PRESSURE PROBES

PRESSURE TRANSDUCERS

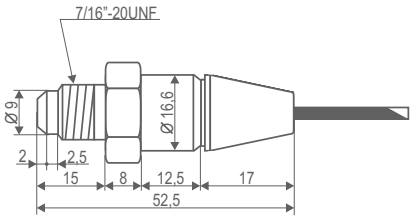
Pressure transducers supply a standard output current signal (4-20mA). The silicon sensor is assembled in a waterproof steel housing filled with oil that optimizes stable and constant measurement with additional protection against vibrations and a duration equivalent to millions of pressure cycles. The tip of the probe allows placement in contact with ammonia and various other kinds of corrosive gases.

PP07	2 wires transducer with 4-20mA output and measurement range –0.5-7bar (male or female fitting)
PP11	2 wires transducer with 4-20mA output and measurement range –0.5-11bar (male or female fitting)
PP30	2 wires transducer with 4-20mA output and measurement range 0-30bar (male or female fitting)
PP50	2 wires transducer with 4-20mA output and measurement range 0-50bar (male or female fitting)

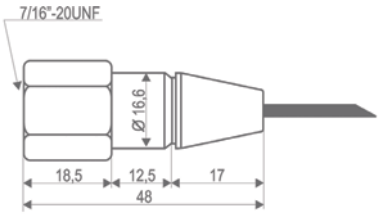
FEATURES

Power supply	8-28Vdc
Output	4-20mA
Protection	IP65
Operating temperature	-40-135°C (-40-275°F)
Storage temperature	-40-135°C (-40-275°F)
Accuracy	1% F.S.

MALE FITTING



FEMALE FITTING



RATIOMETRIC PRESSURE TRANSDUCERS

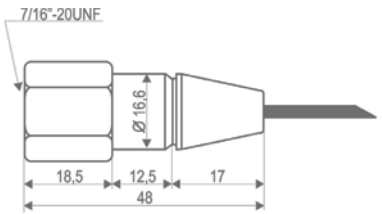
Pressure transducers supply a standard output ratiometric signal (0-5V). The design is ideal for demanding HVAC and refrigeration applications where long term reliability is necessary. The electrical interface is a rugged industry-accepted connector. This device maintains accuracy through a wide range of temperatures.

PPR15	3 wires ratiometric transducer with 0-5V output and measurement range 0-15bar
PPR30	3 wires ratiometric transducer with 0-5V output and measurement range 0-35bar
PPR45	3 wires ratiometric transducer with 0-5V output and measurement range 0-45bar

FEATURES

Power supply	4.5-5.5Vdc
Output	0.5-4.5Vdc
Protection	IP65
Operating temperature	-40-135°C (-40-275°F)
Storage temperature	-40-135°C (-40-275°F)
Accuracy	1.2% F.S.

FEMALE FITTING



PP Series
Pressure Probes

Pressure transducers for HVAC / R applications

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STAINLESS STEEL BODY, EMBEDDED CABLE

1. Description

The PPR & PP pressure transducers are sensors that convert physical pressure into a ratiometric or current analog signal.

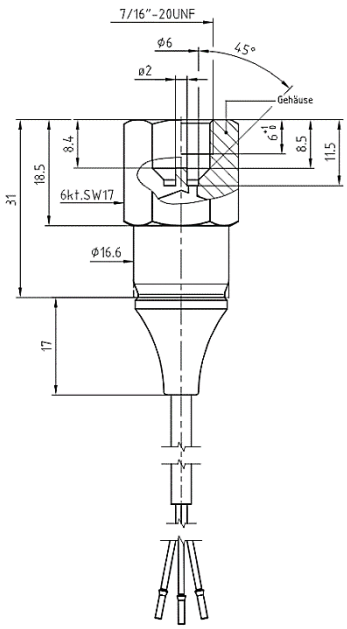
The product's technical top performances are achieved by piezoresistive technology, with chip-in-oil housing. The sensor is temperature compensated, and the system is protected from overvoltage and short-circuits. Also, it comes with embedded cable.

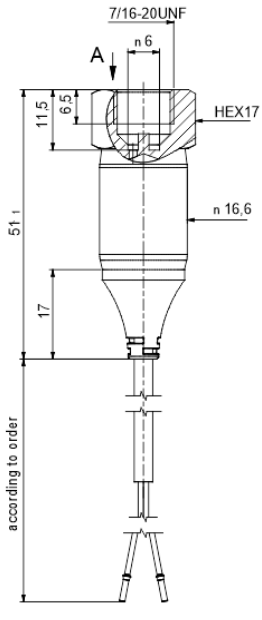
This Dixell historical pressure leverages the long experience in the field, providing exceptional reliability, plus exceptional accuracy. In fact, this probe is widely used in both air conditioning and refrigeration applications. The product is outstanding due to its extreme ruggedness towards electromagnetic fields.

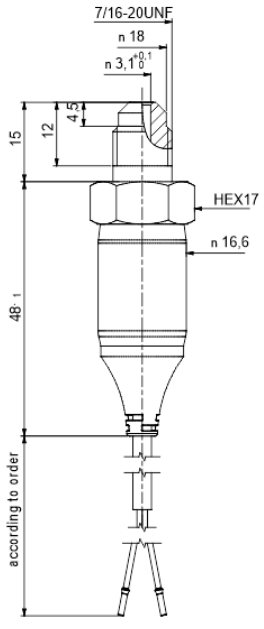
2. Dimension

Mechanical connector

0,5÷4,5V Ratiometric Output	4÷20mA Current Output	
Female	Female	Male







3. Power Supply connection

0,5÷4,5V Ratiometric Output

Pin function	Cable colors match
Supply - V_{IN}	Brown
Return - V_{OUT}	White
Ground - GND	Green

4÷20mA Current Output

Pin function	Cable colors match
Supply - V_{IN}	Brown
Return - V_{OUT}	White
Not used	(Only two wires)

4. Features, Benefits & Applications

Features	Benefits
• Piezoresistive chip-in-oil sensing element • Fully welded with no gasket • Corrosion resistance • Durable design • High precision • Overvoltage and short-circuit protected	• No gasket compatibility needed • High precision • Reliable • Electrically safe client application

This pressure transducer brings unique features, that results in a robust product with optimal operation characteristics.

Application	Application Benefits
• Evaporator and condenser pressure reading • Compressor suction and discharge monitoring	• Energy management via subcooling and superheat calculations for electronic expansion valve control • High/low pressure alarms from sensor's detection • Managing compressor staging and unloading

5. Available Codes

Pressure Transducer							
Part Number	**How to Order**	**Output**	**Pressure Range [bar relative]**	**Body material**	**Electrical connection**	**Pressure connection**	**Gasket material**
BE079302 00	PPR15	0,5÷4,5 V	0 ÷ 15	Stainless Steel	Embedded 2m cable	Female	No gasket
BE079302 02	PPR30		0 ÷ 35	Stainless Steel	Embedded 2m cable	Female	No gasket
BE009002 00	PP07	4÷20 mA	-0,5 ÷ 7	Stainless Steel	Embedded 2m cable	Male	No gasket
BE009302 00	PP07			Stainless Steel	Embedded 2m cable	Female	No gasket
BE009002 05	PP11		-0,5 ÷ 11	Stainless Steel	Embedded 2m cable	Male	No gasket
BE009008 00	PP11			Stainless Steel	Embedded 8m cable	Male	No gasket
BE009302 07	PP11			Stainless Steel	Embedded 2m cable	Female	No gasket
BE009002 04	PP30		0 ÷ 30	Stainless Steel	Embedded 2m cable	Male	No gasket
BE009302 04	PP30			Stainless Steel	Embedded 2m cable	Female	No gasket
BE009002 07	PP50		0 ÷ 50	Stainless Steel	Embedded 2m cable	Male	No gasket
BE009302 05	PP50			Stainless Steel	Embedded 2m cable	Female	No gasket
BE009306 05	PP50			Stainless Steel	Embedded 6m cable	Female	No gasket
BE009302 08	PP60		0 ÷ 60	Stainless Steel	Embedded 2m cable	Female	No gasket
BE009306 08	PP60			Stainless Steel	Embedded 6m cable	Female	No gasket
BE009302 06	PP160		0 ÷ 160	Stainless Steel	Embedded 2m cable	Female	No gasket

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6. Technical Data

GENERAL FEATURES	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
Operating pressure (Relative: sealed gauge @ 1 bar abs)	Depending on pressure range Overall from -0,5 to 160 bar rel	
Pressure connector	Female: 7/16-20UNF-2B threaded connection equivalent to 1/4" SAE Female Flare with Schrader Deflator Male: 7/16-20UNF-2A threaded connection	
Electrical connector	Embedded cable	
Operating temperature	-40°C to +125°C	-40°C to +100°C
Storage temperature	-40°C to +125°C	-40°C to +100°C
Over pressure Based on sensor's pressure range	2,5x Operating pressure	2x Operating pressure
Burst pressure Based on sensor's pressure range	>4x Operating pressure	>4x Operating pressure
Fluid compatibility	See table "Seal Materials"	

ELECTRICAL FEATURES	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
Power supply	4.5 to 5.5 V_{DC}	8 to 32 V_{DC}
Output	0.5 to 4.5 V_{DC}	4 to 20 mA
Supply current	8 mA max	3,2 to 22,3 mA
Output load [Ω]	> 5 KΩ (minimum value)	< (V - 8) / 0,025 (maximum value) V=Voltage supplied
Overvoltage Protection	24 V_{DC}	32 V_{DC}
Polarity reversal protection	-24 V_{DC}	-32 V_{DC}
Short Circuit Protected	Yes	Yes
Response time (typical)	5 ms	5 ms max

ACCURACY	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
Static error band @ 25°C & F.S. = 5V_{DC} (linearity, hysteresis, repeatability and calibration)	±0,25% F.S.	±0,25% F.S. typical (±0,5% F.S. max)
Total error band (over operating temperature range)	±1.0% F.S. (0°C to +50°C) ±1.5% F.S. (-10°C to +80°C) ±2.5% F.S. (-40°C to +125°C)	±1.0% F.S. (0°C to +50°C) ±1.5% F.S. (-10°C to +80°C) ±3.5% F.S. (-40°C to +100°C)

CERTIFICATIONS / EMC FEATURES	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
EMC (512MHz to 1 GHz)	30 V/m	10 V/m
EMC (1 MHz to 512 MHz)	30 V/m	10 V/m
ESD	±8 kV in air	±15 kV in air

INSTALLATION	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
Fixing torque	15 Nm	

MECHANICAL FEATURES	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
Protection degree	IP67	
Housing material	AISI 316L (Stainless steel)	
Connector material	Black thermoplastic polyurethane TPU95-A	
Pressure seal material	No internal seal, fully welded	

PERFORMANCE FEATURES	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
Life cycle	10M F.S. cycles	10M F.S. cycles

SEAL MATERIALS	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
• Fluid compatibility by refrigerant class		
A1 – No flame propagation	Material compatibility: the product is suitable with all refrigerants compatible with the stainless-steel body material (All parts in contact with the fluid are in stainless steel AISI 316L)	
A2L – Lower flammability		
B2L – Lower flammability		
A3 – Higher flammability		

APPROVALS	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
Compliance	CE, RoHS	
When the pressure transducers are used in systems employing flammable refrigerants, a dedicated risk assessment must be carried out by the user to ensure compliance with all applicable legislation and regulations such as, but not limited to EN 378. Furthermore, this product series is not suitable or intended for use in potentially explosive environments (ATEX).		

BRASS OR ZINC PLATED STEEL, PACKARD CONNECTION

1. Description

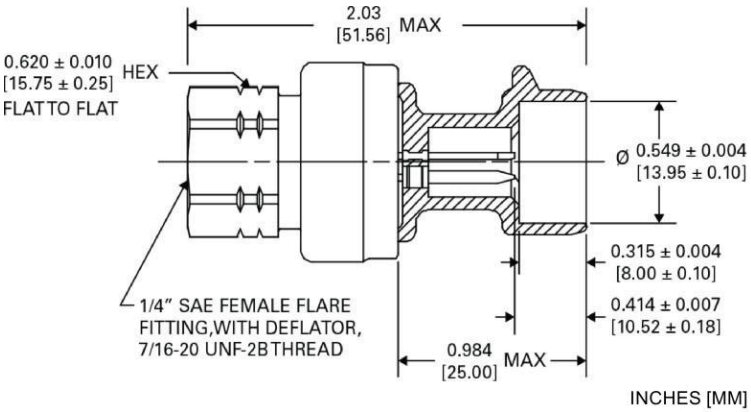
The PPR & PPC pressure transducers are sensors that convert physical pressure into a ratiometric or current analog signal.

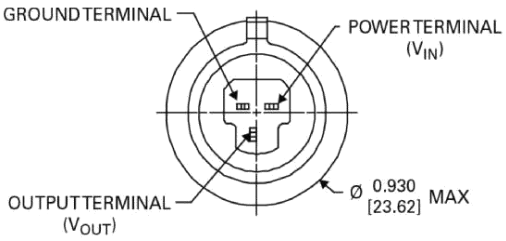
The compact design, proven long-term reliability and accuracy make this sensor ideal for both demanding air conditioning and refrigeration applications. Flexibility of connection is ensured by a range of cable lengths readily available for Packard mating.

This transmitter's technical state-of-the-art capabilities are possible thanks to the ceramic capacitive sensor element, the system is protected from overvoltage and short-circuits. All the above, and more, enable the CE, RoHS, REACH and UL certifications, for use in both air conditioning and refrigeration applications.

2. Power Supply connection & Dimensions

0,5÷4,5V Ratiometric Output





Pin function	Cable colors match*
Supply - V_{IN}	Black
Return - V_{OUT}	White
Ground - GND	Green

* with Dixell cables

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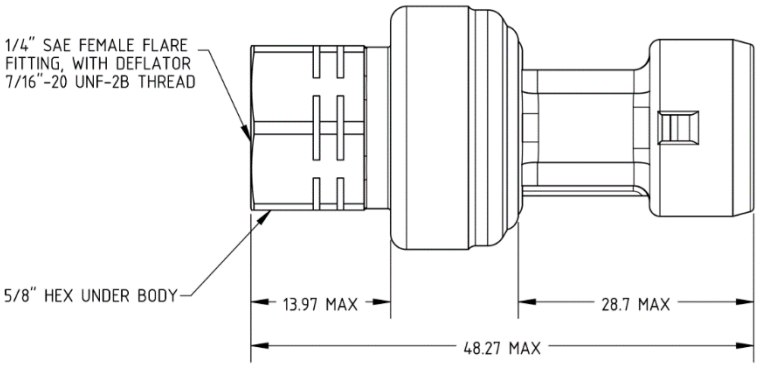
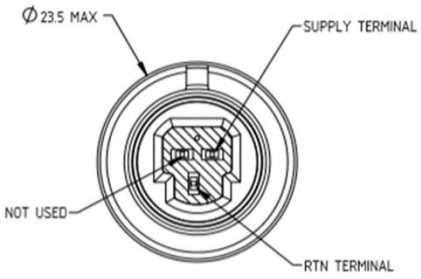
4÷20mA Current Output





Pin function	Cable colors match*
Supply - V_{IN}	Black
Return - V_{OUT}	White
Not used	(Green)

* with Dixell cables

3. Features, Benefits & Applications

Features	Benefits
• Ceramic capacitive sensing element • Accurate performance • Compact and durable design • Overvoltage and short-circuit protected	• Reliable over time • Space saving • Electrically safe client application

This pressure transducer brings intrinsic characteristics which enable the delivery of valuable advantages and convenience, that in turn makes possible optimal operation in the customer interest.

Application	Application Benefits
• Evaporator and condenser pressure reading • Compressor suction and discharge monitoring	• Energy management via subcooling and superheat calculations for electronic expansion valve control • High/low pressure alarms from sensor's detection • Managing compressor staging and unloading

4. Available Codes

Pressure Transducer							
Part Number	How to Order	Output	Pressure Range [bar relative]	Body Material	Electrical Connection	Pressure Connection	Gasket material
BH51320A 03	PPR13S-ABF10	0,5÷4,5 V	-1 ÷ 12,8	Brass	Packard	Female	Neoprene
BH52120A 03	PPR21S-ABF10		0 ÷ 20,7	Brass	Packard	Female	Neoprene
BH53520A 03	PPR35S-ABF10		0 ÷ 34,5	Brass	Packard	Female	Neoprene
BH54530A 03	PPR45S-APF10		0 ÷ 45	Zinc plated steel	Packard	Female	Neoprene
BH21120A 03	PPC11S-ABF10	4÷20 mA	-1 ÷ 11	Brass	Packard	Female	Neoprene
BH23020A 03	PPC30S-ABF10		0 ÷ 30	Brass	Packard	Female	Neoprene
BH25030A 03	PPC50S-APF10		0 ÷ 50	Zinc plated steel	Packard	Female	Neoprene

Cable						
Part Number	How to Order	Connection type	Length [m]	UV protected	Wires	Terminal finishes
DD520902 00	CAB PKD 02	Packard	2	No	3	Tinned
DD520905 00	CAB PKD 05	Packard	5	No	3	Tinned
DD522902 00	CAB PKD 02-UV	Packard	2	Yes	3	Tinned
DD522905 00	CAB PKD 05-UV	Packard	5	Yes	3	Tinned

For further cable and transducer options please contact Dixell.

5. Technical Data

GENERAL FEATURES	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
Operating pressure (Relative: sealed gauge @ 1 bar abs)	Depending on pressure range Overall from -1 to 50 bar rel	
Pressure connector	1/4" SAE female flare with deflator 7/16"-20 UNF-2B thread	
Electrical connector	Packard Metri-Pack: Nema 4X, IP65	
Operating temperature	Depending on seal material [1)]	
Storage temperature	-40°C to +150°C	
Over pressure Based on sensor's pressure range	1 to 5 bar = 5x operating P 7 to 20 bar = 3x operating P >34,5 bar = 2x operating P	> 1,5 x operating pressure
Burst pressure Based on sensor's pressure range	Up to 34.5 bar = 5x operating P Above 34.5 bar = 3x operating P	> 3 x operating pressure
Fluid compatibility	Depending on seal material [1)]	
[1)] See paragraph "Seal Materials"		

ELECTRICAL FEATURES	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
Power supply	4.5 to 5.5 V_{DC}	6 to 30 V_{DC}
Output	Ratiometric: 0.5 to 4.5 V_{DC} typical	Current: 4 to 20 mA
Supply current	7 mA (max @ 5.5 V_{DC} no load)	4 to 20 mA
Output current	2.5 mA (max sinked or source)	4 to 20 mA
Output load [Ω]	10KΩ typical	< (V - 7) / 0,02 V=Voltage supplied
Overvoltage Protection	16 V_{DC}	39 V_{DC}
Polarity reversal protection	-14 V_{DC}	-39 V_{DC}
Short Circuit Protected	Yes	Yes
Response time (typical)	10ms	10ms max

ACCURACY	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
Static error band @ 25°C & F.S. = 5V_{DC} (linearity, hysteresis, repeatability and calibration)	±0.8% F.S.	±1% F.S.
Total error band (over operating temperature range)	±1.0% (-20°C to +85°C) ±1.5% (-40°C to +125°C)	±2% (-20 to 100°C) -3,5% / +2% (-20 to 135°C)

CERTIFICATIONS / EMC FEATURES	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
EMC (512MHz to 1 GHz)	50 V/m	30 V/m
EMC (1 MHz to 512 MHz)	100 V/m	100 V/m
ESD	15 kV	8 kV in air, 4 kV in contact

INSTALLATION	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
Fixing torque: depending on mating material		
• Steel (12L14)	12.6÷16 Nm	
• Brass, ½ hard	12.6÷16 Nm	
• Steel, soft	9.8÷12.4 Nm	
• Naval Brass, soft	9.0÷11.5 Nm	
• Brass, soft	6.2÷7.9 Nm	
• Aluminum	4.8÷6.2 Nm	
• Copper, soft	3.5÷4.4 Nm	

MECHANICAL FEATURES	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
Protection degree	IP65	
Housing material	Brass, or zinc coated steel (galvanized)	
Connector material	Polyetherimide resin (PEI) 20% glass, black color	
Pressure seal material	Neoprene (typical) or HNBR gasket	

PERFORMANCE FEATURES	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
Cycle life	10M F.S. cycles	10M F.S. cycles
Drop (any axis)	1.5m	1.5m
Random vibration	11g (50 to 2000 Hz)	10g (25 to 2000 Hz)

SEAL MATERIALS	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
Neoprene		
• Fluid compatibility by refrigerant class		
A1 – No flame propagation	R12, R22, R134a, R404a, R407c, R410a, R502, R507	
A2L – Lower flammability	R32, R1234yf, R1234ze	
A3 – Higher flammability	R290, R600, R600a	
• Maximum Seal Temperature Range	-40°C to 120°C	-40°C to 120°C
HNBR (Hydrogenated Nitrile)		
• Fluid compatibility by refrigerant class		
A1 – No flame propagation	R134a, R404a, R407c, R410a, R507	
A2L – Lower flammability	R32	
A3 – Higher flammability	R290, R600a	
• Maximum Seal Temperature Range	-20°C to 135°C	-20°C to 135°C

APPROVALS	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
Compliance	CE, RoHS, REACH, UL	CE, RoHS, REACH
When the pressure transducers are used in systems employing flammable refrigerants, a dedicated risk assessment must be carried out by the user to ensure compliance with all applicable legislation and regulations such as, but not limited to EN 378. Furthermore, this product series is not suitable or intended for use in potentially explosive environments (ATEX).		

NICKEL PLATED BODY, PACKARD CONNECTION

1. Description

The PPC pressure transducer is a 4-20mA that converts the physical pressure into a current analog signal. This Dixell-Emerson branded sensor is characterized by long-term stability and accuracy, ideal for both demanding air conditioning and refrigeration applications.

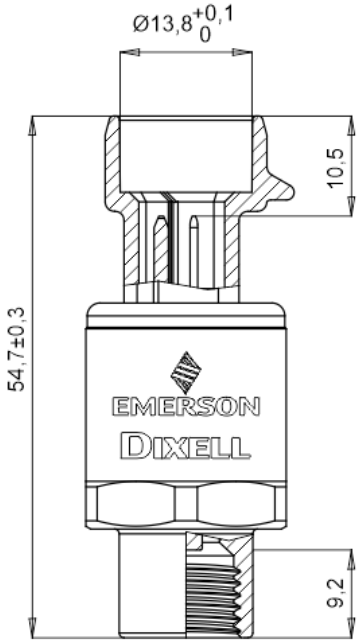
The black body is due to nickel treatment of the brass surface which prevents brass oxidation while delivering an exclusive look, thus ensuring durability and, at the same time, being aesthetically pleasant.

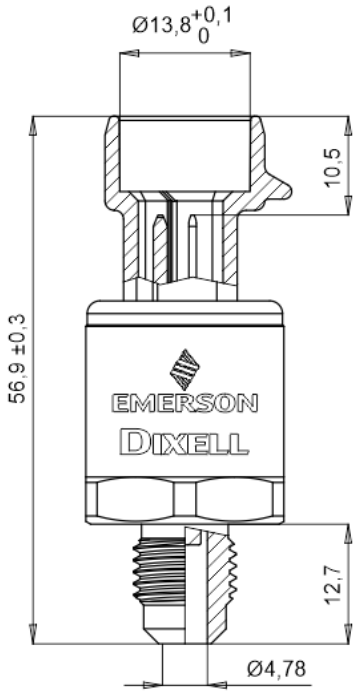
Flexibility of connection is ensured by a range of cable lengths readily available for Packard mating.

2. Dimension

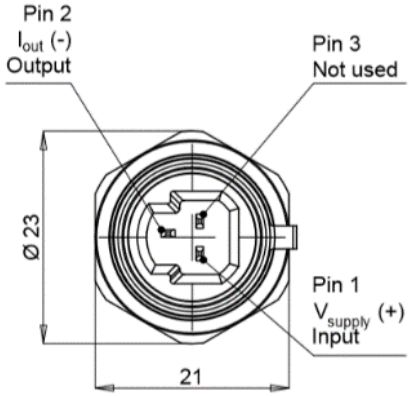
Mechanical connector

4÷20mA Current Output	
Female	Male





3. Power Supply connection



Pin function	Cable colors match*
Supply - V_{IN}	Black
Return - V_{OUT}	White
Not used	(Green)

* with Dixell cables

4. Features, Benefits & Applications

Features	Benefits
• 150°C max fluid temperature • Capacitive ceramic measuring cell • Reliable against vibrations and shocks • Robust and durable design • Accuracy and long-term stability • Current 4-20mA output • Power supply polarity reversal protected	• Suitable for high temperature measurement (e.g. compressor discharge) • Reliable over time • Stable signal on cable, immune to disturbance over long distances • Improved energy saving of overall application • Electrically safe client application

Accurate and reliable pressure measurement is paramount for effective process control. The capacitive ceramic absolute sensor is a dry cell requiring no oil fill and provides a high degree of accuracy and reliability. The measurement cell operates on the principle of capacitance measurement.

Ceramic sensors do not fatigue or bend out of shape as metal would do in vacuum conditions. The deflection responds proportionally and returns to the rest position when the pressure or vacuum is released.

Also, this sensor's ceramic is well suited for abrasive process conditions because of the durable material of construction.

Vibration and pulsating pressure on the gauge are of minimum concern, because the sensor has no fill to transmit the vibration from the outside in. The sensor holds calibration reliably time after time, providing perfect match for durable and safe applications.

Application	Application Benefits
• Evaporator and condenser pressure reading • Compressor suction and discharge monitoring	• Energy management via subcooling and superheat calculations for electronic expansion valve control • High/low pressure alarms from sensor's detection • Managing compressor staging and unloading • Qualified up to 150°C fluid measurement

The final application will have the fluid or refrigerant gas to be in contact with three materials: the ceramic disc, the seal gasket and the body material:

- Chemical compatibility is of minor concern thanks to the resistive nature of the ceramic material;
- Gasket compatibility depends on the expected refrigerant to be used. Please refer to the "Seal Material" section in "Technical Data" paragraph;
- The transducer's body material is made of nickel-plated brass: it delivers superior corrosive resistance and it's suited for all refrigerants except ammonia, for which steel is required.

All above parts must endure fluid corrosivity over time, and the internal electronics have to perform correctly at the maximum operative temperature that, with this special pressure transducer, is as high as 150°C.

5. Available Codes

Pressure Transducer							
Part Number	How to Order	Output	Pressure Range [bar relative]	Body Material	Electrical Connection	Pressure Connection	Gasket material
BG01110A 01	PPC11A-ANF00	4÷20 mA	-0,5 ÷ 11	Nickel plated brass	Packard	Female	EPDM
BG01111A 01	PPC11A-ANM00					Male	EPDM
BG03010A 01	PPC30A-ANF00		0 ÷ 30	Nickel plated brass	Packard	Female	EPDM
BG03011A 01	PPC30A-ANM00					Male	EPDM
BG05010A 01	PPC50A-ANF00		0 ÷ 50	Nickel plated brass	Packard	Female	EPDM
BG05011A 01	PPC50A-ANM00					Male	EPDM

Cable					
Part Number	Length [m]	Connection type	UV protected	Wires	Terminal finishes
DD520902 00	2	Packard	No	3	Tinned
DD520905 00	5	Packard	No	3	Tinned
DD522902 00	2	Packard	Yes	3	Tinned
DD522905 00	5	Packard	Yes	3	Tinned

For further cable and transducer options please contact Dixell

6. Technical Data

GENERAL FEATURES	4÷20mA Current Output
Operating pressure [bar absolute pressure]	0,5÷12 bar abs 1÷31 bar abs 1÷51 bar abs
Pressure connector	Female: 7/16-20UNF-2B threaded connection equivalent to 1/4" SAE female flare with Schrader Deflator Male: 7/16-20UNF-2B threaded connection equivalent to 1/4" SAE male flare fitting
Electrical connector	Mating with Packard
Operating temperature	-40°C to +150°C
Storage temperature	-40°C to +150°C
Over pressure Based on sensor's pressure range	0,5÷12 bar = 24 bar 1÷31 bar = 62 bar 1÷51 bar = 102 bar
Burst pressure Based on sensor's pressure range	0,5÷12 bar = 36 bar 1÷31 bar = 93 bar 1÷51 bar = 153 bar
Fluid compatibility	Depending on seal material [1)]
[1)] See paragraph "Seal Materials"	

ELECTRICAL FEATURES	4÷20mA Current Output
Power supply	8 to 30 V_{DC}
Output	Current: 4 to 20 mA
Supply current	4 to 20 mA
Output current	4 to 20 mA
Output load [Ω]	< (V - 8) / 0,025 V=Voltage supplied
Overvoltage protection	33 V_{DC}
Polarity reversal protection	-28 V_{DC}
Short circuit protected	Yes
Response time (typical)	5 ms

ACCURACY	4÷20mA Current Output
Static error band @ 25°C & F.S. (linearity, hysteresis, repeatability and calibration)	Max ±0.5% F.S.
Total error band (over operating temperature range)	Max ±1.0% (0°C to +50°C) Max ±1.5% (-10°C to +80°C) Max ±2.0% (-40°C to +125°C)

INSTALLATION	4÷20mA Current Output
Fixing torque	12÷16 Nm (with calibrated wrench)

MECHANICAL FEATURES	4÷20mA Current Output
Protection degree	IP67 with and w/o cable plugged
Housing material	Nickel coated brass (nickel plated)
Connector material	Polymer
Pressure seal material	EPDM

PERFORMANCE FEATURES	4÷20mA Current Output
Cycle life	10M F.S. cycles
Drop (any axis)	1.5m
Vibration (IEC 60068-2-64:2008)	12 g (rms)
Shock (IEC 60068-2-27:2008)	75 g, 11 ms

CERTIFICATIONS / EMC FEATURES	4÷20mA Current Output
Electrostatic discharge (CEI EN 61000-4-2:2011)	±4 kV contact ±8 kV air
Radiated immunity (CEI EN 61000-4-3:2007)	10 V/m (80 MHz ÷ 1 GHz) 3 V/m (1.4 GHz ÷ 2 GHz) 1 V/m (2 GHz ÷ 2.17 GHz)
Electrical fast transient/Burst (CEI EN 61000-4-4:2013)	±2 kV
Surge (CEI EN 61000-4-5:2007)	±1 kV
Conducted immunity (CEI EN 61000-4-6:2014)	10 V (0.15 ÷ 80 MHz)

SEAL MATERIALS	4÷20mA Current Output
EPDM (Ethylene Propylene Diene Monomer)	
• Fluid compatibility by refrigerant class	
A1 – No flame propagation	R134a, R404a, R407c, R410a, R502, R507, R744, PAG or POE oil
A2L – Lower flammability	R32, R1234ze
A3 – Higher flammability	R290

APPROVALS	4÷20mA Current Output
Compliance	CE, RoHS, REACH
When the pressure transducers are used in systems employing flammable refrigerants, a dedicated risk assessment must be carried out by the user to ensure compliance with all applicable legislation and regulations such as, but not limited to EN 378. Furthermore, this product series is not suitable or intended for use in potentially explosive environments (ATEX).	

Pressure Transmitter PT5N

PT5N pressure transmitters convert a pressure into a linear electrical 4 .. 20 mA output signal suitable for controlling simple compressor and fan switching to the more sophisticated application of superheat modulation of electronic control valves.

With competitive performance to price characteristics and an easy to install pre-fabricated M12 cable assembly, PT5N transmitters are the designers choice for all heat pump, refrigeration and air conditioning applications.

PT5N-30M

PT5N-30T

Features

- Piezo-resistive sensor with output signal 4...20 mA and 2-wire connection for the precise operation of superheat, compressor or fan control systems
- Specially calibrated pressure ranges with ±1% accuracy performance to fulfill demands of today's refrigeration and HVAC applications
- Fully hermetic
- PT5N-xxM with 7/16"-20UNF pressure connection and Schrader valve opener
- PT5N-xxT with 40 mm stainless steel tube and integrated brazing neck for easy mounting in applications requiring a fully hermetic system solution
- PT5N-150D for subcritical and transcritical CO_2 systems
- Vibration, shock and pulsation resistant
- Protection class IP65 / IP67 (type-specific)
- UL (File No. E499688)

Selection Table

Type	Part No.		Pressure Range For Signal Output (bar)*	Output Signal (mA)	Medium Temp. Range at Pressure Connection (°C)	Max. Allowable Pressure PS (bar)	Test Pressure PT (bar)	Burst Pressure (bar)*	Pressure Connection
	Single Pack	Multi-Pack**							
PT5N-07M	805350	805350M	-0.8 .. 7	4 .. 20	-40 .. +135	27	30	150	7/16" – 20 UNF (with Schrader Valve Opener)
PT5N-18M	805351	805351M	0 .. 18			48	63	250	
PT5N-30M	805352	805352M	0 .. 30			60	100	400	
PT5N-50M	805353	805353M	0 .. 50			75	150	400	
PT5N-07T	805380	805380M	-0.8 .. 7			27	30	150	6 mm ODM
PT5N-18T	805381	805381M	0 .. 18			48	63	250	
PT5N-30T	805382	805382M	0 .. 30			60	100	400	
PT5N-50T	805383	805383M	0 .. 50			75	150	400	
PT5N-150D	805379	-	0 .. 150			150	320	1000	" NPT (male)

Note: *) Sealed Gauge Pressure
**) 25 pcs

Selection Table Plug/Cable Assemblies: Assembly Fits All Models

Type	Part No.		Cable Length	Weight (g/Piece)	Temperature Range
	Single Pack	Multi Pack*			
PT4-M15	804 803	804 803M	1.5 m	50	-50 ... +80°C Static Application -25 ... +80°C Mobile Application
PT4-M30	804 804	804 804M	3.0 m	80	
PT4-M60	804 805	804 805M	6.0 m	140	

Note 1: *) 20 pieces
Note 2: PT4-M... are not in compliance with EN60335-1/2-40, clause 30 in term of glue wire test however, they comply to EN60079-15, clause 22.3 heat endurance test.

Technical Data Pressure Transmitter

Supply Voltage (Polarity Protected)	Nominal: 24 VDC Range: 7.. 33 VDC
Medium Compatibility	A1 Refrigerants A2L Refrigerants - R32, R452B, R454B, R454A, R454C, R1234ze, R1234yf
Operating Current	Maximum ≤ 23 mA 4...20 mA Output
Load Resistance	$R_L \leq \frac{Ub - 7.0\ V}{0.02\ A}$
Response Time	≤ 2 ms
Temperatures **Transport and Storage** **Operating Ambient Housing** **Medium:**	-50 .. +100 °C -30 .. +85°C -40 .. +135 °C (UL listed -40...+100°C)

Sensor Lifetime	30 Million Load Cycles with 1.3 Times of Nominal Pressure
Electrical Connection **PT4-Mxx Cable Assembly**	M12 Connection according to EN61076-2-101 Part 2 Prefabricated, various cable lengths
Approvals/Marking	CE acc. EMC Directive (EN 61326-2-3, EN 50121-3-2) UL, cRUus (UL File Nr. 499688) pending EAC
Protection Class (EN 60529)	IP67 with mounted plug and cable assembly
Vibration at 15...2000Hz	20 g according to IEC60068-2-6
Materials **Housing** **Pressure Connection PT5N-xxT**	Stainless steel 1.4404 / AISI316L Stainless steel 1.4301 / AISI 304

Accuracy Performance

Type	Total Error *	Temperature Range
PT5N-07 / 18	±1% FS	-40 ... +20 °C
PT5N-30 / -50/	±1% FS ±2% FS	+10 ... +50 °C -10 ... +80 °C
PT5N-150D	±1% FS ±2% FS	+10 ... +50 °C -10 ... +90 °C

*) Total Error Includes Non-Linearity, Hysteresis, Repeatability As Well As Offset And Span Drift Due To The Temperature Changes.
Note: % FS is Related to Percentage of Full sensor Scale.