

## 209 Series - Industrial OEM Pressure Transducer

- ▶ Sensing ranges from vacuum
- ▶ Rugged stainless steel and Valox® housings
- ▶ Ideal for high shock and vibration applications

The 209 Series pressure transducers are designed specifically for industrial applications with demanding price and performance requirements. They offer exceptional reliability in typical industrial grade environments. 209 Series transducers operate on low-cost, unregulated DS power, and over a wide temperature band with both liquids and gases. Designed for harsh environments, they are suitable for use in high shock and vibration applications. Stainless steel and Valox® housings are small and lightweight for easy integration into compact systems. The standard feature set of the 209 Series delivers exceptional performance in extreme environmental conditions at a price that OEMs will appreciate.

### Specifications

#### Input

<b>Pressure Range</b>	0 to 1 to 0 to 10,000psi
<b>Proof Pressure</b>	See ordering chart
<b>Burst Pressure</b>	See ordering chart
<b>Fatigue Life</b>	>1 million cycles

#### Performance

<b>Supply Voltage (Vs)</b>	9-30Vdc (5Vdc on 0.5-4.5Vdc units)
<b>Long Term Drift</b>	0.5% FS/year
<b>Accuracy</b>	±0.25% FS
<b>Thermal Error Zero</b>	±0.036% FS/°C (±0.2% FS/°F)
<b>Thermal Error Span</b>	±0.030% FS/°C (±0.015% FS/°F)
<b>Compensated Temperatures</b>	-20°C to +80°C (-4° to 176°F)
<b>Operating Temperatures</b>	-40°C to +85°C (-40° to +185°F)
<b>Storage Temperatures</b>	-40°C to +85°C (-40° to +185°F)
<b>Zero Tolerance</b>	1% of span
<b>Span Tolerance</b>	1% of span
<b>Response Time</b>	5 ms

#### Mechanical Configuration

<b>Pressure Port</b>	See ordering chart
<b>Wetted Parts</b>	17-4 PH Stainless Steel
<b>Electrical Connection</b>	See Dimensions chart
<b>Enclosure</b>	Weather resistant (Stainless Steel and Valox®)
<b>Vibration</b>	20g (MIL STD 202, Method 204, Condition C)
<b>Shock</b>	200g (MIL STD 202, Method 213B, Condition C)
<b>Weight</b>	65 gms

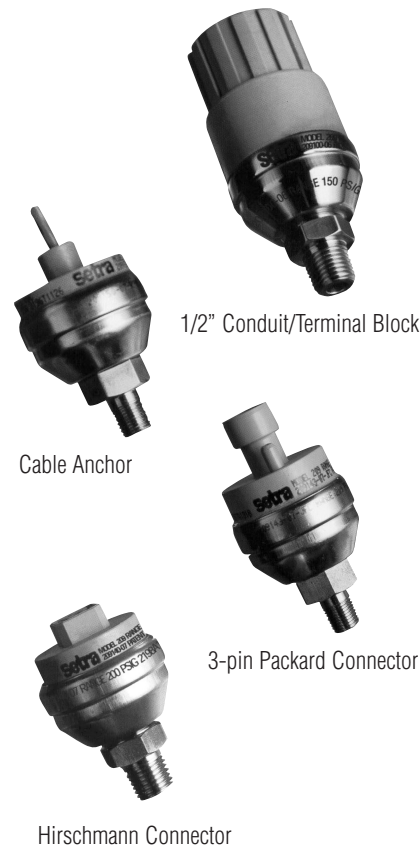
### Individual Specifications

#### Voltage Output units

<b>Output</b>	3 Wire, see ordering chart
<b>Current Consumption</b>	8mA
<b>Min. Loop Resistance</b>	5000 ohms

#### Current Output units

<b>Output</b>	4-20mA (2 wire)
<b>Max. Loop Resistance</b>	(Vs-9) x 50 ohms



### Applications

- ▶ Hydraulic Systems
- ▶ Compressor Control
- ▶ HVAC/R Equipment
- ▶ Industrial Engines
- ▶ Process and Containerized Refrigeration Systems
- ▶ Industrial OEM Equipment

### How They Operate

209 Series transducers utilise a proven centre mount electrode configuration combined with a durable 17-4 PH stainless steel pressure sensing element to form a variable capacitor. As pressure (or vacuum) increases or decreases, the capacitance changes. Self-contained high-level output IC-circuitry converts the change in capacitance to a fully conditioned linear voltage or current output signal.

Connector	Current units (4-20mA)				Voltage units				
		+Ve	-Ve	Earth	+Ve in	Common	+Ve out	-V out	Earth
Cable		Red	Black	Shield	Red	Black	Green	White	Shield
Hirschmann	PIN	1	2		1	2	3		
3 Pin Packard	PIN	B	A		B	A	C		
4 Pin Packard	PIN	A	B		A	B	C		
Conduit	Terminal	+Ve	-Ve		Exc	Common	Out		GND

Dimensions (in mm)

Electrical Termination Style	Cable Anchor	1/2" Conduit/Terminal Block	Hirschmann Connector	3-Pin Packard Connector
Terminal Specifications	Standard: 2ft. multiconductor cable. Longer lengths options. See ordering chart.	1/2" conduit connection with 3-screw terminal block. (T1 version is same without conduit connection.)	Mating connector is Hirschmann G4WIF. May be ordered separately from Gems - Option 590.	Mating connector is comprised of Packard P/Ns 12065287 and 12103881. May be ordered separately from Gems - Option 854.
Ordering Code	<b>02</b> (cable length in feet)	<b>A1</b> Conduit / <b>T1</b> - Terminal Block	<b>H2</b>	<b>P1</b> (3-Pin)

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PRESSURE TRANSDUCERS

How to Order

Use the **bold** characters from the chart below to construct a product code

Series 2091      001P      G      2M      11      02      XXX

Pressure Range Code \_\_\_\_\_

**Pressures - psi**

Code	Range	Proof	Burst	Code	Range	Proof	Burst
<b>Z01</b>	0 to -14.7	10	15	<b>150P</b>	0 to 150	300	1000
<b>001P</b>	0 to 1	2	250	<b>200P*</b>	0 to 200	400	2000
<b>002P</b>	0 to 2	4	250	<b>250P*</b>	0 to 250	500	2000
<b>005P*</b>	0 to 5	10	250	<b>500P*</b>	0 to 500	1000	3000
<b>010P*</b>	0 to 10	20	500	<b>600P</b>	0 to 600	1200	3000
<b>015P</b>	0 to 15	30	500	<b>10CP*</b>	0 to 1000	2000	5000
<b>025P*</b>	0 to 25	50	500	<b>20CP</b>	0 to 2000	3000	6500
<b>030P</b>	0 to 30	50	500	<b>30CP</b>	0 to 3000	4500	7500
<b>050P*</b>	0 to 50	100	750	<b>50CP</b>	0 to 5000	7500	10000
<b>100P*</b>	0 to 100	200	1000	<b>10KP</b>	0 to 10000	12500	20000

**Datum** \_\_\_\_\_

**G** - Gauge  
**C** - Compound (030PC = -14.7 to 30)  
**S** - Sealed (available in 200psi ranges and above)  
**V** - Vacuum (Z01 range code only)

**Options**  
**590** - Hirschmann Mating Connector (for H2 Termination)  
**854** - Packard Mating Connector (for P1 Termination)

**Electrical Termination**  
**02** - Cable length in feet\*  
**P1** - Packard (3-Pin)  
**H2** - Hirschmann ("Mini")  
**T1** - Terminal Block  
**A1** - 7/8" Hole for 1/2" Conduit\*

**Output**  
**11** - 4-20mA\*  
**24** - 0.5-5.5Vdc\*  
**28** - 1-6Vdc  
**45** - 0.4-4.5Vdc (5Vdc supply voltage)

**Pressure Port**  
**2M** - 1/4" NPY Male\*  
**J7** - 7/16" SAE Male (J1926-2)  
**1M** - 1/8" NPT Male  
**G4** - G1/2" A Male

\* Indicates standard configuration. Minimum 25 pieces apply for all other configurations.

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