

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 (-40 °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 | < 1ms |

| 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 |

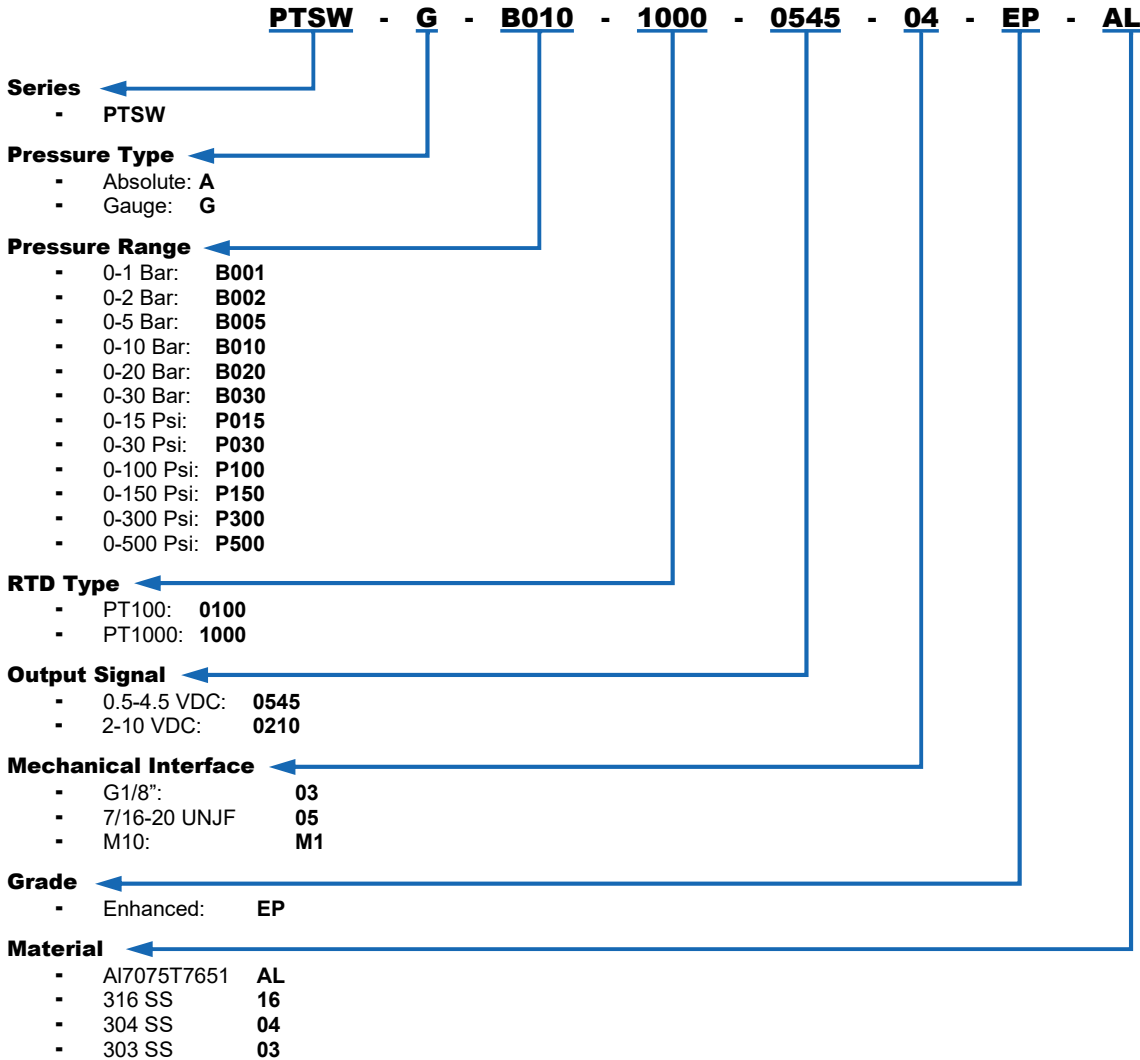
1) For aluminum material. Dependent on material.
2) Please contact us for custom solutions.
3) Cable termination with D38999/26WA35PN circular connector is available.
4) Enclosure and cable offers full and continuous protection EMI/RFI effects.
5) For production in different materials please contact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

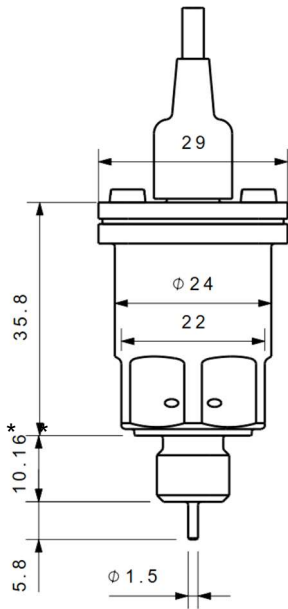
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Dimensions and Interfaces

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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