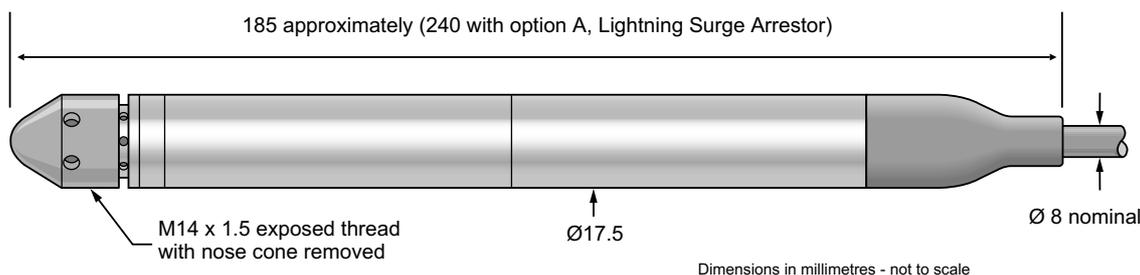


PTX 1830 Series

Depth and Level Sensors

UNTIL INSTALLATION, KEEP THE SENSOR IN THIS PACKAGE FOR PROTECTION



Electrical connections

For intrinsically safe units see the Installation Requirements

red supply +ve
blue supply -ve

Screen (shield) wire and black wire internally connected to case, remaining wires not connected.

Figure 1 - PTX 1830 Dimensions and Details

Statement of 1830 Product Performance

Sensor type:	PTX 1830	Insulation Resistance:	>100 M Ohm @ 500 V dc
Range:	1.60 bar a	Electrical connection:	50m Cable
Serial number:	1604099	Pressure Connection:	Depth Cone
Output signal:	4-20 mA	Options:	
Combined Accuracy:	± 0.1% Best Straight Line		
Temperature Error Band:	± 0.3% TEB		

* pro rata TEB interpolation from core calibration data
** Seawater at a specific gravity of 1.025 where applicable

Applied Pressure	Deviation
bar	(Best Straight Line)
0.16	-0.00
0.32	-0.00
0.64	-0.00
0.96	-0.00
1.28	0.00
1.60	0.00
1.60	0.00
0.96	-0.00
0.16	0.00
Maximum	0.01

General Performance Details

Zero Setting: ±0.05mA
Span Setting: ±0.05mA
Operating Temperature: -20 to 60°C
Compensated Temperature Range: -2 to 30°C

Note:

The temperature error band increases proportionately for full-scale values of less than 3.5 mH₂O.

Environmental Protection: IP68 to 700 mH₂O

Installation Instructions

The following contains the installation procedure for the PTX 1830 Series of Submersible Pressure Sensors with the minimum of work. Read the whole installation procedure before starting installation.

1. A black polyurethane transit sleeve prevents dirt and fluid going into the electrical cable terminations and into the cable structure and sensor vent tube. Remove the sleeve only when connecting the sensor to the user system.

2. The acetal nose cone, fitted to the sensor, prevents damage to the pressure diaphragm but lets fluid flow. If necessary the acetal nose cone can be removed for a calibration check or cleaning.

CAUTION:

THE SENSING DIAPHRAGM CAN BE DAMAGED.

THE NOSE CONE PREVENTS DAMAGE TO THE SENSING DIAPHRAGM AND MUST ONLY BE REMOVED FOR CLEANING.

3. Remove the sensor from the container. Before use, check that the sensor model type and level range are applicable. Etched on the body of the sensor are the serial number, model type and the pressure range (i.e., 123456 PTX 1830 - 35 bar g).

4. The PTX 1830 sensor electrical power supply must be between 9 to 30 Vdc, measured at the transmitter connections.

Calculate the minimum supply voltage as follows:

$$V_{Min} = V_S - (0.02 \times R_L)$$

where: V_S = Supply voltage

R_L = Total loop resistance in ohms

5. An incremented, three-digit code at a 1 metre distance marks the cable.

Example:

Figure 2 shows an example of a 50 metre depth. Note the first three-digit code, add the necessary length and look for the calculated three-digits: $010 + 50 = 060$

Measure from the sensor reference point (Figure 2) to the datum reference point to find the necessary length of cable and mark with tape.

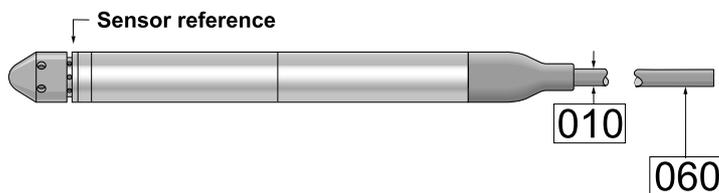


Figure 2 - Cable Markings

Option Codes

- A Lightning Surge Arrestor
- B Intrinsically Safe Version
- C Alternative Pressure Connection to Nose Cone
- D Improved Accuracy
- ±0.06%FS BSL for transmitters 100 mbar FS and over
- ±0.08%FS BSL for transmitters under 100 mbar FS

6. Make sure the acetal nose cone is tightly fitted. Using the cable, lower the sensor into the fluid until the reference datum tape mark on the cable is level with the fluid surface.

7. Cut the surplus cable. Strip back the wires as detailed in Figure 1 and connect the wires at the termination device.

Note:

Druck can supply and recommends the Sensor Termination Enclosure (STE) termination device for this job. The STE prevents blockages and moisture going into the nylon vent tube.

8. After connecting the wires, visually inspect the top of the nylon vent tube to make sure it is clean and not blocked or damaged.

9. Clamp the cable and attach at the datum reference point with a clamping device.

Note:

Druck can supply proprietary cable clamps for this job.

Make sure that there is no cable movement and no damage of the internal nylon vent tube in the cable structure.

Note:

The sensor receives barometric pressure changes through the internal vent tube.

10. Switch on the power supply and make sure that an applicable output signal from the sensor is received by the signal conditioning system.

Calibration

A regular calibration check is necessary to know the sensor's accuracy and to agree with local or national quality procedures. To check the accuracy of the sensor apply a known pressure and measure the output.

In the field, a portable calibrator can be used, Druck recommends the following equipment:

Druck Model	Description
DPI 610/615	Portable Pressure Calibrator/Data Logger (accuracy 0.025% full-scale)
UPSIII	mA Loop Calibrator
Intecal W	Calibration Management Software

Accessories

The following accessories are available:

Description	Druck Part No.
STE Sensor Termination Enclosure	202-034-01
17.5 mm Slim-line Sink Weight	DA 2608-1-01
25.4 mm Short Sink Weight	DA 4068-1-01
Cable Clamp System	192-373-01
G1/8 Calibrator Adaptor Female	DA 2537-1-01
G1/8 Calibrator Adaptor Female 360°	DA 4112-1-01

For more information contact Druck or appointed agent.