

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.

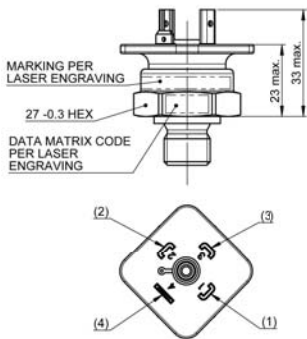
Specifically designed for industrial applications, the PTE5000 can be customized to fit your application-specific needs. So contact us to place your custom order now.

Technical Specifications

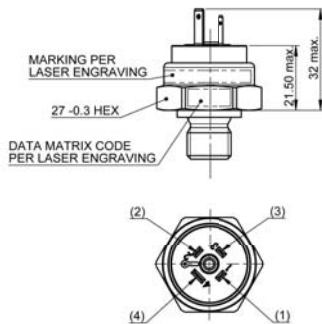
Pressure ranges from 0 to ...	bar (gage)	6	10	16	25	40	60	100	160	250	400	600	1000	1600	2500
Proof pressure	bar (gage)	20	20	32	50	80	120	200	320	375	600	900	*)		
Burst pressure	bar (gage)	30	30	48	75	120	180	300	400	500	800	1200			
Individual customized calibration on request.															
*) High 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	≤ $\frac{V_{sup} - 8 \text{ VDC}}{0,02 \text{ A}} [\Omega]$			≥ 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 *)					Yes *)			Yes *)			
Reverse polarity protection	Yes *)			Yes *)					Yes *)			Yes *)			
*) for min. 3 intervals at 5 minutes each at max. rated supply voltage															
*) 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 environment. 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	PIN 1	PIN 2	PIN 3	PIN 4	PIN 1	PIN 2	PIN 3
18 mm	Vsup	Iout	...	...	Vsup	Vout	GND	...	Vsup	Vout	GND	...	Vsup	Vout	GND
9.4 mm	Vsup	Iout	...	...	Vsup	Vout	GND	...	Vsup	Vout	GND	...	Vsup	Vout	GND
M12 4-pole	Vsup	...	Iout	...	Vsup	...	Vout	GND	Vsup	...	Vout	GND	Vsup	...	Vout
Packard Metri-Pack 150	Iout	Vsup	...	...	GND	Vsup	Vout	...	GND	Vsup	Vout	...	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															
**) BFSI 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.															



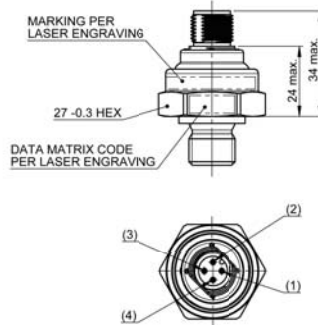
Compatible with
DIN 175301-803 A(18 mm)



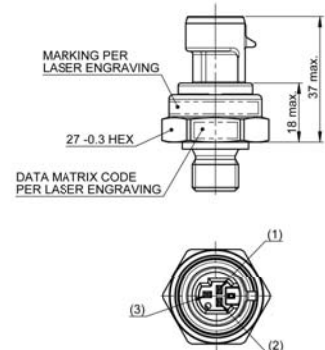
GDS 307 Industrial Standard (9.4 mm)



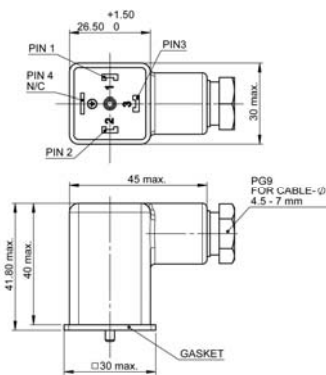
M12 - 4 Pole



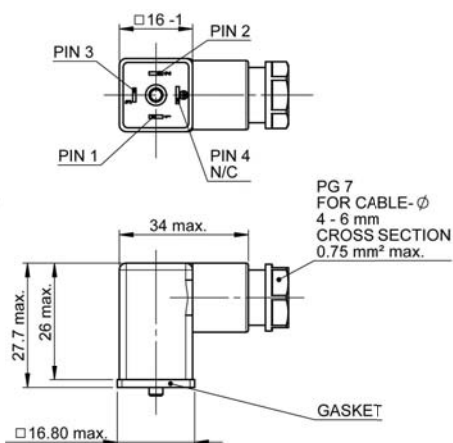
Packard (Metri-Pack 150)



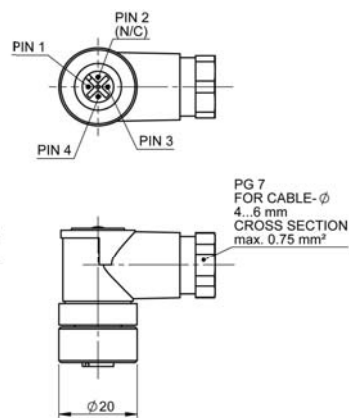
Mating Connector 18 mm
with NBR Gasket



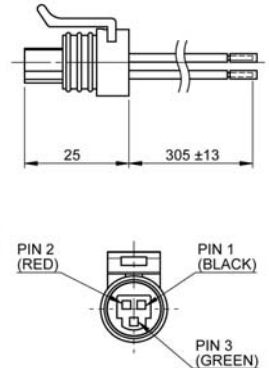
Mating Connector 9.4 mm
with NBR Gasket



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, Fluorocarbon FKM (Viton) External O-Ring, G1/4" A DIN 3852-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.

Warning: The product information contained in this catalogue is given purely as information and does not constitute a representation, warranty or any form of contractual commitment. Kavlico 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 tests, 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.