Series RSP16XX

Precision Pressure Transducers / Pressure Transmitters

**For mV/V outputs, see Series RSP0160*

RSP16XX

Description

The Series RSP16XX pressure transducers and pressure transmitters combine high 0.10% static accuracy with high level outputs. Customers can select 4-20 mA current outputs, numerous voltage outputs, as well as digital outputs including RS232, RS485, and CANbus. The RSP16XX pressure transducers offer isolated voltage output as standard for the voltage outputs units. Zero and span adjustment pots are standard features. Each of these pressure sensors is constructed of all welded stainless steel. All RSP16XX transducers are manufactured to be shock and vibration resistant. Pressure ranges extend to 40,000 psi and are available in absolute or gage references. A comprehensive selection of options, including pressure ports, electrical terminations, temperature compensation ranges, and media materials are also available. Each unit is shipped with a traceable, 19 point calibration record.

Standard Features

- **± 0.10% FSO Accuracy**
- **High Level Output (Analog & Digital)***
- **Zero and Span Adjustments**
- **Isolated Voltage Output (For Voltage Output Units)**
- **Improved Thermal Performance**
- **Pressure Ranges to 40,000 psi**
- **Stainless Steel Construction**
- **Secondary Containment**
- **Shock and Vibration Resistant**
- **19 Point Calibration Record Traceable to NIST**
- **Many Ranges Available on Short Delivery Time**

Optional Features

- **Customer Specified Electrical Connections**
- **Customer Specified Pressure Ports**
- **Wetted Material Alternatives**
- **Extended Temperature Compensation Ranges**
- **Special Calibrations**

Series RSP16XX
Specifications

Baseline Configuration Specs Represented.
Modifications Encouraged - See Below
Custom Designs Available

Performance

Static Accuracy
± 0.1% FSO by BFSL.

Resolution
Analog: Infinite.
Digital: .025% FSO.

Thermal Zero Shift
< ± 0.009% FSO/°C (typical).

Thermal Span Shift
< ± 0.009% FSO/°C (typical).

Zero Balance
±1% FSO at 20°C.
Zero Adjustment: ±5% FSO.

Span
± 1% FSO at 20°C.
Span Adjustment: ±5% FSO.

Frequency Response
Consult Factory.

Mechanical Characteristics

Standard Ranges
0 - 5, 10, 25, 30, 50, 75, 100, 200, 500, 750, 1000, 1500, 2000, 3000, 5000, 7500, 10000, 15000, 20000, 25000, 30000, 40000 PSIA / PSIG.

Proof Pressure
1.5 X range.

Burst Pressure
2.0 X range.

Operating Media
Fluids and gases compatible with 17-4 stainless steel.
Inconel and other materials optional.

Enclosure
Body of stainless steel.

Pressure Fitting
(For ranges 5 psi thru 10,000 psi)
BSP G ¼ B Female (Standard)
BSP G ¼ B Male, G ⅛ B Female, G ⅛ B Male, ¼" NPT Male, ¼" NPT Female (No charge options)
Metric threads available

(For ranges 15,000 psi thru 40,000 psi)
AE F250-C, 9/16-18 UNF (Standard)
Metric equivalent of AE F250-C (No charge option)

For additional pressure fittings please consult factory

Secondary Containment
4500 PSI (Standard).
10000 PSI (Optional).

Weight
Approximately 450 g.

Electrical Characteristics

ANALOG OUTPUTS

Excitation
4-20mA Current Loop:
9-36 Vdc for 2-wire.
9-36 Vdc for 3-wire.
Isolated Voltage Output (0-5 Vdc, 0-10 Vdc):
14-32 Vdc (standard).
8-18 Vdc (No charge option).
Non-Isolated Voltage Output:
8-40 Vdc for 1-5 Vdc, 3-wire (standard).
8-40 Vdc for 1-6 Vdc, 3-wire (No charge option).
8-40 Vdc for 0-5 Vdc, 4-wire (No charge option).
Additional outputs and related excitations available.

DIGITAL OUTPUTS

DIGITAL OUTPUTS

Excitation
RS-232, RS-485
8-30 Vdc.
CANbus
4-18 Vdc (standard).
14-32 Vdc (optional).

Programming
PC.

DUAL OUTPUTS (Analog & Digital)

Excitation
3-wire Current plus Digital:
12-32 Vdc.
Isolated Voltage plus Digital:
14-32 Vdc.
Non-Isolated Voltage plus Digital:
8-30 Vdc.

COMMON

Insulation Resistance
> 100 megohms at 50 Vdc at 20°C.

Electrical Termination
PTIH-10-6P stainless steel connector or equivalent.
Optional electrical terminations available.

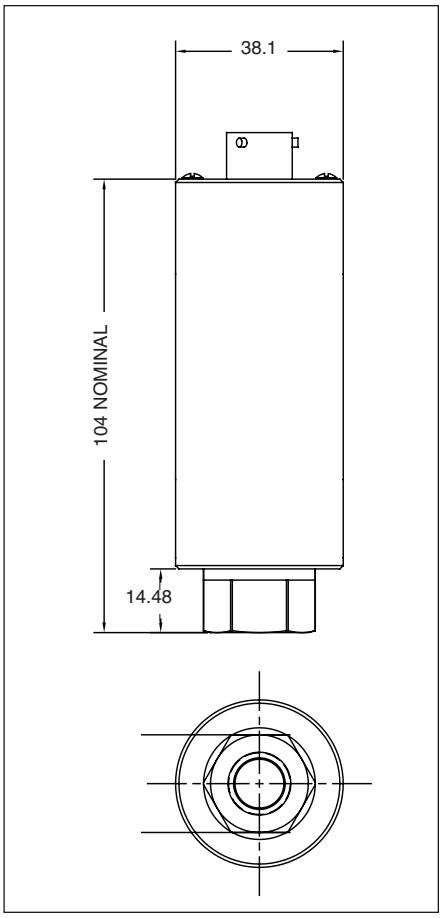
Electrical Protection
- EMI Protected. (Optional for Isolated Voltage).
- Surge Protection to 500 Vdc. (Optional for Isolated Voltage).
- Reverse polarity protected.
- Short circuit protected.

Environmental Characteristics

Compensated Temperature Range
-34°C to +76°C. Options available. (Consult factory)

Operating Temperature Range
-50°C to +120°C.
(Note: Maximum Operating Temperature for digital output is +85°C)

Dimensions (mm)



MODEL IDENTIFICATION

R S P 1 6 X X

SERIES

ANALOG OUTPUT
0 = Isolated Voltage
1 = None
2 = Non-Isolated Voltage
5 = 4-20 mA 2-wire Loop (not available with Digital Output)
6 = 4-20 mA 3-wire

DIGITAL OUTPUT
0 = None
1 = RS-485
2 = RS-232
4 = CANbus

For mV/V output, see Series RSP0160

CE 0539

MODIFICATIONS: We realize transducer applications vary greatly and as such our designs are flexible. Choice of pressure port, electrical termination, material compatibility and performance characteristics are a few of the many options available. Specifications on this datasheet represent the standard configuration only. Product and company names listed are trademarks of their respective companies. Specifications subject to change without notice.
WARRANTY: RDP warrants that its product shall be free from defective workmanship and/or material for a twelve month period from the date of shipment, provided that RDP's obligation hereunder shall be limited to correcting any defective material FOB our factory. No allowance will be made for any expenses incurred for correcting any defective workmanship and/or material without written consent by RDP. This warranty is in lieu of all other warranties expressed or implied.

Due to the nature of technology, changes are inevitable. For latest technical specifications, see our website.

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