

# Series RSP18XX

Standard Accuracy Pressure Transducers and Transmitters

*\*For mV/V output, see Series RSP0180*



## Description

The Series RSP18XX pressure transducers and pressure transmitters provide an economical solution for many general purpose industrial applications requiring high level outputs. This family of pressure transducers provides a variety of electrical outputs including 4-20 mA current, standard voltage outputs, as well as digital outputs including RS232, RS485, and CANbus. The RSP18XX sensors offer isolated voltage output as a standard feature. These 0.25% accuracy pressure transducers have a maximum range of 40,000 psi and are available in both gage or absolute references. All RSP18XX products are constructed of stainless steel and are manufactured to be shock and vibration resistant. A comprehensive selection of pressure ports and electrical terminations is available. Each unit is shipped with a 15 point calibration record traceable to NIST as standard.

## Standard Features

- $\pm 0.25\%$  FSO Accuracy
- High Level Output (Analog & Digital)\*
- Isolated Voltage Output (For Voltage Output Units)
- Pressure Ranges to 40,000 psi
- Stainless Steel Construction
- Shock and Vibration Resistant
- 15 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
- Zero and Span Adjustment Pots
- Extended Temperature Compensation Ranges
- Special Calibrations

RSP18XX

# Series RSP18XX Specifications

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

## Performance

### Static Accuracy

± 0.25% FSO by BFSL.

### Resolution

Analog: Infinite.  
Digital: .025% FSO.

### Thermal Error

< ± 0.036% FS/°C (typical).

### Zero Balance

± 1% FSO at 20°C.

### Span

± 1% FSO at 20°C.

### 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 and 30000, 40000 PSIA / PSIG.

### Proof Pressure

1.5 X range.

### Burst Pressure

2.0X 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 ½ B Female, G ½ B Male,

½" NPT Male, ½" 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

### Weight

Approximately 250 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

#### 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

3 ft. of PVC cable with shield and drain wire.

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

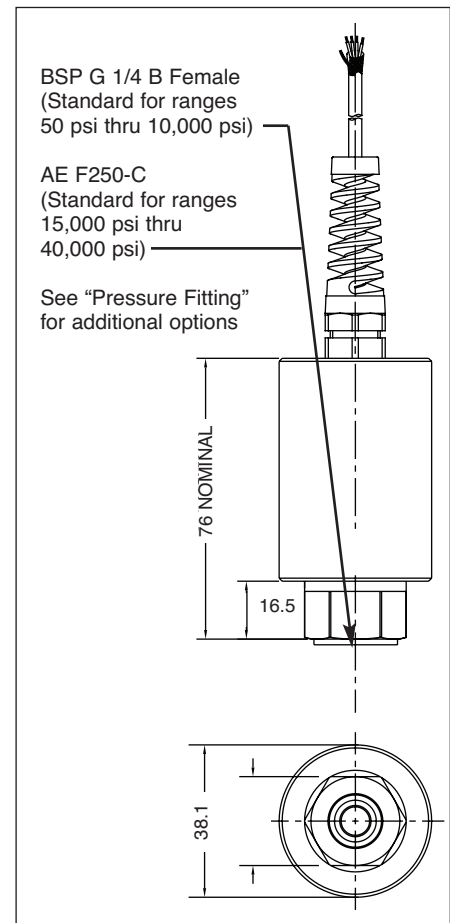
### Compensated Temperature Range

-1°C to +54°C. Options available.

### Operating Temperature Range

-40°C to +85°C.

## Dimensions (mm)



## MODEL IDENTIFICATION

R	S	P	1	8	X	X
SERIES			ANALOG OUTPUT		DIGITAL OUTPUT	
0	1	2	5	6	0	1
			Isolated Voltage		None	
			None		RS-485	
			Non-Isolated Voltage		RS-232	
			4-20 mA 2-wire Loop (not available with Digital Output)		CANbus	
			4-20 mA 3-wire			

For mV/V output, see Series RSP0180.



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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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