PTE5000
Hermetically Sealed Modular Pressure Sensor

Typical Applications

- Compressors
- Hydraulic Systems
- Agricultural Equipment
- Construction Equipment
- Heat Pumps
- Wind Energy
- HVAC Systems
- Chemical Industry

Standard Full Scale Pressure Ranges

0-6, 0-10, 0-16, 0-25, 0-40,
0-60, 0-100, 0-160, 0-250, 0-400
and 0-600 Bar (Gage)

Features

- Hermetically Sealed
- Rugged & Durable
- Compact & Light-weight
- Resistant to Chemical Attack
- Superior Long-Term Stability & Repeatability
- Outstanding Shock & Vibration Performance

Description

The PTE5000 utilizes Kavlico's thin film strain gauge sensing technology, incorporating a hermetically sealed design with no internal sealing required. Designed for harsh environments, a rugged 304 stainless steel housing surrounds the PTE5000 transducer.

The PTE5000's small, compact design as well as low overall weight is ideal for applications with spacing and weight limitations. This easy-to-use sensor is media resistant, allowing for a broad range of liquid and gaseous media compatibility. It can be used at high operating temperatures and has internal temperature compensation. Highly reliable, the PTE5000 provides accurate, high pressure measurements every time.

Specifically designed for industrial applications, the PTE5000 can be customized to fit your application-specific needs. So contact us to place your custom order now.

Technical Specifications

Pressure ranges from 0 to ...	bar (gage)	6	10	16	25	40	60	100	160	250	400	600	1000	1600	2500
Proof pressure	bar (gage)	20	20	32	50	80	120	200	320	375	600	900	*1)		
Burst pressure	bar (gage)	30	30	48	75	120	180	300	400	500	800	1200			

Individual customized calibration on request.

*1) High pressure ranges on request only

Electrical

Output Signal	**4 - 20 mA**	**0.5 - 4.5 VDC ratiometric**	**0 - 5 VDC**	**0 - 10 VDC**
Operating supply voltage	8 - 30 VDC	5 VDC ± 5 %	8 - 30 VDC	14 - 30 VDC
Power consumption	≤ 600 mW	≤ 25 mW	≤ 600 mW	≤ 600 mW
Load	$\leq \frac{Vsup - 8\ VDC}{0{,}02\ A}\ [\Omega]$	≥ 4.7 kΩ	≥ 4.7 kΩ	≥ 4.7 kΩ
Overvoltage protection	min. 33 VDC	min. 6 VDC	min. 33 VDC	min. 33 VDC
Short-circuit proofness	not applicable	Yes *2)	Yes *2)	Yes *2)
Reverse polarity protection	Yes *3)	Yes *3)	Yes *3)	Yes *3)

*2) for min. 3 intervals at 5 minutes each at max. rated supply voltage

*3) for min. 10 seconds on assigned pins at max. rated supply voltage

Unit shall be supplied by a power supply with double/reinforced insulation (SELV) and limited energy in accordance to UL/EN/IEC 61010-1 or LPS in accordance to UL/EN/IEC 60950-1 or class 2 per UL1310/UL1585 (NEC or CEC). The power supply shall be approved for usage above 2000m if the pressure sensor is used in this enviroment. For indoor and outdoor use, not exposed to direct sunlight.

Pin assignment

	Current Output				Voltage Output			
Connector	PIN 1	PIN 2	PIN 3	PIN 4	PIN 1	PIN 2	PIN 3	PIN 4
18 mm	Vsup	Iout	...	...	Vsup	Vout	GND	...
9.4 mm	Vsup	Iout	...	...	Vsup	Vout	GND	...
M12 4-pole	Vsup	...	Iout	...	Vsup	...	Vout	GND
Packard Metri-Pack 150	Iout	Vsup	...	...	GND	Vsup	Vout	...

Response time	≤ 2 ms max. to 63 % of full scale pressure with step change on input
Accuracy	
Reference conditions to EN 61298-1	
Accuracy *)	≤ 0.5 % of span
Non-linearity **)	0.2 % of span
Non-repeatability	0.1 % of span
1-year stability	0.2 % of span

*) Including non-linearity, hysteresis, non-repeatability, zero point and full scale error (corresponds to error of measurement per IEC 61298-2). Adjusted in vertical mounting position with pressure port down

**) BFSL according to IEC 61298-2

Temperatures	
Medium	-30 °C to +120 °C
Environmental	-30 °C to +100 °C (depending on on electrical connector and external seal ring capability)
Storage	-30 °C to +100 °C (depending on on electrical connector and external seal ring capability)
Temperature coefficients	
TC zero	0.2 % of span / 10 K within temperature range 0 °C to +80 °C
TC span	0.2 % of span / 10 K within temperature range 0 °C to +80 °C
Conformity	
RoHS	According to 2002/95/EC RoHS Directive
CE	Pressure equipment directive 97/23/EC EMC directive 2004/108/EEC, EN 61 326 Emission (Group 1, Class B) and Immunity (industrial locations)
UL	Standard(s) for Safety: Electrical Equipment for Measurement, Control and Laboratory Use - UL 61010-1
Vibration resistance	IEC 60068-2-64 (RANDOM) 20 PSD
Shock resistance	25 g minimum according to EN 60068-2-27

Electrical connector	M12 - 4 pole	18 mm compatible with DIN 175301-803A	9.4 mm GDS 307 ind. stand.	Packard Metri-Pack 150 - 3 pole
Ingress protection per IEC 60 529	IP67 / IP69K (with special mating connector)	IP65	IP65	IP67

Weight	appr. 50 gram (sensor without mating connector)
Media	All class II fluids and gases compatible with stainless steel 304 (1.4301)

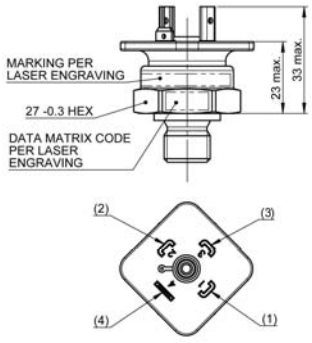
Customized versions on request - contact factory for details.

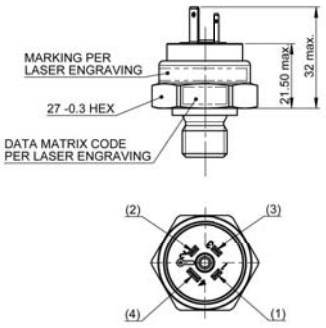
Compatible with
DIN 175301-803 A(18 mm)

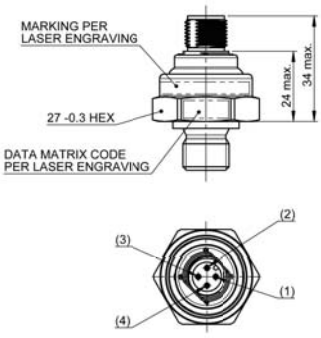
GDS 307 Industrial Standard (9.4 mm)

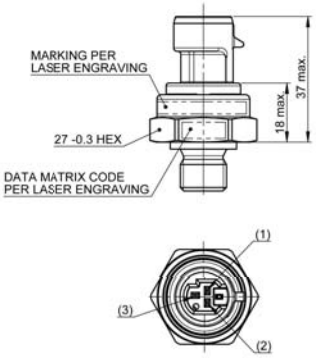
M12 - 4 Pole

Packard (Metri-Pack 150)







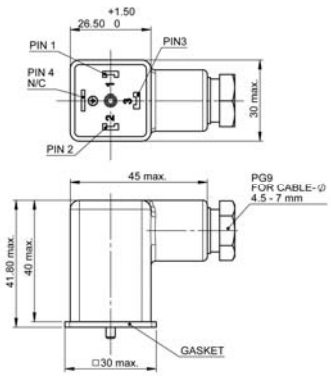


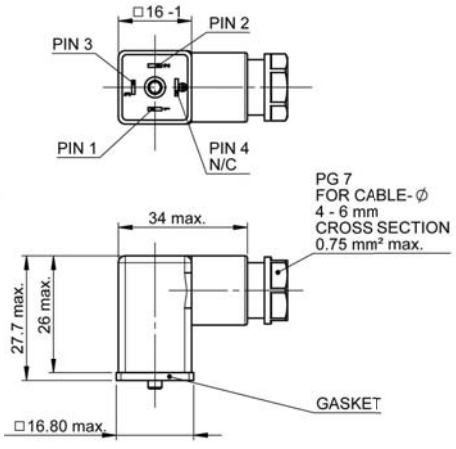
Mating Connector 18 mm
with NBR Gasket

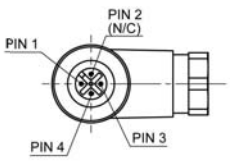
Mating Connector 9.4 mm
with NBR Gasket

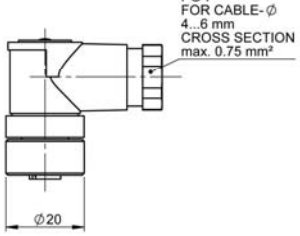
Mating Connector M12, RT- Angle

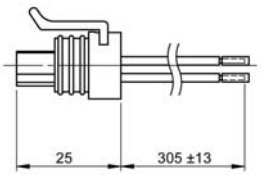
Mating Connector Packard
Metri-Pack, Cable Assembly

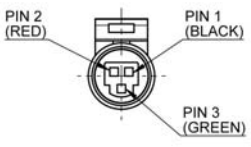












Dimensions in: mm

How to Order

PTE5000 PART NUMBER DESIGNATION

PTE5000	-	060	-	2	-	B	-	1	-	A

Pressure Ranges Bar

0 – 6 bar	006
0 – 10 bar	010
0 – 16 bar	016
0 – 25 bar	025
0 – 40 bar	040
0 – 60 bar	**060**
0 – 100 bar	100
0 – 160 bar	160
0 – 250 bar	250
0 – 400 bar	400
0 – 600 bar	600

Output

4 – 20 mA	1
0.5 – 4.5 VDC Ratiometric	**2**
0 – 5 VDC	3
0 – 10 VDC	4

Built-in Electrical Connection

A	**Compatible with DIN 175301-803 A (18 mm)**
B	GDS 307 Industrial Standard (9.4 mm)
C	M12 - 4 pole
D	Packard Metri-Pack 150
V	Packard Metri-Pack 150 with mating connector 30.5 cm leads
W	M12 - 4 pole with mating connector; rt-angle cable assembly
X	M12 - 4 pole with mating connector; rt-angle
Y	GDS 307 Industrial Standard (9.4 mm) with mating connector
Z	Compatible with DIN 175301-803 A (18 mm) with mating connector

Pressure Connection (port)

1	**G1/4"A DIN 3852-E**
2	7/16"-20 UNF-2B (female) SAE J1926/1 (modified) w/ 45° Cone and Schrader (for pressure range 006 - 060)
3	7/16"-20 UNF-2A (male) SAE J1926/2 (modified) w/ 45° Cone
4	G1/4"A DIN 3852-A

External O-ring

A	None	
B	**Fluorocarbon FKM (Viton) O-ring**	*only for pressure port option 1
C	Aluminium Washer G1/4"	*only for pressure port option 4
D	Copper Washer G1/4"	*only for pressure port option 4

Example: PTE5000 - 060 - 2 - B - 1 - A

Description: PTE5000 Sensor, 0 - 60 bar Gage, 0.5 - 4.5 VDC Ratiometric Electrical Output, Flourocarbon FKM (Viton) External O-Ring, G1/4" A DIN 3582-E Pressure Connection, with Built-in Connector Compatible with DIN175301-803 A (18mm)

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 injury and/or damage to the equipment.