

Druck

## PDCR 35/D SERIES

### Miniature Depth/Level Pressure Transducer

- High accuracy  
 *$\pm 0.1\%$  F.S. for ranges to 1155 ft. of water*
- Totally submersible  
*With molded integral cable*
- Excellent overpressure capability  
 *$<4$  times rated pressure*
- Good thermal stability  
 *$\pm 0.5\%$  total error band  $30^{\circ}$  to  $86^{\circ}$ F*
- Titanium construction
- Small  
*Less than 0.4 ins. outside diameter*



The PDCR 35/D depth pressure transducer has been designed for level measurements in applications where space is very restricted. With a body diameter of only 0.39 inches, it provides an important installation advantage in small diameter monitor wells, bore holes and stand pipes. The transducer is available in vented gauge (*standard*) and sealed gauge (*option*) ranges from 0 to 10 psi through 0 to 500 psi. The all titanium body construction of this model ensures long term and reliable measurements in ground water, reservoir, stream and ocean applications.

The transducer incorporates a miniature, silicon piezoresistive pressure sensor which features excellent resistance to shock and vibration. The standard accuracy is 0.1% FS with the option of 0.06% FS. Outstanding temperature performance is achieved by a proprietary thermal compensation process.

A tough, polyurethane cable is molded to the transducer to provide a high integrity, water-proof assembly. The cable is strengthened with Kevlar so that there is no measurable elongation when the cable is lowered into deep wells. External suspension wire, to prevent electrical or mechanical damage of the cable, is therefore not necessary with the PDCR 35/D.

For applications where very long cable length or current outputs are required, Druck offers a complimentary range of submersible pressure transmitters providing 4-20 mA output.

## STANDARD SPECIFICATION

Operating Pressure Ranges  
Available in gauge ranges as follows:  
(Approximate equivalents are also shown for feet of ground water)  
10 psi (23.1 ft. water), 15 psi (34.7 ft. water),  
25 psi (58 ft. water), 50 psi (115 ft. water),  
100 psi (231 ft. water), 200 psi (462 ft. water),  
300 psi (693 ft. water), 500 psi (1155 ft. water).

*For sealed gauge ranges, please contact factory.*

Overpressure  
The rated pressure can be exceeded by 4 times causing negligible calibration change.

Pressure Media  
Fluids compatible with quartz, titanium, and the polyurethane cable. If the pressure media is applied only to the pressure port and the transducer is not totally submerged then it will only contact quartz and titanium.

Transduction Principle  
Integrated silicon strain gauge bridge.

Excitation Voltage  
10Vdc regulated @ 8mA max.  
Polarity is important.

Output Voltage  
100mV

*For pressure ranges 10 psi through 500 psi with standard accuracy.  
For V or mA outputs, please contact factory.*

Output Impedance  
2000 ohms nominal

Load Impedance  
Greater than 100K ohms for quoted performance.

*For lower load impedances, please specify.*

Resolution  
Infinite

Combined Non-Linearity, Hysteresis and Non-Repeatability  
±0.1% B.S.L. for all ranges  
±0.06% B.S.L. available on request. Lower outputs may be applicable, please refer to manufacturer.

Zero Offset  
±5mV standard

Span Setting  
±10mV standard

*More accurate settings of zero and span are available on request.*

Operating Temperature Range  
-5°F to +175°F standard (-20°C to +80°C)

Compensated Temperature Range  
30°F to 86°F (-2°C to +30°C)

Temperature Effects  
±0.5% total error band 30°F to 86°F (-2°C to +30°C)

*For special applications it is possible to give improved temperature compensation over a wider temperature range.*

Natural Frequency  
56kHz for 10psi increasing to 360kHz for 500psi.

Acceleration Sensitivity  
0.003% F.S.O./g for 10psi decreasing to 0.0002% F.S.O./g for 500psi

Mechanical Shock  
1000g for 1 ms in each of three mutually perpendicular axes will not affect calibration.

Weight  
0.6 oz. nominal

Electrical Connection  
3 ft. cable supplied as standard. This is molded to transducer body with polyurethane to provide watertight connection. Continuous lengths up to 500 ft. can be supplied. Please refer to manufacturer if longer lengths are required.  
Cable specification:  
6 conductor (24 AWG) shielded  
-shield connected to transducer body  
Polyurethane outer jacket - 0.224 in. dia.  
Kevlar strength member #29/1500 Denier  
Nylon vent tube  
Weight in air, 44 lbs. per 1000 ft. nominal  
Weight in water, 10 lbs. per 1000 ft. nominal  
Breaking strength, 200 pounds.  
This tough customized cable has been strengthened with Kevlar so that there is no measurable cable elongation that could result in electrical breakdown.

Pressure Connection  
A delrin cone is fitted as standard.

Pressure Connection Optional  
Titanium front end with side pressure ports which incorporates a female 10-24 UNC thread for the purpose of adding weight. (P/N 222-053)

Please refer to manufacturer for other pressure connections.

## ASSOCIATED PRODUCTS

Ranges Below 10PSI With Fluid Isolation  
Refer to PDCR 1830 Series

4-20mA Output  
Refer to PTX 1830 Series

Deep Wells Small Bores  
Refer to PDCR 1830 Series

Signal Conditioning  
Refer to SCU 220, DPI 260 and DPI 280 Series

Remote Termination Box  
Refer to STE 110 or SCU 220

Calibration Instrument  
Refer to DPI 510 and DPI 600 Series

## ORDERING INFORMATION

Please state the following:

- (1) Type number
- (2) Pressure range
- (3) Temperature range
- (4) Cable length
- (5) Pressure media

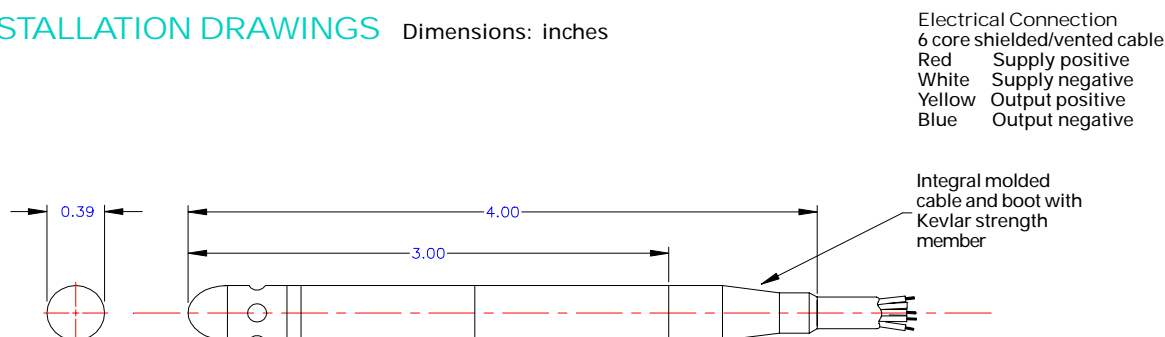
*For non-standard requirements please specify in detail.*

Shipping, storage and handling  
Each transducer is purged with clean dry nitrogen and shipped with a desiccant to prevent moisture ingress during transit.

*Continuing development sometimes necessitates specification changes without notice.*

Druck Inc. is an ISO 9000 registered company

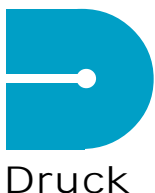
## INSTALLATION DRAWINGS Dimensions: inches



Electrical Connection  
6 core shielded/vented cable  
Red Supply positive  
White Supply negative  
Yellow Output positive  
Blue Output negative

Monitor Lead Option  
Orange Monitor supply positive  
Black Monitor supply negative

(This option requires an additional 1/2" body length)



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