



- **Innovative stainless steel measuring cell with two-chip technology (P2P)**
- **High media resistance, no internal seals, without weld seam**
- **Signal conditioning with Asic**
- **Vacuum-tight and elastomer-free**
- **Flexible for customised requirement**
- **Pressure ranges: 4-1000 bar**

The piezoresistive pressure transmitter (without oil reservoir) is based on a new type of two-chip technology (P2P), which enables the highest demands on robustness and performance such as stability, vibration/ shock resistance. The OEM series was specially designed for use in harsh environmental conditions, such as those that prevail in the off-road sector. Other application areas are transportation, renewable energies, special purpose vehicles and machine engineering. Customer-specific adaptations are possible.

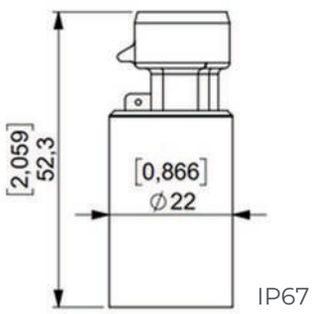
The ruggedness, stability, vibration and shock resistance of sensor EPT 9100 are achieved by the new P2P Technology used in its manufacture. This technology belongs to the strain gauge technologies. The innovative difference to the competition is the use of two full bridges, which are interconnected in such a way that undesirable external force influences on the sensor signal (e.g. torques during installation) are largely compensated. A monolithic steel body without any welding and without any oil-filled cavities is used for this purpose. Sensors made with P2P Technology are:

- Well suited for harsh environments and critical environments
- Suitable for: vacuum, gases, chemicals, hydraulic, hydrogen
- Long term stability with high accuracy
- No material fatigue due to embrittlement and permeation
- Provides a wide range of custom solutions

Specifications													
Input Parameters													
Pressure ranges													
Nominal pressure in bar	4	6	10	16	25	40	60	100	160	250	400	600	1000
Nominal pressure in PSI	58	87	145	232	362,5	580	870	1450	2320	3625	5800	8700	14500
Over pressure	8	12	20	32	50	80	120	200	320	500	800	1200	1400
Burst pressure	12	18	30	48	75	120	180	500	750	1000	1400	1800	2000
Tightening torque	Typ. 25 Nm; max. 50 Nm												
Wetted parts	Stainless steel 316L												
Body material	Stainless steel												
Output Parameters													
Output signal	4...20 mA			0,5...4,5 V			0...10 V			ratiometric 0,5...4,5 V			
Supply voltage	10...32 V			8...32 V			12...32 V			ratiometric 5 V DC ± 10%			
Load resistance	< (Vsupply - 10) V/0.02 A			≥ 2 kOhm			≥ 2 kOhm			≥ 2 kOhm			
MTTFd value	99 years			115 years			115 years			122 years			
Response time	Typ. < 1 ms; max. 2 ms												
Performance characteristics													
Accuracy (25°C)	≤ ±0.5 % FS after limit-point calibration												
Overall accuracy (- 5°C... 85°C)	≤ ±0.1 % FS / 10 K after limit-point calibration												
Long-term stability	≤ 0.1 % FS per year in referential conditions												
Ambient temperature	- 40...+ 105°C [-40 ... +221 °F]; - 40...+ 125°C [-40 ... +257 °F] for ratiometric output												
Medium temperature	- 40...+ 125°C [-40 ... +257 °F]; - 40...+ 125°C [-40 ... +257 °F] for ratiometric output												
Storage temperature	- 40...+ 125°C [-40 ... +257 °F]												
Shock resistance	IEC 60068-2-31												
Vibration resistance	20 g to IEC 60068-2-6												
Protection class	depending on electrical connection, see drawing of electrical connectors												
Electrical protection													
Reverse polarity	YES												
Dielectric strength	HV typ. 50 V DC, max. 100 V DC, custom option up to 1000 V DC												
Short-circuit protection	KS Out+ / UB- (for 1s)												
CE-Conformity													
EMV guideline	2014 / 30 / EU acc. to DIN EN 61326-1, DIN EN 61326-2-3												
RoHS guideline	2011/65/EU												
Other													
Weight	~ 60 g												
Lifetime cycles	> 100 million												

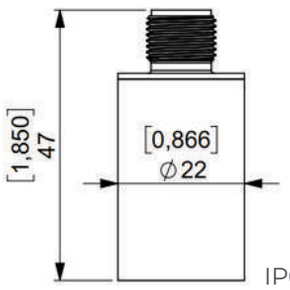
Dimensions

Packard Metri-Pack



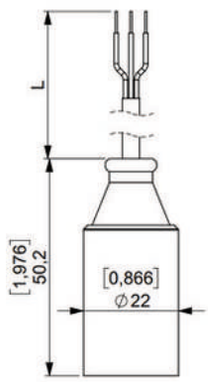
IP67

M12x1 (S763)



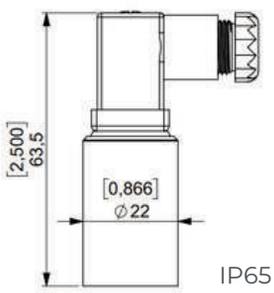
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Cable Output



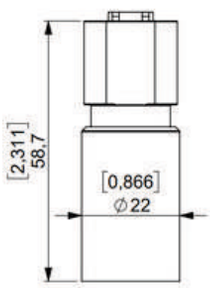
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EN 175301-803-C



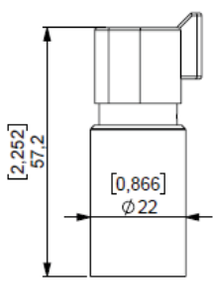
IP65

DT04-4P



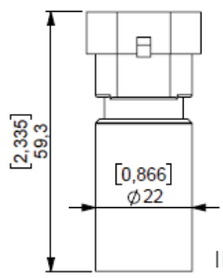
IP67

DT04-3P



IP67

AMP superseal 1.5



IP67

IP Rating applies with connected mating connector and correctly installed.

Wiring

Type		Output	PIN A	PIN B	PIN C	
	Packard Metripac	0,5 - 4,5V / 0 - 10 V	- Supply	+ Supply	V out	
		4..20 mA	Current output -	+ Supply	N/A	
		Output	PIN 1	PIN 2	PIN 3	PIN 4
	Round connector M12 x 1	0,5 - 4,5V / 0 - 10 V	+ Supply	V out	- Supply	N/A
		4..20 mA	+ Supply	N/A	Current output -	N/A
		Output	PIN A	PIN B	PIN C	
	DT04-3P	0,5 - 4,5V / 0 - 10 V	+ Supply	- Supply	V out	
		4..20 mA	+ Supply	Current output -	N/A	
		Output	PIN 1	PIN 2	PIN 3	PIN 4
	DT04-4P	0,5 - 4,5V / 0 - 10 V	- Supply	+ Supply	N/A	V out
		4..20 mA	Current output -	+ Supply	N/A	N/A
		Output	PIN A	PIN B	PIN C	
	AMP Superseal	0,5 - 4,5V / 0 - 10 V	V out	- Supply	Output +	
		4..20 mA	N/A	Current output -	+ Supply	

EPT9100 PRESSURE TRANSMITTER

Typ		Output	PIN 1	PIN 2	PIN 3
	DIN EN 175301-803-C	0,5 - 4,5V / 0 - 10 V	Output +	- Supply	V out
		4..20 mA	Current output +	Current output -	N/A
		Output	Red	Black	White
	Cable assembly	0,5 - 4,5V / 0 - 10 V	Output +	- Supply	V out
		4..20 mA	Current output +	Current output -	N/A

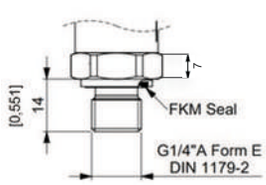
Before installation and operation, ensure that the appropriate pressure sensor has been selected in terms of pressure range, design and specific measuring conditions. Non compliance can result in serious injure and/or damage to the equipment.

WARNING:

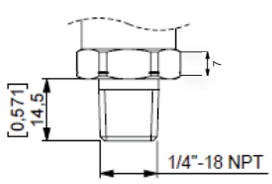
Variohm EuroSensor reserve the right to modify their products without notice. It is imperative that we should be consulted over any particular use or application of our products and it is the responsibility of the buyer to establish, particularly through all the appropriate testes, that the product is suitable for the use or application. Under no circumstances will our warranty apply, nor shall we be held responsible for any application (such as any modification, addition, deletion, use in conjunction with other electrical or electronic components, circuits or assemblies, or any other unsuitable material or substance) which has not been expressly agreed by us prior to the sale of our products.

Process connections

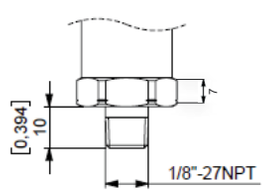
Option "A"



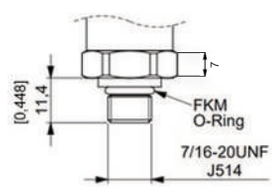
Option "B"



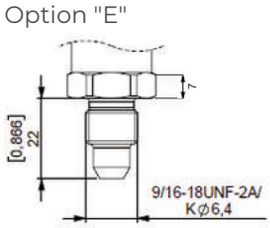
Option "C"



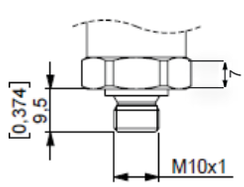
Option "D"



Option "E"



Option "M10"



Ordering information

The following models are typically available from stock:

EPT9100-A-10000-B-4-C	EPT9100-B-10000-B-4-C
EPT9100-A-25000-B-4-C	EPT9100-B-25000-B-4-C
EPT9100-A-40000-B-4-C	EPT9100-B-40000-B-4-C
EPT9100-B-01000-B-4-C	

EPT9100 PRESSURE TRANSMITTER

Ordering information

Sample Code EPT9100 - A - 01000 - B - 5 - C

Port Configuration	
A	G 1/4" E male (standard)
B	1/4 " NPT (standard)
C	1/8" NPT Male up to 600 bar (standard)
D	7/16" 20 UNF Male
E	9/16" 18 UNF Male
M10	M10x1 male up to 600 bar

Pressure ranges in bar

See table below*

Pressure Type	
B	gauge (standard, for higher pressures the product is built as sealed reference)
S	Sealed reference

Output signal	
1	0...10 V unregulated supply
2	4...20 mA (standard)
4	0,5...4,5 V unregulated supply (standard)
5	0.5...4.5 VDC ratiometric (standard)

Electrical Connection	
A	600mm standard cable
B	DIN EN 175301-803 C
C	Packard Metripack (standard)
G	AMP Superseal (standard)
F	M12x1 4 pin metal connector
H	Deutsch DT04-3P (standard)
J	Deutsch DT04-4P (standard)

*** Pressure ranges in bar**

Order code	00400	00600	01000	01600	02500	04000	06000	10000	16000	25000	40000	60000	100000
Nominal Pressure	4	6	10	16	25	40	60	100	160	250	400	600	1000
Over pressure	8	12	20	32	50	80	120	200	320	500	800	1200	1400
Burst pressure	12	18	30	48	75	120	180	500	750	100	1400	1800	2000

If you require a customized solution for your program contact our sales team.

Transport, packaging and storage

Transport

Check the pressure transmitter for any damage that may have been caused during transportation. Obvious damage must be reported immediately.

Packaging and storage

Do not remove packaging until just before mounting.
Keep the packaging as it will provide optimum protection during transport (e.g. change in installation site, sending for repair).

Permissible conditions at the place of storage:

- Storage temperature: -40 ... +125 °C [-40 ... +257 °F]

Dismounting, return and disposal

Dismounting

Physical injuries and damage to property and the environment caused by hazardous media Upon contact with hazardous media (e.g. oxygen, acetylene, flammable or toxic substances), harmful media (e.g. corrosive, toxic, carcinogenic, radioactive), and also with refrigeration plants and compressors, there is a danger of physical injuries and damage to property and the environment.

- Should a failure occur, aggressive media with extremely high temperature and under high pressure or vacuum may be present at the instrument.
- Wear the requisite protective equipment.

Dismounting the instrument

- Depressurise and de-energise the pressure transmitter.
- Disconnect the electrical connection.
- Unscrew the pressure transmitter with a spanner using the spanner flats.

Approvals certificate

CE Compliance: EMC directive 2014 / 30 / EU according in EN 61326-2-3

RoHS guideline: 2011/65/EU