

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.

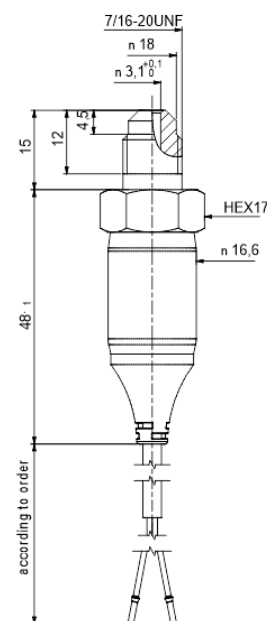
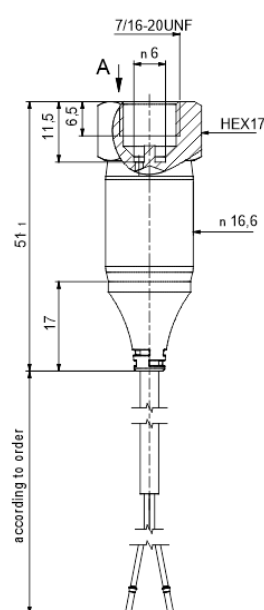
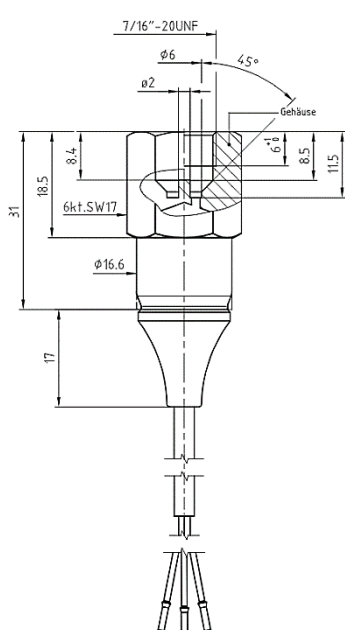
This Dixell historical pressure leverages the long experience in the field, providing exceptional reliability, plus exceptional accuracy. In fact, this probe is widely used in both air conditioning and refrigeration applications. The product is outstanding due to its extreme ruggedness towards electromagnetic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

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| <ul style="list-style-type: none"> • Piezoresistive chip-in-oil sensing element • Fully welded with no gasket • Corrosion resistance • Durable design • High precision • Overvoltage and short-circuit protected | <ul style="list-style-type: none"> • No gasket compatibility needed • High precision • Reliable • Electrically safe client application |
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This pressure transducer brings unique features, that results in a robust product with optimal operation characteristics.

Application

Application Benefits

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| <ul style="list-style-type: none"> • Evaporator and condenser pressure reading • Compressor suction and discharge monitoring | <ul style="list-style-type: none"> • 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 |
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5. Available Codes

Pressure Transducer								
Part Number	How to Order	Output	Pressure Range	Body material	Electrical connection	Pressure connection	Gasket material	
			[bar relative]					
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

6. Technical Data

GENERAL FEATURES	0,5÷4,5V Ratiometric Output	4÷20mA Current Output
Operating pressure (Relative: sealed gauge @ 1 Bar)	Depending on pressure range Overall from -0,5 to 160 Bar	
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 K Ω (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).			