

The **WATERLOG[®]** H-3521 "Fluid" is a SDI-12 compatible, NIST traceable pressure sensor. The sensor can directly measure water, antifreeze or other fluid pressure with an accuracy better than 0.05% FSO.



KEY FEATURES

- Directly measure water, glycol or fluid pressure
- Works with rain gauges, snow pillows, artesian wells, piezometers and water tanks
- Ideal for industrial applications such as monitoring culinary water pressure.
- Pressure accuracy is 0.05% full scale
- Accuracy over temperature range exceeds ± 0.02 ft. of water
- Built-in temperature compensation
- Operating temperature range -30° to $+60^{\circ}$ C
- SDI-12 output provides measurement data in engineering units such as feet or meters
- Industrial outputs: 4-20mA and Modbus RTU
- Enclosure is nonconductive and corrosion proof
- Low current operation (150μ A standby)
- Extended SDI-12 command for setting the Stage to the current water elevation or pressure

SPECIFICATIONS

Accuracy

(Maximum percent of error in measurement)

Pressure: Less than or equal to 0.05% of full scale output (FSO) over temperature range referenced to a straight line stretched from zero PSI to maximum pressure

Temperature: Internal temperature $\pm 1^\circ$ C over temperature range

Resolution

(Smallest change detectable in output signal)

Pressure: 1 part in 1,000,000 (0.0001%)

Temperature: 1 part in 1,000,000 (0.0001%)

Linearity

Less than 0.05% deviation from a straight line referenced to end points

Pressure Hysteresis

Less than 0.02% of FSO

Long-term Stability

Accuracy drift is less than $\pm 0.10\%$ of FSO per year

Standard Ranges

Pressure	Depth	Accuracy
0 to 15 PSI	0 to 34.6 ft.	± 0.017 ft.
0 to 30 PSI	0 to 69.20 ft	± 0.035 ft.

Custom calibration ranges available up to 250 PSI

Pressure Overload

Less than 2 times the rated pressure

SDI-12 Output

Baud Rate: 1200

Protocol: SDI-12, 7-bit even parity, 1 stop bit

Output Voltage Levels:

Min high level:	3.5 volts
Max low level:	0.8 volts

4-20mA Output

Type: 4-20mA, optically isolated

Loop Voltage: 8.0V min, 35V max

Resolution: 4 μ A (12-bit DAC)

Modbus Output

Protocol: RTU

Port: RS-485

Baud Rate: Programmable (default=9600)

Response Time

SDI-12: 3-second measurement sequence (programmable)

Power Requirements

Voltage Input: 10 to 16.0 Volts DC

Supply Current:

Sleep Mode	150 μ A max
Active (measuring)	50mA max

Surge Protection: Built in, 1.5 KVA

Environmental

Operating Temperature: -30 $^\circ$ C to 60 $^\circ$ C

Compensated Range: -30 $^\circ$ C to 60 $^\circ$ C

Storage Temperature: -40 $^\circ$ C to 80 $^\circ$ C

Media Compatibility

Liquids and gases compatible with RTV, stainless steel and brass

Mechanical

Enclosure: Fiberglass

Size: 4.75" x 4.75" x 3.0" high

Pressure Inlet: 1/8" female NPT

Atmospheric Vent: Sintered bronze, #10-32

Connections

3-position terminal strip: Power, SDI-12

9-pin circular: Power, 4-20mA, RS-485 Modbus

Cables: Connector with 6-ft pigtail for 4-20mA and RS-485 is provided

The **WATERLOG**[®] H-3521 is warranted against defects in materials and workmanship for one year from date of shipment.

Notes

Specifications subject to change without prior notice due to ongoing commitment to product testing and improvement.