



# 1830/1840 Series

## Druck High Performance Level Pressure Sensors

The PDCR 1830 transducer (mV output) and PTX 1830 transmitter (4 to 20 mA output) are the latest generation of fully submersible titanium high performance sensors for measurement of hydrostatic liquid levels.

### Features

- Ranges from 0.75 mH<sub>2</sub>O to 600 mH<sub>2</sub>O
- Accuracy  $\pm 0.10$  % full scale (FS) best straight line (BSL)
- Fully welded 17.5 mm diameter titanium construction
- Polyurethane and hydrocarbon resistant cables

## Applications

The PDCR/PTX 1830 Series incorporates many enhanced features gained from experience in supplying thousands of sensors for small and large scale installations worldwide. Example applications include:

- Potable water  
From ground water borehole to surface water level measurements in rivers, canals and reservoirs.
- Waste water and remediation  
Monitoring of secondary and outflow sewage levels and contaminated ground water levels in land fill sites.
- Tank Level  
From land based liquid storage vessels to on-board ship ballast tank monitoring.
- Sea Water  
Marine environmental applications, including tide gauging, coastal flood protection and wave profiling, amongst others.

## Reliability and Data Quality

The combination of a high technology sensor, together with advanced signal conditioning and packaging techniques, provides an ideal long term solution for reliable, accurate and economical level measurements. The micromachined silicon element is sealed within an all-titanium pressure module assembly, fully isolated from the pressure media. This is contained in a slimline, welded titanium body, terminated in an injection moulded cable assembly. The cable features a Kevlar® strain cord and is IP68 rated for indefinite immersion in 700 mH<sub>2</sub>O, with a selection of cable materials to meet the application.

## Ease of Use

A simple datum marked cable system is for ease of installation. 1 m datum points are provided for quick and accurate cable alignment to level. In addition, a full range of related accessories simplifies installation, operation and maintenance.

- Quick-release cable clamp assembly
- Slimline and short profile sink weights
- Moistureproof Sensor Termination Enclosure
- In-situ pressure test/calibration adaptor







# 1830/1840 Specifications

## Pressure Measurement

### Operating Pressure Ranges

#### PDCR 1830/1840 (mV)

0.75, 1.5 mH<sub>2</sub>O gauge, 3.5, 7, 10, 15, 20, 35, 50, 70, 100, 150, 200, 350, 600 mH<sub>2</sub>O gauge and absolute

#### PTX 1830/1840 (mA)

Any zero based FS from 0.75 to 600 mH<sub>2</sub>O gauge and 3.5 to 600 mH<sub>2</sub>O absolute.

Elevated zero, compound and reversed output ranges available. Refer to GE for further information.

Other units may be specified, e.g. , ftH<sub>2</sub>O, inH<sub>2</sub>O, bar, mbar, kPa, kg/cm<sup>2</sup>

### Overpressure

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

- 8 x for ranges up to 1.5 mH<sub>2</sub>O
- 6 x for ranges above 1.5 to 3.5 mH<sub>2</sub>O
- 4 x for ranges above 3.5 mH<sub>2</sub>O (1400 mH<sub>2</sub>O maximum)

### Pressure Containment

- 10 x for ranges up to 3.5 mH<sub>2</sub>O gauge
- 6 x for ranges above 3.5 mH<sub>2</sub>O gauge (1400 mH<sub>2</sub>O maximum)
- 200 bar for absolute ranges

### Media Compatibility

Fluids compatible with titanium (body), acetyl (nose cone) and polyurethane or Hytrel® 6108 (cable assembly)

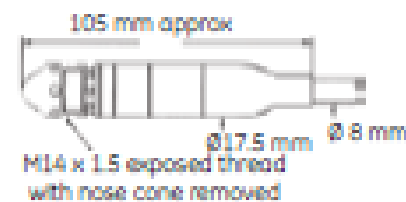
### Excitation Voltage

#### PDCR 1830 (mV)

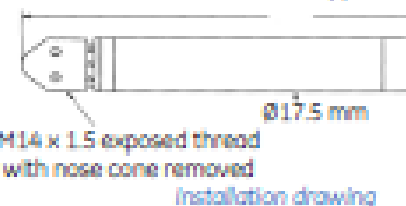
10 V at 5 mA nominal

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

PDCR 1830/1840



PTX 1830/1840



#### Electrical Connections

PDCR 1830 - Polyurethane cable

PDCR 1840 - Hytrel® 6108 cable

Red: Supply positive

White: Supply negative

Yellow: Output positive

Blue: Output negative

(S version: screen not connected)

Screen wire connected to case

Remaining cores not connected

### Output Signal

#### PDCR 1830/1840

- 25 mV for 0.75 mH<sub>2</sub>O range
- 50 mV for 1.5 and 3.5 mH<sub>2</sub>O
- 100 mV for ranges 7 mH<sub>2</sub>O

#### PTX 1830/1840

4 to 20 mA proportional, for a

### Common Mode Voltage -

Typically +3.5 V to +9 V with ratiometric supply

### Output Impedance - PDCR

5 kΩ nominal

## Performance Specifications

### Accuracy

Combined effects of Non-linearity

Repeatability:

- PTX 1830/1840: ±0.1% FS

- PDCR 1830/1840: ±0.25% FS

### Zero Offset and Span Set



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