809 Series – Industrial OEM Pressure Transducer

- Sensing Ranges from Vacuum to 10,000 psi (-1 to 690 bar)
- Rugged Stainless Steel & Valox® Housings
- Ideal for High Shock & Vibration Applications

The 809 Series pressure transducers are designed specifically for industrial applications with demanding price and performance requirements. They offer exceptional reliability in typical industrial grade environments. 809 Series transducers operate on low-cost, unregulated DC 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 809 Series delivers exceptional performance in extreme environmental conditions at a price that OEMs will appreciate.

1/2˝ Conduit/Terminal Block

Cable

3-Pin Packard Connector

Hirschmann Connector

Common Specifications

Input	
Pressure Range	-14.7 to 10,000 psi (-1 to 690 bar)
Proof Pressure	See ordering chart
Burst Pressure	See ordering chart
Fatigue Life	>1 million cycles
Performance	
Supply Voltage (Vs)	9-30 VDC (5 VDC on 0.5-4.5 VDC units)
Long Term Drift	0.5% FS/year
Accuracy	±0.25% FS
Thermal Error Zero	±0.02% FS/°F (±0.036% FS/°C)
Thermal Error Span	±0.015% FS/°F (±0.030% FS/°C)
Compensated Temperatures	-4°F to +176°F (-20°C to +80°C)
Operating Temperatures	-40°F to +185°F (-40°C to +85°C)
Storage Temperatures	-40°F to +185°F (-40°C to +85°C)
Zero Tolerance	1% of span
Span Tolerance	1% of span
Response Time	5 ms
Mechanical Configuration	
Pressure Port	See ordering chart
Wetted Parts	17-4 PH Stainless Steel
Electrical Connection	See Dimensions chart, next page
Enclosure	Weather-Resistant (Stainless Steel and Valox®)
Vibration	20g (MIL STD 202, Method 204, Condition C)
Shock	200g (MIL STD 202, Method 213B, Condition C)
Weight	2.3 oz

Individual Specifications

Voltage Output Units	
Output	3 Wire, see ordering chart
Current Consumption	8 mA
Min. Load Resistance	5000 ohms
Current Output Units	
Output	4-20 mA (2 wire)
Max. Loop Resistance	(Vs-9) x 50 ohms

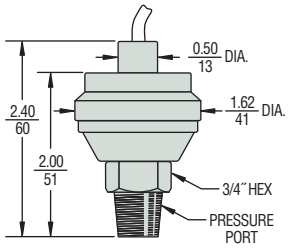
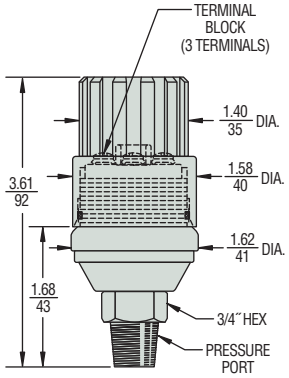
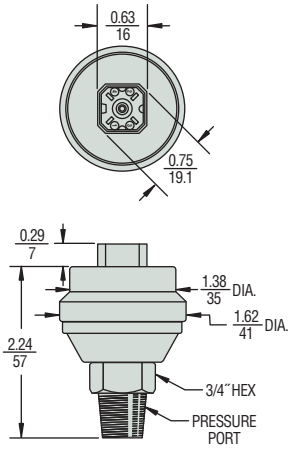
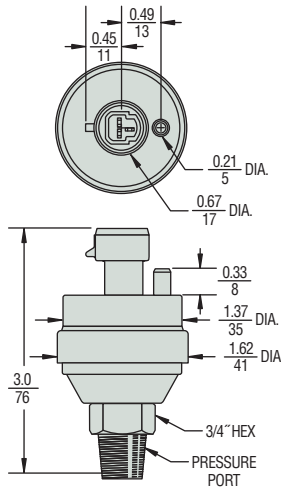
Applications

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

How They Operate

809 Series transducers utilize a proven center 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.

Dimensions

Electrical Termination Style	Cable Anchor	1/2″ Conduit/Terminal Block	Hirschmann Connector	3-Pin Packard Connector
				
Terminal Specifications	Standard: 2 ft. 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 & 12103881. May be ordered separately from Gems—Option 581/582.
Ordering Code	**XX** (cable length in feet)	**A1** - Conduit / **T1**- Terminal Block	**H2**	**P1** (3-Pin)

How to Order

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

SELECT **8091 - 001P - G - 2M - 11 - 02 - XXX**

Series
8091 - 809 Series

Pressure Range Code

Pressures – psi

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

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

Options
590 - Hirschmann Mating Connector (for H2 Termination)
581 - Packard Mating Connector, 3 ft. (for P1 Termination)
582 - Packard Mating Connector, 6 ft. (for P1 Termination)

Electrical Termination
XX - Cable length in feet (e.g., 02 = 2 ft.)*
P1 - Packard (3-Pin)
H2 - Hirschmann (“Mini”)
T1 - Terminal Block
A1 - 7/8″ Hole for 1/2″ Conduit*

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

Pressure Port
2M - 1/4″ NPT Male*
J7 - 7/16″ SAE Male (J1926-2)
1M - 1/8″ NPT Male

* Standard configuration. Minimum 25 pieces apply for all other configurations.