

PDCR 330



Aerospace Pressure Transducer

- FAA & CAA flight certified to TSO C47
- Small lightweight packaging
- Wide temperature operation
- High accuracy and stability
- High proof and burst pressure ratings
- Affordable solution with low technical risk



The PDCR 330 is a low level (millivolt) output flight certified pressure transducer which meets the demands of the modern aerospace industry.

The sensing element is an advanced micro-machined integrated silicon chip which, together with the latest compensation techniques, provides exceptional measurement performance across the entire aircraft environment.

Pressure media is isolated from the silicon sensing element by a highly compliant diaphragm and fluid filling. This provides compatibility with hostile media and high proof/burst pressure ratings.

The small lightweight package has low acceleration sensitivity, fast frequency response and is compliant with the most demanding vibration and shock requirements. CAA and FAA flight certification can be specified.

Available in both standard and custom formats, the PDCR 330 is used extensively for ground/flight test and programme fit applications throughout the engine, cockpit and airframe.

Aerospace Pressure Transducer

STANDARD SPECIFICATIONS

Pressure Measurement

Operating Pressure Ranges

350mbar, 700mbar, 1, 1.5, 2, 3.5, 5, 7, 10, 15, 20, 35, 60 and 70 bar gauge or absolute.
135, 200, 300, 350, 500 and 700 bar sealed gauge or absolute.

Overpressure

The rated pressure range can be exceeded by the following values without calibration change:
4 x or 140 bar (whichever less) for ranges up to 70 bar.
2 x or 1400 bar (whichever less) for ranges 135 to 700 bar.

Pressure Containment

The transducers will contain without leakage:
140 bar for absolute ranges up to 70 bar.
1400 bar for sealed gauge and absolute ranges between 135 and 700 bar.

Pressure Media

Fluids compatible with Stainless Steel 316L and Hastelloy C276.

Excitation/Supply Voltage

10V d.c. at 5mA nominal.
Others can be specified e.g. 5V d.c. for 50mV output span etc. For non regulated excitation (proportional output) refer to Druck.

Output Voltage

50mV for 350mbar range.
100mV for 700mbar range and above.
Others can be specified e.g. between 20mV and 200mV F.S. - refer to Druck.

Common Mode Voltage

Typically +6V to +8.5V with respect to the -ve supply at 10V d.c. excitation.

Output Impedance

2000Ω nominal.

Performance

Accuracy

Combined Non-linearity, Hysteresis and Repeatability:
±0.1% B.S.L. for ranges up to 60 bar.
±0.2% B.S.L. for 70 bar range.
±0.75% B.S.L. for 135 to 700 bar ranges.

Zero Offset and Span Setting

±3mV maximum.

Long Term Stability

Typically 0.1mV.

Operating Temperature Range

-54 to 150°C.

Temperature Effects

Temperature Error Band (T.E.B.) or average coefficients (%F.S./°C) shown include thermal zero shift, sensitivity shift and thermal hysteresis:
-54° to 120°C: ±2.5% T.E.B. or ±0.015 F.S./°C.
Improved performance available for 700mbar range and above - refer to Druck.

Vibration Sensitivity

Response less than 0.05% F.S./g at 30g peak 10Hz - 2kHz, limited by 12mm double amplitude. (MILSTD 810C Proc 514.2-2 Curve L).

Acceleration Sensitivity

Typically 0.02% F.S./g for 350mbar decreasing to 0.00035 F.S./g for ranges above 60 bar, along the sensitive axis.

Mechanical Shock

1000g 1ms half sine pulse in 3 mutually perpendicular axes will not affect performance.

Physical

Pressure Connections

7/16" UNJF thread, 74 degree cone generally to MS 33656-4 (AS4395-4).
Alternative pressure connections available to order - refer to Druck.

Electrical Connections

6 pin bayonet fixed plug to MIL-C-26482 or DEF 5325 shell size 10.
Mating socket not supplied but available to order. MIL-C-38999 electrical connection or integral cable assembly available - refer to Druck.

Weight

120grams nominal.

OPTIONS

- (A) Remote 'R' cal by external resistor.
- (B) Ranges below 350mbar.
- (C) Differential pressure measurement.
- (D) Amplified output from 24-32V d.c. supply.

CALIBRATION STANDARDS

Pressure transducers manufactured by Druck are calibrated against precision pressure calibration equipment which is traceable to International Standards. A statement of conformity is supplied as standard.

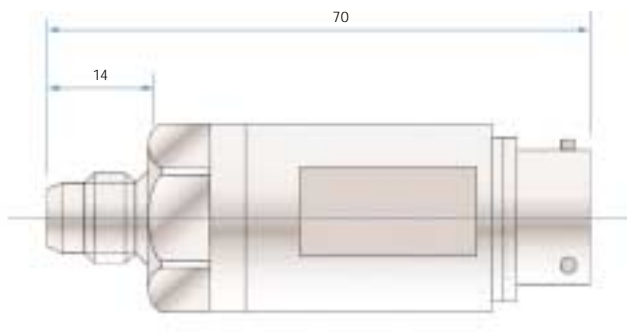
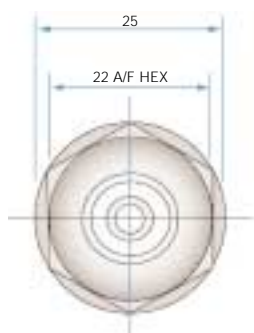
ORDERING INFORMATION

Please state the following:

- (1) Model number (PDCR 330).
- (2) Pressure range and units.
- (3) Gauge, sealed gauge or absolute.
- (4) Pressure connection.
- (5) Options (if required).

Continuing development sometimes necessitates specification changes without notice.

INSTALLATION DRAWINGS - Dimensions in mm



Electrical Connection

PIN A Supply positive
PIN B Output positive
PIN C Output negative
PIN D Supply negative

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