

PTSW-EP Series

Enhanced Combined Pressure Temperature Transducers



Description

The PTSW-EP series is an enhanced version of the standard PTSW-I series combined pressure temperature sensor. Designed to withstand harsh environments and meet the demanding requirements of the aerospace and naval industries, its significantly reduced weight and small design makes it ideal for applications where space and weight are critical.

The PTSW EP grade includes EMI/RFI protection and is operational under extreme vibration and mechanical shock, in environments contaminated with fuels, oils and solvents and has an extended temperature range of -55 °C to +125 °C.



PTSW-EP Series Specifications

Performance

Pressure	
Accuracy	≤ ±0.5% at RT
Non linearity	≤ 0.15% FS
Lifetime Drift (1000h, +125 °C)	≤ 0.5% FS
TEB (-55 °C to +125 °C)	≤ 2.5% FS
TEB (0 °C to +85 °C)	≤ 1.0% FS
Proof pressure	2 x FS pressure
Burst pressure	3 x FS pressure
Pressure response	< 1 ms

Temperature	
RTD operating temp. range	-200 +600 °C
RTD compensated temp. range	-50 +600 °C
Accuracy	PT100 / PT1000 Class B
Temp response time ¹⁾	< 2s
RTD max current	PT100 : 1.4mA
	PT1000 : 0.4mA

Environmental Specifications

Low Temp (Storage)	-55 °C DO-160G Section 4.5.1
Low Temp (Operating)	-55 °C DO-160G Section 4.5.2
High Temp (Storage)	+125 °C IEC 60068-2-2
High Temp (Operating)	+125 °C IEC 60068-2-2
Shock	40G 11ms Half Sine 3-axis MIL-STD-810G, Method 516.6
Vibration	Random Vib.:15 to 2000 Hz @ approx. 50G (peak) MIL-STD-810G, Method 514.6

Altitude (Storage)	45000 feet per MIL-STD-810G CHG-1, Method 500.6-P.I
Altitude (Operating)	45000 feet per MIL-STD-810G CHG-1, Method 500.6-P.II
Salt Fog	MIL-STD-810G CHG-1, Method 509.6
Sealing	IP67, IEC-60529

Electrical Specifications

Supply voltage ²⁾	0.5-4.5V Output, 9-32VDC 2-10V Output, 12-32VDC
Output temperature ²⁾	PT100 / PT1000
Current consumption	< 10mA
Reverse voltage protection	Yes
Electrical interface ³⁾	M27500G26ML5 spec. cable 5 x 26 AWG tinned copper, round braid shield, PVDF jacket
Bonding	see details ⁴⁾

Mechanical Specifications

Material ⁵⁾	Al7075T7651
Finish ⁶⁾	Anodizing per MIL-A-8625 Type 3 Class 2
Sealing	PTFE
Pressure port	See ordering information
Weight	30g (Dependent on configuration)
Cable Termination	Fluid resistant elastomer
Lock/Safety Wire	Applicable
Mounting Torque	Aluminum : 2.5Nm
	Stainless Steel : 5Nm

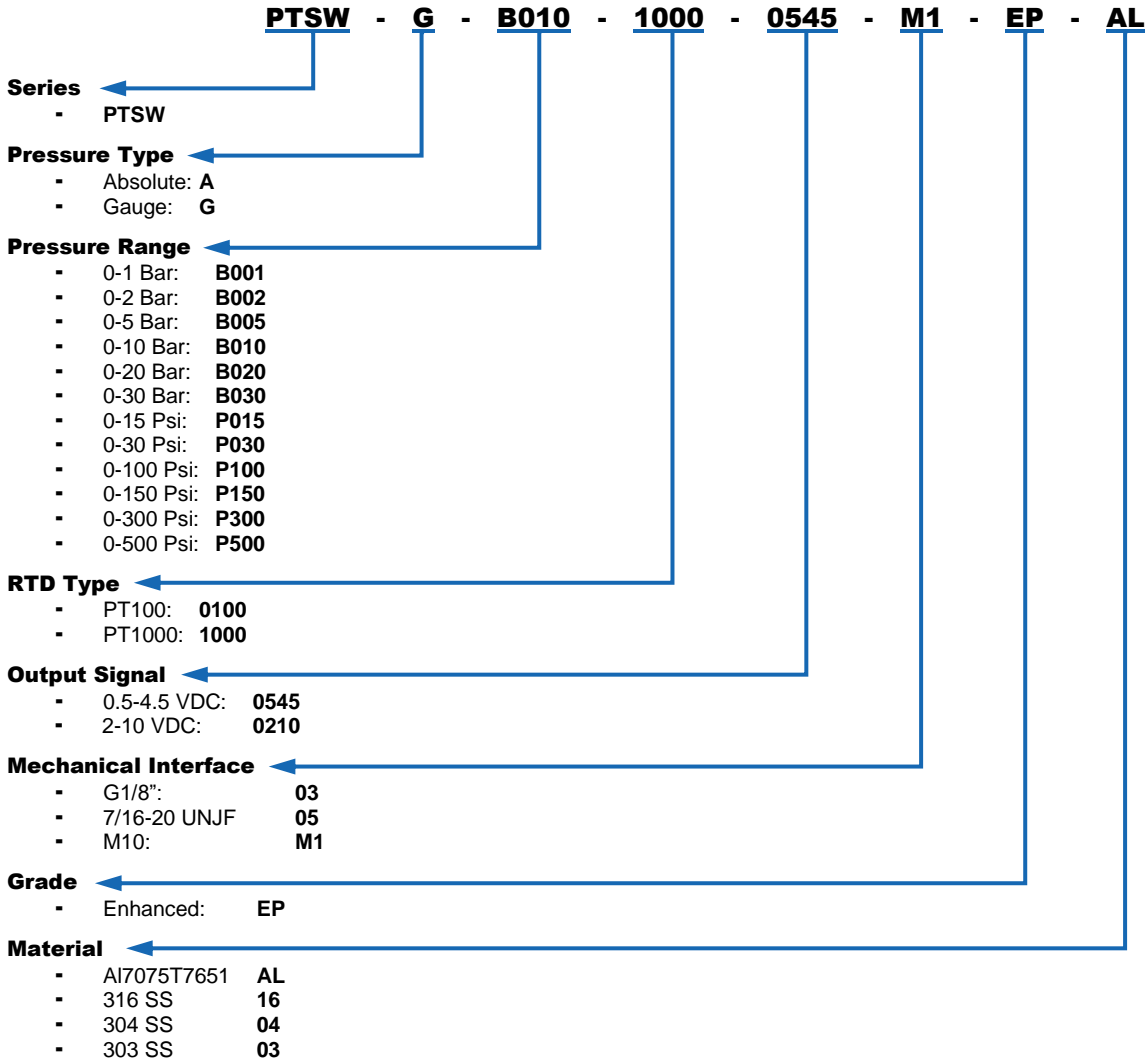
1) For aluminum material. Dependent on material.
 2) Please contact us for custom solutions.
 3) Cable termination with D38999/26WA35PN circular connector is available.
 4) Enclosure and cable offers full and continuous protection EMI/RFI effects.
 5) For production in different materials please contact us.
 6) Anodizing only for Al7075T7651 material.

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Ordering Information

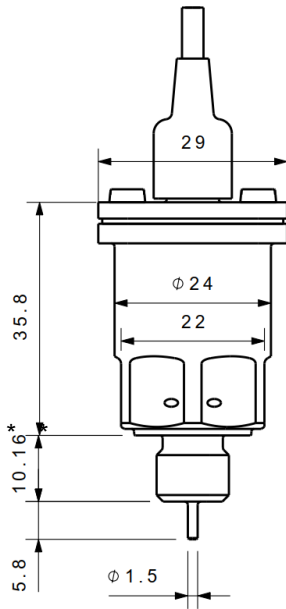


Typical ordering example: Gauge, 10 bar pressure, PT1000 RTD, 0.5-4.5 output signal, M10 mechanical interface, Enhanced grade, Al7075T7651 material: **PTSW-G-B010-1000-0545-M1-EP-AL**

For stock and price inquiry please contact us at: sales@taelco.com or www.taelco.com/en/contact-us/
Shipping, customs fees etc. are not included in the price quotation. TAE LCO is not responsible for customs clearance.

Dimensions and Interfaces

Housing & Pressure Interface



Electrical Interface

The electrical interface is a cable with 5 x 26 AWG conductors. Cable specifications are given in Electrical Specifications table.

Wire Color Code		
Supply +	Red	
Supply -	Black	
Pressure Signal	White	
Temp Signal	Yellow	
Temp Signal	Blue	

*) For 7/16-20 UNJF thread interface. Please contact us about details for different thread interfaces.

Revision History

Revision	Reasons for Revision	Issue Date
REV B	<ul style="list-style-type: none">• Added mounting torque information to Mechanical Specifications table.• Added footnote about thread interface to Housing & Mechanical Interface section.• Removed G1/4", R1/4", R1/8" mechanical interfaces from Ordering information section.	15.10.2024
REV A	<ul style="list-style-type: none">• First revision.	09.05.2024

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