

Features

- Ranges from 3.5 to 600 mH₂O
- Accuracy $\pm 0.25\%$ full scale (FS) best straight line (BSL)
- Fully welded 17.5 mm 316 stainless steel construction
- Pulse power operation
- Polyurethane and hydrocarbon resistant cables
- Full range of installation accessories

The PDCR 1730/1740 transducer (mV output) and PTX 1730/1740 transmitter (4 to 20 mA output) are the latest generation of fully submersible, 316 stainless steel, high performance sensors for measurement of hydrostatic liquid levels.

Application specific features include a Kevlar® strain relieved vented cable, internal condensation protection and an IP68 injection moulded cable assembly, which ensures sensor operation over an extended lifetime.

1730/1740 Series Druck Stainless Steel Level Pressure Sensors

1730/1740 is a Druck product.
Druck has joined other GE
high-technology sensing
businesses under a new
name— GE Industrial, Sensing.



1730/1740 Specifications

Pressure Measurement

Operating Pressure Ranges

PDCR 1730/1740 (mV)

3.5, 7, 10, 15, 20, 35, 50, 70, 100, 150, 200, 350, 600
mH₂O gauge

PTX 1730/1740 (mA)

Any zero based FS from 3.5 mH₂O to 600 mH₂O gauge.

Other units may be specified e.g. ftH₂O, inH₂O, bar, mbar, kpa, kg/cm²

Overpressure

The operating FS pressure range can be exceeded by the following multiples with negligible effect on calibration.

- 4 x for 3.5 mH₂O range
- 2 x for ranges above 3.5 mH₂O

Pressure Containment

- 10 x for 3.5 mH₂O range
- 4 x for ranges up to 600 mH₂O (1400 mH₂O maximum)

Media Compatibility

Fluids compatible with 316 stainless steel (body), polyurethane or Hytrel® 6108 (cable) and EPDM (nose cone).

Excitation Voltage

PDCR 1730/1740 (mV)

10 V at 1 mA nominal

Output is fully ratiometric to supply within 2.5 V to 12 V limits.

PTX1730/1740 (mA)

9 to 30 VDC across terminals

For pulse power operation refer to technical note.

The minimum supply voltage (V_{MIN}) which must appear across the pressure transmitter terminals is 9 V and is given by the following equation:

$$V_{\text{MIN}} = V_{\text{SUP}} - (0.02 \times R_{\text{LOOP}})$$

Where V_{SUP} is supply voltage in Volts, R_{LOOP} is total loop resistance in Ohms

Output Signal

PDCR 1730/1740

- 50 mV for 3.5 mH₂O range
- 100 mV for ranges 7 mH₂O and above

PTX 1730/1740

4 to 20 mA proportional, for zero to FS pressure

Common Mode Voltage - PDCR 1730/1740

Nominally 50% of excitation voltage

Output Impedance - PDCR 1730/1740

5 k Ω nominal

Performance Specification

Accuracy

Combined effects of Non-linearity, Hysteresis and Repeatability: $\pm 0.25\%$ FS BSL max

Zero Offset & Span Setting

PDCR 1730/1740

Typical: ± 1.5 mV

Maximum: ± 3 mV

PTX 1730/1740

Maximum: ± 0.1 mA

Long-Term Stability

$\pm 0.2\%$ FS typical per annum

Operating Temperature Range

-20 to 60°C

Compensated Temperature Range

-2 to 30 °C

Temperature Effects

$\pm 0.5\%$ FS Temperature Error Band (TEB).

Shock and Vibration

MIL-STD-810E, method 514.4. Category 10 min. integrity. Figure 514.4-16

Product will withstand 20 g peak shock half sine wave 9 ms duration in all axes, also 2000 g peak shock 0.5 ms duration in all axes.

Insulation

Greater than 100 M Ω at 500 VDC

1730/1740 Specifications

Physical Specification

Pressure Connection

G1/4 (female) with recessed open face diaphragm, fitted with protective EPDM nose cone.

Electrical Connection

1730: Vented polyurethane cable with integral Kevlar® strain relief cord rated to 54 kg load. Water ingress protection IP68 to 700 mH₂O.

1740: Vented Hytrel® 6108 cable (hydrocarbon resistant) with integral Kevlar® strain relief cord rated to 54 kg load. Water ingress protection IP68 to 700 mH₂O.

Fixed Cable Lengths

2, 6, 10, 15, 20, 25, 30, 40, 60, 90, 120 m.
Variable cable lengths available from 120 to 600 m.

CE marking

CE marked for electromagnetic compatibility and pressure equipment directive.

Documentation

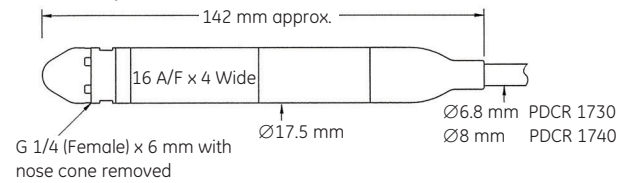
Statement of conformity and installation notes supplied as standard.

Accessories

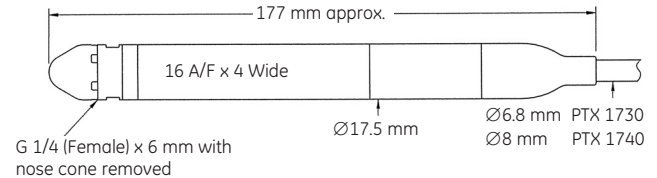
A full range of accessories is available to enhance installation, operation and maintenance of the 1730/1740 Series as listed below:

- STE moistureproof sensor termination enclosure (202-034-01)
- Slimline sink weight Ø17.5 mm (222-116-01)
- Short sink weight Ø25 mm (222-117-01)
- Cable clamp system (192-373-01)
- 360° rotatable calibration adaptor to:
 - G1/8 (DA4112-3-01)
 - 1/8 NPT (DA4112-4-01)
- Economical direct calibration adaptor to:
 - G1/8 (DA2536-1-01)
 - 1/8 NPT (DA2536-2-01)

PDCR 1730/1740



PTX 1730/1740



Electrical Connections

PDCR 1730 - Polyurethane cable
PDCR 1740 - Hytrel® 6108 cable

PTX 1730 - Polyurethane cable
PTX 1740 - Hytrel 6108 cable

Red: Supply positive
White: Supply negative
Yellow: Output positive
Blue: Output negative
Screen wire connected to case
Remaining cores not connected

Red: Supply positive
Blue: Supply negative
Screen wire connected to case
Remaining cores not connected

Ordering Information

Please state the following:

- (1) Model PDCR 1730 (mV) or PTX 1730 (mA)
 - Polyurethane cable
 - Model PDCR 1740 (mV) or PTX 1740 (mA)
 - Hytrel® 6108 cable
- (2) Pressure range and scale units
- (3) Cable length required
- (4) Accessories (order as separate items).



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