

## RPT SERIES

### Resonant Pressure Transducers

- High accuracy  $\pm 0.01\%$
- High stability  $< 100$  ppm/year
- Insensitive to media density
- Frequency, RS 232/485 outputs
- OEM or industrial formats



The use of resonant structures in pressure transducers has long been recognized as producing highly stable sensors. Druck has developed this technology to produce a series of Resonant Pressure Transducers (RPT) using silicon to give high accuracy and stability with low manufacturing costs.

The silicon structure, which is manufactured within Druck's own class 100 silicon processing facility, is a multi-layer construction with the resonator and pressure sensitive diaphragm micro-machined from one piece of silicon.

The resonator is bonded to a second silicon wafer containing the drive and pick-up system under vacuum. This isolates the resonator from the pressure media, thereby ensuring that the accuracy is maintained regardless of the pressure media density.

This transducer series can be used in many application areas with the RPT 100 configured for OEM use and the RPT 200 for direct mounting in aggressive environments. The RPT 200 is available with either a frequency output for conversion to pressure within the customer system or as a fully corrected digital output of pressure via an RS 485 interface.

The mechanical format of the RPT 200 makes it ideal for high accuracy industrial applications ranging from level measurement to gas volume correction and where stability is of paramount importance.

The digital output RPT 301 is ideally suited for weather stations monitoring atmospheric trends, engine test cells and as a highly stable pressure reference transfer standard.

## STANDARD SPECIFICATION

Type Number	RPT 100	RPT 200	RPT 200 SMART	RPT 301
Pressure Range	11.6-16.7 psi a	Any span between 0.5 to 50 psi a		
Overpressure	1.25 x calibrated full scale			
Pressure Containment	75 psi a			
Pressure Media	Dry, non-corrosive gas only	Any gases compatible with silicon, glass, stainless steel (titanium available) and epoxy		
Excitation Voltage	14 to 16 Vdc	11 to 13 Vdc	11 to 28Vdc	4.5 to 32Vdc
Pressure Output	TTL square wave 5kHz nominal sensitivity 0.16 to 0.24 Hz/.01 psi	TTL square wave 36kHz nominal 1 to 3 Hz/.01 psi	RS 485 half duplex	RS 485 full duplex or RS 232 user selectable
Temperature Output	Voltage across forward biased integral diode: 660mV nominal @ 20°C Diode sensitivity: typically -2mV/°C			
Accuracy	Using algorithm and coefficients supplied, the applied pressure can be calculated to within: Standard: ±0.02% F.S. Option A: ±0.01% F.S. over +10°C to +40°C		Non-linearity, hysteresis and repeatability: Standard: ±0.02% F.S. Option A: ±0.01% F.S. Temperature Effects: ±0.02% F.S. over -20°C to +60°C	
Stability:	Standard: < 159 ppm/year, Option A: < 100 ppm/year			

## ORDERING INFORMATION

Please state the following:

- (1) Type number
- (2) Pressure range
- (3) Accuracy, Option (A) if required.

*Continuing development sometimes necessitates specification changes without notice.*

## RELATED PRODUCTS

Druck manufactures a comprehensive range of pressure indicators, controllers, calibrators, transducers and transmitters.

*Please refer to manufacturer for further information and datasheets.*

## CALIBRATION STANDARDS

Instruments manufactured by Druck are calibrated against precision pressure calibration equipment which is traceable to the National Institute of Standards and Technology (NIST).

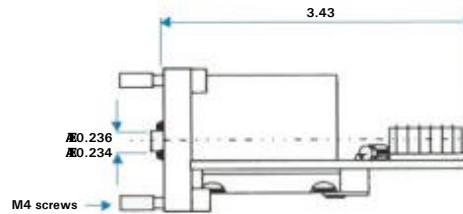
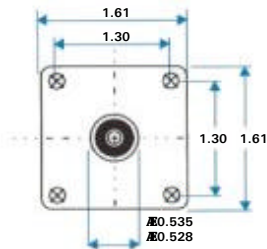
Druck is an ISO 9001 registered company.



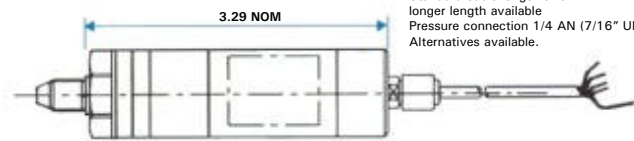
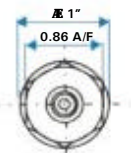
## INSTALLATION DRAWINGS

Dimensions: inches

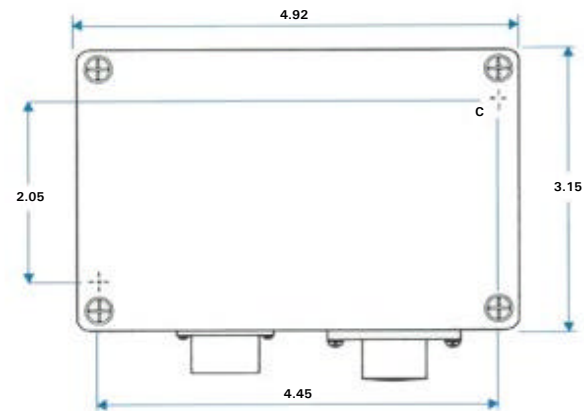
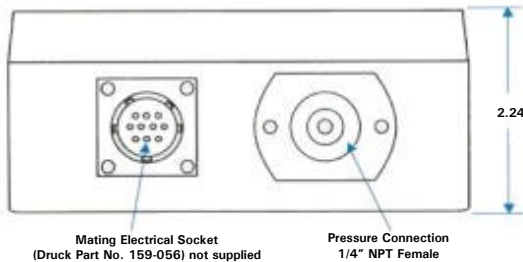
RPT 100



RPT 200  
/RPT 200 SMART



RPT 301



Druck Incorporated  
4 Dunham Drive  
New Fairfield, CT 06812  
Tel: (203)-746-0400  
Fax: (203)-746-2494  
E-Mail: [usa.sales@druck.com](mailto:usa.sales@druck.com)  
<http://www.druckinc.com>

Representative:

USRPT - PDS-A049 - 1/96