



Applications

Groundwater Surface water Water quantity Flood warning

Smart Pressure Level Sensor

Robust and reliable water level and temperature measurements

Reliable for long-term continuous operation with vented ceramic pressure probe and 904L stainless steel housing Vented pressure probe to compensate for changes in atmospheric pressure

Worry-free operation with innovative inclinometer and internal humidity sensors to verify performance

Increase confidence in data due to high accuracy and minimal sensor drift at <0.1%FS/a

Convenient remote data verification using integrated QA/QC and metadata flags

Simple connection to external data loggers with industry standard communication protocols (SDI-12 and Modbus RTU)

Advanced measurements and derived parameters such as discharge calculations

Have peace of mind for long deployments

The PLS 500 is constructed of high quality saltwater resistant stainless steel (904L) for reliable use in harsh environments. The robust ceramic cell does not deform over time like membrane technology, providing long-term measurement stability, to keep equipment worry-free and allow you to focus on important daily tasks.

Ensure highly accurate measurements

The vented pressure probe automatically compensates for changes in atmospheric pressure. The built-in microcontroller compensates for temperature effects and corrects for gravitational acceleration and water density. Maximized stability reduces sensor drift, allowing it to continuously monitor long-term trends for years.

Achieve full confidence in long-term data

Built-in QA/QC and metadata enable you to verify performance and validate your data remotely from the office or on the go. Ensure long-term data quality with the confidence that your sensor is operating correctly via integrated internal humidity and inclinometer sensors.

Save valuable time while visiting the field

Standard communication protocols (SDI-12 and Modbus RTU) allow for simple and flexible connection to external data loggers. The PLS 500's robust ceramic cell makes it easy to maintain, ensuring that your team's field visits are efficient and timely.



HY-OT-SW-ds-PLS_500-EN-221121

Technical Specifications

	WATER LEVEL (PRESSURE)	Measuring range	0 10 m water column / 0 1 bar	0 33 ft water column / 0 14.5 psi
Pacific Pac	WATER LEVEL (PRESSURE)	Measuring range		· ·
Resolution				'
For all measuring ranges				
Meets USGS 059W		For all measuring ranges		
Nysteresis) Nysteresis Units m, cm, mmt, batt mbar, kifs ft, inch, pai			±3 mm / 0 5 m (-205 °C; +55 +70 °C)	0.010 ft / 0 17 ft (-4 +23 °F; +131 +158 °F)
Pressure sensor			± 0.1 %/a full scale	
Temperature Compensated operating -20 °C (ize-fee) - +70 °C -40 °FC - +158 °F		Units	m, cm, mm, bar, mbar, kPa	ft, inch, psi
Measuring range		Pressure sensor	Ceramic / temperature compensated	
Resolution			-20 °C (ice-free) +70 °C	-4 °F (ice-free) +158 °F
Accuracy	TEMPERATURE	Measuring range	-40 °C +70 °C	-40 °F +158 °F
NITERNAL RELATIVE HUMIDITY Measuring range		Resolution	0.01 °C	0.01 °F
Measuring range 0.100% RH (non-condensing)		Accuracy	± 0.15 °C (Typ. ± 0.05 °C)	± 0.07 °F (Typ. ± 0.03 °F)
Resolution Accuracy Accuracy Typically ± 2% (10, 200% RH) Units %RH POWER Supply voltage Supp		Units	°C	°F
Accuracy	INTERNAL RELATIVE HUMIDITY	Measuring range	0100% RH (non-condensing)	
Typically ± 2% (1080% RH) Units		Resolution		
Units Supply voltage			± 3% (0100% RH)	
Supply voltage S.S28.8 V typically 12/24 V DC		Units		
Power consumption - sleep	POWER			
Power consumption - active	POWER			
RESULTATION Physical interfaces SDI-12 and RS-485 RS-485 protocols RS-485 protocols SDI-12 (VI.4), Modbus RTU Measured values Water level / water pressure Water temperature Water temperature Water temperature Water temperature Water temperature Minimum pressure or level over measurement interval Maximum pressure or level over measurement interval Derived parameters Measurement interval Derived parameters Measurement interval Derived parameters Measurement interval Derived parameters Measurement interval Discharge Discharge Measurement interval Discharge Discharge Discharge Measurement interval Discharge Discharge A "F (ice-free)+176 "F Humidity Discharge A "F (ice-free)+176 "F Humidity Discharge Discharge Discharge Discharge A "F (ice-free)+176 "F Humidity Discharge Discha				
RS-485 protocols RS-485 protocols Water level / water pressure Water temperature Water temperature Value processing Average pressure or level over measurement interval Melan pressure or level over measurement interval Maximum pressure or level over measurement interval Maximum pressure or level over measurement interval measurement interval Maximum pressure or level over measurement interval measurement interval Maximum pressure or level		Power consumption - active		
MEASUREMENT Measured values Water level / water pressure Water temperature Average pressure or level over measurement interval Minimum pressure or level over measurement interval Maximum pressure or level over measurement interval Maximum pressure or level over measurement interval Maximum pressure or level over measurement interval Derived parameters Measurement interval Derived parameters Measurement interval Derived parameters Measurement interval Derived parameters Measurement interval Discharge Measurement interval Pressure grobe, operating LXD: 1940°C +80 °C 40 °F +176 °F Humidity 90 % 100 % 1P rating (probe) 1P68 DIMENSIONS/WEIGHT Pressure probe LXD: 194x22 mm LXD: 7.7 x 0.9 in 7 656 ft, ± 1% / ± 0.17 ft Pressure probe Cable length* 2 200 m, ± 1% / ± 5 cm 7 656 ft, ± 1% / ± 0.17 ft Pressure probe cable - 650 g - 22.9 oz Pressure probe housin MATERIAL Pressure probe housin PoM, Stainless steel 1.4539 (904L), resistant to sea water Membrane Cable jacket Pure (UV resistant) REGULATORY FCC FCC/ICES Suppliers Declaration of Conformity (SDoC) FCC Part 15 Rules Section 515.109 LECS 1ECG1326-1:2013	COMMUNICATION	Physical interfaces		
Value processing		RS-485 protocols	SDI-12 (V1.4), Modbus RTU
Value processing Average pressure or level over measurement interval Median pressure or level over measurement interval	MEASUREMENT	Measured values	Water level / water pressure	•
Minimum pressure or level over measurement interval Maximum pressure or level over measurement interval Derived parameters Measurement interval Derived parameters Measurement interval Discharge Measurement interval 0.5 s 59.5 s (1.5 s default) Temperature range, operating -20 °C (ice-free) +70 °C -4 °F (ice-free) +176 °F Temperature range, storage -40 °C +80 °C -40 °F +176 °F Humidity -40 °C +80 °C -40 °F +176 °F Humidity -40 °C +80 °C -40 °F +176 °F Cable length* -40 °C +80 °C -40 °F +176 °F Pressure probe -40 °C +80 °C -40 °F +176 °F LXD: 194x22 mm -40 °C +80 °C -40 °F +176 °F LXD: 7,7 x 0.9 in Cable length* -650 g -22.9 oz Pressure probe -650 g -22.9 oz Pressure probe cable -55 g/m -0.51 oz/ft MATERIAL Pressure probe housing -40 °C +80 °C -40 °F +176 °F POM, Stainless steel 1.4539 (904L); resistant to sea water Membrane -40 °C +80 °C -40 °F +176 °F -40			Water temperature	Position of sensor
Interval Maximum pressure or level over measurement interval		Value processing	Average pressure or level over measurement interval	Median pressure or level over measurement interv
Derived parameters			·	•
Measurement interval 0.5 s 59.5 s (1.5 s default) ENVIRONMENTAL Temperature range, operating -20 °C (ice-free) +70 °C -4 °F (ice-free) +158 °F Temperature range, storage -40 °C +80 °C -40 °F +176 °F Humidity 0% 100 % IP rating (probe) IP68 DIMENSIONS/WEIGHT Pressure probe LxD: 194x22 mm LxD: 7.7 x 0.9 in Cable length* 2 200 m, ± 1% / ± 5 cm 7 656 ft, ± 1% / ± 0.17 ft Pressure probe - 650 g - 22.9 oz Pressure probe cable - 55 g/m - 0.51 oz/ft MATERIAL Pressure probe housing POM, Stainless steel 1.4539 (904L); resistant to sea water Membrane AI203 ceramics Cable jacket PUR (UV resistant) REGULATORY FCC FCC/ICES Suppliers Declaration of Conformity (SDoC) FCC Part 15 Rules Section §15.109 CE IEC61326-1:2013			interval	
Temperature range, operating		Derived parameters	-	
Temperature range, storage		Measurement interval		
Humidity 0%100 % IP rating (probe) Pressure probe LXD: 194x22 mm LXD: 7.7 x 0.9 in Cable length* 2 200 m, ± 1% / ± 5 cm 7 656 ft, ± 1% / ± 0.17 ft Pressure probe Pressure probe cable 7 55 g/m 7 0.51 oz/ft Pressure probe housing POM, Stainless steel 1.4539 (904L); resistant to sea water Membrane Al203 ceramics Cable jacket PUR (UV resistant) REGULATORY FCC FCC/ICES Suppliers Declaration of Conformity (SDoC) FCC Part 15 Rules Section §15.109 LEC61326-1:2013	ENVIRONMENTAL	Temperature range, operating	-20 °C (ice-free) +70 °C	-4 °F (ice-free) +158 °F
IP rating (probe) Pressure probe LXD: 194x22 mm LXD: 7.7 x 0.9 in Cable length* 2 200 m, ± 1% / ± 5 cm 7 656 ft, ± 1% / ± 0.17 ft Pressure probe ~ 650 g ~ 22.9 oz Pressure probe cable ~ 55 g/m ~ 0.51 oz/ft MATERIAL Pressure probe housing POM, Stainless steel 1.4539 (904L); resistant to sea water Membrane Cable jacket PUR (UV resistant) FCC FCC/ICES Suppliers Declaration of Conformity (SDoC) FCC Part 15 Rules Section §15.109 CE LXD: 194x22 mm LXD: 7.7 x 0.9 in 7 656 ft, ± 1% / ± 0.17 ft 7 656 ft, ± 1% / ± 0.17 ft 7 656 ft, ± 1% / ± 0.17 ft 7 656 ft, ± 1% / ± 0.17 ft 7 656 ft, ± 1% / ± 0.17 ft Pressure probe ~ 650 g ~ 22.9 oz POM, Stainless steel 1.4539 (904L); resistant to sea water Membrane Cable jacket PUR (UV resistant)		Temperature range, storage	-40°C +80 °C	-40 °F +176 °F
Pressure probe LxD: 194x22 mm LxD: 7.7 x 0.9 in Cable length* 2 200 m, ± 1% / ± 5 cm 7 656 ft, ± 1% / ± 0.17 ft Pressure probe ~ 650 g ~ 22.9 oz Pressure probe cable ~ 55 g/m ~ 0.51 oz/ft MATERIAL Pressure probe housing POM, Stainless steel 1.4539 (904L); resistant to sea water Membrane Cable jacket PUR (UV resistant) FCC FCC/ICES Suppliers Declaration of Conformity (SDoC) FCC Part 15 Rules Section §15.109 CE LxD: 194x22 mm LxD: 7.7 x 0.9 in 7 656 ft, ± 1% / ± 0.17 ft 7 656 ft, ± 1% / ± 0.17 ft 7 656 ft, ± 1% / ± 0.17 ft 7 656 ft, ± 1% / ± 0.17 ft 7 656 ft, ± 1% / ± 0.17 ft Pressure probe ~ 22.9 oz Pressure probe housing POM, Stainless steel 1.4539 (904L); resistant to sea water Membrane Cable jacket PUR (UV resistant) FCC FCC/ICES Suppliers Declaration of Conformity (SDoC) FCC Part 15 Rules Section §15.109 LxD: 7.7 x 0.9 in		Humidity	0%	100 %
Cable length* 2 200 m, ± 1% / ± 5 cm 7 656 ft, ± 1% / ± 0.17 ft Pressure probe ~ 650 g ~ 22.9 oz Pressure probe cable ~ 55 g/m ~ 0.51 oz/ft MATERIAL Pressure probe housing POM, Stainless steel 1.4539 (904L); resistant to sea water Membrane Al203 ceramics Cable jacket PUR (UV resistant) REGULATORY FCC FCC/ICES Suppliers Declaration of Conformity (SDOC) FCC Part 15 Rules Section §15.109 CE IEC61326-1:2013		IP rating (probe)	IP68	
Pressure probe ~ 650 g ~ 22.9 oz Pressure probe cable ~ 55 g/m ~ 0.51 oz/ft MATERIAL Pressure probe housing POM, Stainless steel 1.4539 (904L); resistant to sea water Membrane AI203 ceramics Cable jacket PUR (UV resistant) PCC FCC/ICES Suppliers Declaration of Conformity (SDoC) FCC Part 15 Rules Section §15.109 CE IEC61326-1:2013	DIMENSIONS/WEIGHT	Pressure probe	LxD: 194x22 mm	LxD: 7.7 x 0.9 in
Pressure probe cable ~ 55 g/m ~ 0.51 oz/ft MATERIAL Pressure probe housing POM, Stainless steel 1.4539 (904L); resistant to sea water Membrane AI203 ceramics Cable jacket PUR (UV resistant) FCC FCC/ICES Suppliers Declaration of Conformity (SDoC) FCC Part 15 Rules Section §15.109 CE IEC61326-1:2013		Cable length*	2 200 m, ± 1% / ± 5 cm	7 656 ft, ± 1% / ± 0.17 ft
MATERIAL Pressure probe housing POM, Stainless steel 1.4539 (904L); resistant to sea water Membrane Al203 ceramics Cable jacket PUR (UV resistant) FCC FCC/ICES Suppliers Declaration of Conformity (SDoC) FCC Part 15 Rules Section §15.109 CE IEC61326-1:2013		Pressure probe	~ 650 g	~ 22.9 oz
Membrane AI203 ceramics Cable jacket PUR (UV resistant) FCC FCC/ICES Suppliers Declaration of Conformity (SDoC) FCC Part 15 Rules Section §15.109 CE IEC61326-1:2013		Pressure probe cable	~ 55 g/m	~ 0.51 oz/ft
Cable jacket PUR (UV resistant) FCC FCC/ICES Suppliers Declaration of Conformity (SDoC) FCC Part 15 Rules Section §15.109 CE IEC61326-1:2013	MATERIAL	Pressure probe housing		
Cable jacket PUR (UV resistant) FCC FCC/ICES Suppliers Declaration of Conformity (SDoC) FCC Part 15 Rules Section §15.109 CE IEC61326-1:2013		Membrane		
FCC FCC/ICES Suppliers Declaration of Conformity (SDoC) FCC Part 15 Rules Section §15.109 CE IEC61326-1:2013				
CE IEC61326-1:2013	REGULATORY	-		
			•	
		DIN EN ISO 4373	Measurement reliability / performance class 1	

^{*}Longer cable lengths available upon request.

Please check website for country availability. All technical specifications are subject to change without notice.



