressure Range	0.1 - 0.5	>0.5 - 2	>2 - 25	Bar
Overpressure	3	3 x FS	3 x FS	bar
Burst Pressure	≥200	≥200	≥200	bar
Accuracy	≤0.5 ≤0.25	≤0.5 optional ≤0.25 optional ≤0.1	≤0.55 optional ≤0.25 optional ≤0.1	±%FS
Temperature Error Zero -5 to +50°C	≤0.06	≤0.03	≤0.015	±%FS/°C
Temperature Error Span -5 to +50°C	≤0.15	≤0.015	≤0.015	±%FS/°C
Operating Temperature	-5 to 50°C			
Storage Temperature	-25 to +85°C			
Response Time	<1ms/10 - 90% nominal pressure			
Long-Term Stability (1 year) (typ./max.)	<0.5%FS/<4 mbar	<0.2%FS/<4 mbar	<0.1%FS/0.2%FS	

Electrical Connections	4-20mA (2 wire)	0-5V/0-10V (3 wire)
Supply Voltage	8-33V	15-30Vdc
Supply Voltage Influence	<0.1%FS	0.1%FS
Load Resistance	>10kohm	
Load Resistance Influence	<0.1%FS	<0.1%FS
Materials		
Pressure Connector, Membrane, Case	Stainless Steel 1.4435 (316L)	
Cable	PE, PUR	

Electromagnety Compability	Norm	Level	Typical Interferences
Emission:			
EN 61000-6-3	Generic Emission Standard		
EN 55022	Emission, Class B		
Immunity:			
EN 61000-6-2	Generic Immunity		
EN 61000-4-2	Electrostatic Discharge	Level 4 (8kV contact, 15kV air)	
EN 61000-4-3	Radiated Electro-magnetic Field	10V/m, 80-1000 MHz, 80% AM 1kHz	Cellular Phones, Radio Sets
EN 61000-4-3	Radiated Electro-magnetic Field	10V/m, 950 MHz, 200 Hz on/off	Digital Portable Phones
EN 61000-4-4	Fast Transients (burst)	2kV	Motors, Valves
EN 61000-4-5	Surge	10 V, 0.15-80 MHz, 80% AM 1 kHz	Lightning Strikes
EN 61000-4-6	Line Conducted Electromagnetic Interference	500 V	Radio Sets, Cellular Phones



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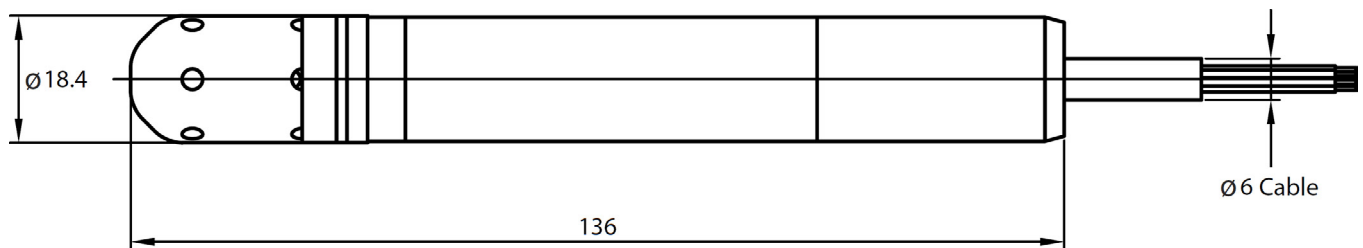
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Wiring Diagram:

Wire	Designation
White	+ve supply
Brown	-ve supply
Green/Yellow	Case/Earth

Dimensions (mm):



Associated Products:



[TR150 Handheld Indicator](#)



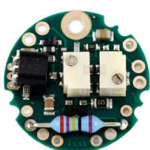
[T24 Wireless Telemetry Range](#)



[Intuitive4-L Panel-Mount Indicator](#)



[DSC-USB USB Signal Digitiser](#)



[ICA Miniature Strain Gauge Amplifier](#)



[SGA Signal Conditioner/Amplifier](#)



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Ordering Codes:

Pi9941-10mWG-A2AAV-01-000	Pi994	1	-	10mWG	-	A	2	A	A	V	-	01	-	000
<i>Example Code</i>														
Product Family														
Pi994	Pi994													
Electrical Output														
0 = 2mV/V		0												
1 = 4-20mA (2-wire)		1												
3 = 0-10Vdc (3-wire)		3												
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 = $\pm 0.25\%/FS$						A								
B = $\pm 0.1\%/FS$						B								
Zero Temperature Compensation (TZS)														
2 = $\pm 0.02\%/FS/^{\circ}C$							2							
1 = $\pm 0.01\%/FS/^{\circ}C$							1							
Process Connection														
A = Nose Cone								A						
B = G1/4" Male								B						
Housing Material														
A = 316 Stainless Steel									A					
B = High Grade Duplex Stainless Steel									B					
C = PVC									C					
O-Ring Material														
V = Viton (FKM)										V				
N = Nitrile (NBR)										N				
E = EPDM (Ethylene Propylene Diene Monomer)										E				
C = Chemraz (Perfluoroelastomer)										C				
Cable Length (in metres)														
01 = 1 metre												01		
10 = 10 metres												10		
Specials Code														
000 = No Special Requirements														000