Code No. LIT-1900405
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P499 Series Electronic Pressure Transducers

Description

The P499 Series Electronic Pressure Transducers are compact, economical, rugged, direct-mount pressure transducers designed for use in commercial refrigeration and air conditioning applications. These transducers produce an analog signal based on the sensed pressure.

The P499 Series transducers feature environmentally protected electronics with stainless steel construction. The digitally compensated P499 transducers are highly accurate over a broad temperature range, resisting the effects of wide ambient temperature swings, high humidity, condensation, and icing.

The pressure port is machined from a solid piece of 17-4PH stainless steel. No O-rings, organic materials, or welds are exposed to the pressure media, allowing for a leak-proof, all-metal, sealed pressure system.

The P499 Series transducers operate with any corrosive or non-corrosive pressure medium that is compatible with 17-4PH stainless steel, including water, condensate, carbon dioxide, glycol, most refrigerants (including ammonia), and many other compatible fluids and gases.

The P499 Series provides transducers in a variety of pressure ranges, covering most common refrigeration and air conditioning applications.

P499 Electronic Pressure Transducers; Style 47 Fitting Shown on the Left and Style 49 Fitting Shown on the Right

Features

- Single-piece machined 17-4PH stainless steel pressure port provides a durable assembly that eliminates refrigerant loss due to O-ring or weld failures; resists damage due to physical shock, vibration, and pressure pulsations; enables use with non-corrosive or corrosive pressure media that is compatible with 17-4PH stainless steel.
- Environmentally protected electronics withstand the effects of adverse conditions associated with typical Heating, Ventilating, and Air Conditioning (HVAC) and Refrigeration applications, including freeze/thaw applications on suction lines.
- Reliable, repeatable performance and long operating life minimizes service and replacement costs.
- Many available pressure ranges provide a single line of transducers for all refrigeration and air conditioning application needs.
- 1% total error band provides high-accuracy performance.
- Slender body design facilitates use of deep-socket wrenches for ease of installation; requires zero turning radius.
- CE and UL agency listings allow for global applications.

Refer to the *P449 Series Electronic Pressure Transducer Product/Technical Bulletin (LIT-12011190)* for important product application information.

Repair Information

If the P499 Series Electronic Pressure Transducer fails to operate within its specifications, replace the transducer. For a replacement transducer, contact the nearest Johnson Controls® representative.

Accessories

P499 transducers require wire harnesses for all models that do not have an integral cable.

Wire Harnesses with Packard Electrical Connectors

Code Number[1]	Length
WHA-PKD3-200C	6-1/2 ft (2.0 m)
WHA-PKD3-400C	13 ft (4.0 m)
WHA-PKD3-600C	19-5/8 ft (6.0 m)

1. Wire harnesses for P399 transducers and P499 transducers are interchangeable.

Selection Chart

0.5 to 4.5 VDC Ratiometric P499 Transducer Models with Packard Electrical Connections, PSIS

Product Code Number	Pressure Connection	Pressure Range[1]		Individual or Kit[2]
		Minimum Pressure (Pmin)	Maximum Pressure (Pmax)	
P499RAPS100C	1/8 in. 27 NPT External Thread (Style 49)	-10 psis (-0.7 bar) [20 in. Hg]	100 psis (6.9 bar)	Individual
P499RAPS100K				Kit
P499RAPS102C		0 psis (0 bar)	200 psis (13.8 bar)	Individual
P499RAPS102K				Kit
P499RCPS100C	1/4 in. SAE 45° Flare Internal Thread (7/16-20 UNF) with Depressor (Style 47)	-10 psis (-0.7 bar) [20 in. Hg]	100 psis (6.9 bar)	Individual
P499RCPS100K				Kit
P499RAPS102C		0 psis (0 bar)	200 psis (13.8 bar)	Individual
P499RAPS102K				Kit

1. Transducer sealed and rated for IP67 harsh environments.
2. The **Individual** pack comes with a transducer only - you must order the wire harness separately. The **Kit** is packaged with a transducer, 6-1/2 ft (2 m) wire harness, and technical documentation.

0.5 to 4.5 VDC Ratiometric P499 Transducer Models with Integral 2 m (6-1/2 ft) Shielded Cable, PSIS

Product Code Number	Pressure Connection	Pressure Range[1]	
		Minimum Pressure (Pmin)	Maximum Pressure (Pmax)
P499RCSS101C	1/4 in. SAE 45° Flare Internal Thread (7/16-20 UNF) with Depressor (Style 47)	0 psis (0 bar)	100 psis (6.9 bar)

1. Transducer sealed and rated for IP67 harsh environments.

0.5 to 4.5 VDC Ratiometric P499 Transducer Models with Packard Electrical Connections, PSIG

Product Code Number	Pressure Connection	Pressure Range		Individual or Kit[1]
		Minimum Pressure (Pmin)	Maximum Pressure (Pmax)	
P499RAP-101C	1/8 in. 27 NPT External Thread (Style 49)	0 psig (0 bar)	100 psig (6.9 bar)	Individual
P499RAP-101K				Kit
P499RAP-102C		0 psig (0 bar)	200 psig (13.8 bar)	Individual
P499RAP-105C		0 psig (0 bar)	500 psig (34.5 bar)	Individual
P499RAP-105K				Kit
P499RAP-107C		0 psig (0 bar)	750 psig (51.7 bar)	Individual
P499RAP-107K				Kit
P499RCP-101C	1/4 in. SAE 45° Flare Internal Thread (7/16-20 UNF) with Depressor (Style 47)	0 psig (0 bar)	100 psig (6.9 bar)	Individual
P499RCP-101K				Kit
P499RCP-105C		0 psig (0 bar)	500 psig (34.5 bar)	Individual
P499RCP-105K				Kit
P499RCP-107C		0 psig (0 bar)	750 psig (51.7 bar)	Individual
P499RCP-107K				Kit

1. The **Individual** pack comes with a transducer only - you must order the wire harness separately. The **Kit** is packaged with a transducer, 6-1/2 ft (2 m) wire harness, and technical documentation.

0 to 10 VDC P499 Transducer Models with Packard Electrical Connections, PSIG

Product Code Number	Pressure Connection	Pressure Range		Individual or Kit[1]
		Minimum Pressure (Pmin)	Maximum Pressure (Pmax)	
P499VAP-101C	1/8 in. 27 NPT External Thread (Style 49)	0 psig (0 bar)	100 psig (6.9 bar)	Individual
P499VAP-101K				Kit
P499VAP-105C		0 psig (0 bar)	500 psig (34.5 bar)	Individual
P499VAP-105K				Kit
P499VAP-107C		0 psig (0 bar)	750 psig (51.7 bar)	Individual
P499VAP-107K				Kit
P499VCP-101C	1/4 in. SAE 45° Flare Internal Thread (7/16-20 UNF) with Depressor (Style 47)	0 psig (0 bar)	100 psig (6.9 bar)	Individual
P499VCP-101K				Kit
P499VCP-105C		0 psig (0 bar)	500 psig (34.5 bar)	Individual
P499VCP-105K				Kit
P499VCP-107C		0 psig (0 bar)	750 psig (51.7 bar)	Individual
P499VCP-107K				Kit

1. The **Individual** pack comes with a transducer only, you must order the wire harness separately. The **Kit** is packaged with a transducer, 6-1/2 ft (2 m) wire harness, and technical documentation.

4 to 20 mA P499 Transducer Models with Packard Electrical Connections, PSIG (Part 1 of 2)

Product Code Number	Pressure Connection	Pressure Range		Individual or Kit[1]
		Minimum Pressure (Pmin)	Maximum Pressure (Pmax)	
P499AAP-101C	1/8 in. 27 NPT External Thread (Style 49)	0 psig (0 bar)	100 psig (6.9 bar)	Individual
P499AAP-101K				Kit
P499AAP-105C		0 psig (0 bar)	500 psig (34.5 bar)	Individual
P499AAP-105K				Kit
P499AAP-107C		0 psig (0 bar)	750 psig (51.7 bar)	Individual
P499AAP-107K				Kit

4 to 20 mA P499 Transducer Models with Packard Electrical Connections, PSIG (Part 2 of 2)

Product Code Number	Pressure Connection	Pressure Range		Individual or Kit[1]
		Minimum Pressure (Pmin)	Maximum Pressure (Pmax)	
P499ACP-101C	1/4 in. SAE 45° Flare Internal Thread (7/16-20 UNF) with Depressor (Style 47)	0 psig (0 bar)	100 psig (6.9 bar)	Individual
P499ACP-101K				Kit
P499ACP-105C		0 psig (0 bar)	500 psig (34.5 bar)	Individual
P499ACP-105K				Kit
P499ACP-107C		0 psig (0 bar)	750 psig (51.7 bar)	Individual
P499ACP-107K				Kit

1. The **Individual** pack comes with a transducer only, you must order the wire harness separately. The **Kit** is packaged with a transducer, 6-1/2 ft (2 m) wire harness, and technical documentation.

Technical Specifications

P499 Series Electronic Pressure Transducers

Pressure Ranges		-10 to 100 psis, 0 to 100 psi, 0 to 200 psi, 0 to 500 psi, 0 to 750 psi
Maximum Working Pressure		2x Pressure Range; short duration; infrequent, abnormal condition
Burst Pressure		5x Pressure Range
Vacuum		30 microns (0.03 mm Hg); short term
Media Compatibility		All media compatible with 17-4PH stainless steel, including ammonia
Output Signal		0.5 to 4.5 VDC, 0 to 10 VDC, or 4 to 20 mA
Supply Voltage	**0.5 to 4.5 VDC Ratiometric Output**	5.0 ±0.25 VDC, Safety Extra-Low Voltage (SELV) or Class 2
	4 to 20 mA Output	9 to 30 VDC, SELV or Class 2
	0 to 10 VDC Output	12 to 30 VDC, SELV or Class 2
Direct-Mount Pressure Connections		1/8 in. 27 NPT External Thread (Style 49), 1/4 in. SAE 45° Flare Internal Thread (7/16-20 UNF) with Depressor (Style 47)
Temperature and Humidity	**Storage**	-40 to 257°F (-40 to 125°C)
	Operating	-40 to 185°F (-40 to 85°C)
	Compensated Range	-4 to 185°F (-20 to 85°C)
	Humidity	0 to 100% RH
Linearity		±0.25% Full Span Best Fit Straight Line
Accuracy		±1% Full Span (maximum) over compensated temperature range
Materials	**Pressure Port**	17-4PH stainless steel construction
	Packard Connector	40% glass-filled Polyetherimide (PEI)
Vibration		20G, 20 to 200 Hz
Shock		200G / 11 ms
Compliance CE	**United States**	UL Listed, File E29374, CCN NKPZ UL Recognized for Use in Class I, Division 2 Hazardous Locations, File E322274
	Canada	UL Listed, File E29374, CCN NKPZ7 UL Recognized for Use in Class I, Division 2 Hazardous Locations, File E322274
	Europe	CE Mark – Johnson Controls, Inc., declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC.
	Australia/ New Zealand	C-Tick Mark, Emissions Compliant