

PTSC-EM Series

Electromagnetic (E3) Compliant

Combined Pressure Temperature Transducers

TAE LCO

Description

The PTSC-EM series is the MIL-STD-461G compliant version of enhanced PTSC-EP series combined pressure temperature sensor. Designed to withstand electromagnetic environmental effects (E3) and meet the demanding requirements of the aerospace industry, with its significantly reduced weight and small design makes it ideal for mission critical applications where space, weight and reliability are critical.

The PTSC-EM 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.



PTSC-EM Series Specifications

Performance

Pressure

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

Temperature

RTD operating range	-200 +600 °C
RTD compensated range	-50 +600 °C
Accuracy	PT100 / PT1000 Class B
Temp response time ¹⁾	< 2s

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: 15 to 2000 Hz @ approx. 50G (peak) MIL-STD-810G, Method 514.6

Environmental Specifications – cont'd

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

Electromagnetic Specifications (MIL-STD-461G)

CE102	10kHz -10MHz
RE102	2MHz -18GHz (With shielded cable)
CS101	30Hz -150kHz
CS114	10kHz - 200MHz
CS115	Standard waveform
CS116	10kHz -100MHz
CS117	Multiple Burst: WF3 Multiple Stroke: WF1, WF3, WF4 (With shielded cable)
CS118	$\pm 8\text{kV}$ direct contact discharge
RS103	20V/m, 2MHz-1GHz 60V/m, 1GHz-40GHz (For internal equipment, With shielded cable)

1) For aluminum material. Dependent on material.

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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⁾	D38999/20WB98PN	
Bonding	see details ⁴⁾	
RTD max current	PT100	: 1.4mA
	PT1000	: 0.4mA

Mechanical Specifications

Material ⁵⁾	Al7075T7651	
Finish ⁶⁾	Anodizing per MIL-A-8625 Type 3 Class 2	
Sealing	PTFE	
Pressure port	See ordering information	
Weight	35g (Aluminum body)	
Lock/Safety Wire	Applicable	
Mounting Torque	Aluminum	: 2.5Nm
	Stainless Steel	: 5Nm

- 2) Please contact us for custom solutions.
3) For details see electrical interface section on page 3. For different connector materials contact us.
4) Enclosure and connector offer full and continuous protection from EMI/RFI effects.
5) For production in different materials please contact us.
6) Anodizing only for Al7075T7651 material.

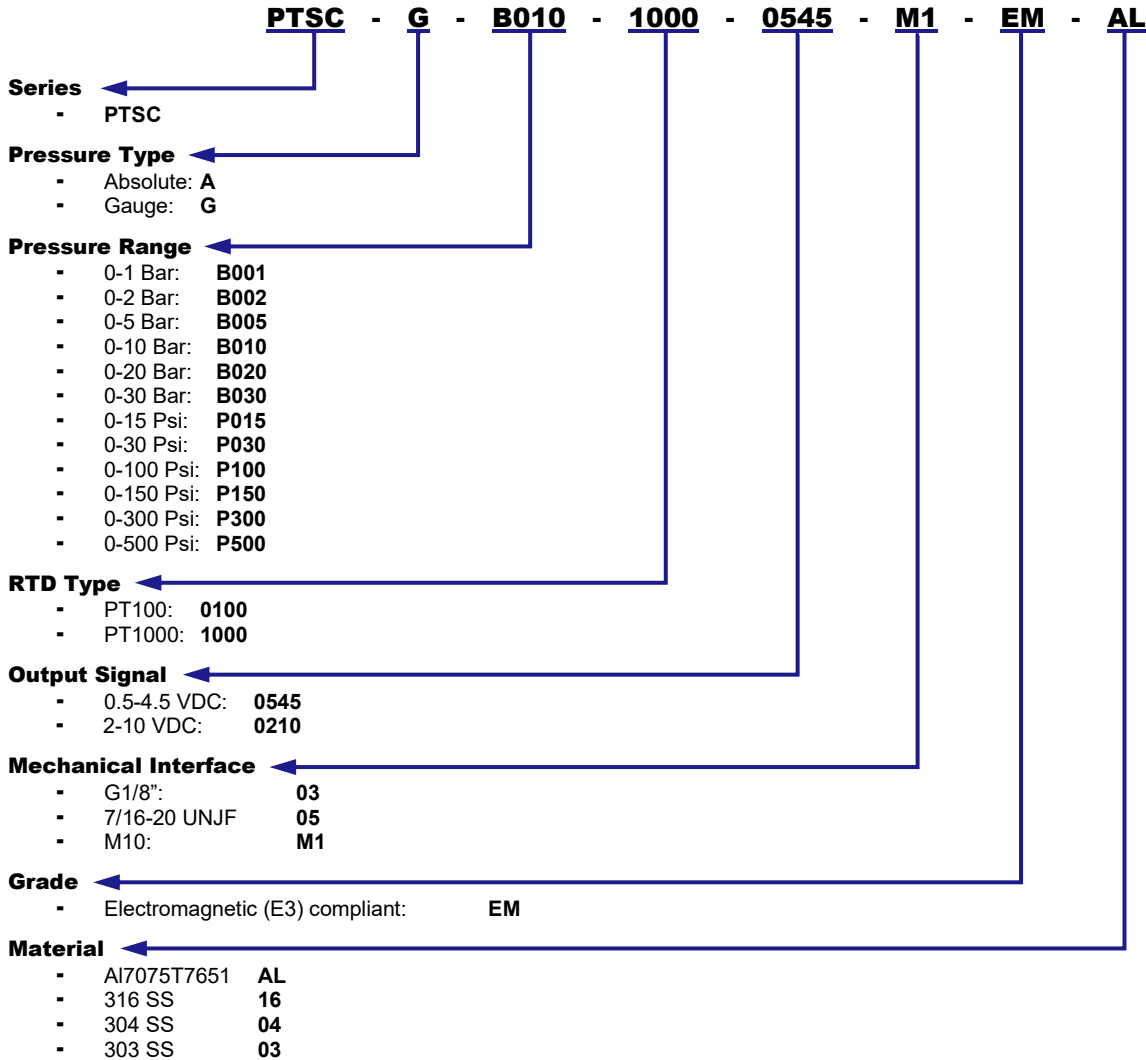
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Ordering Information



Typical ordering example: Gauge, 10 bar pressure, PT1000 RTD, 0.5-4.5 output signal, M10 mechanical interface, Electromagnetic (E3) compliant grade, AI7075T7651 material: **PTSC-G-B010-1000-0545-M1-EM-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.

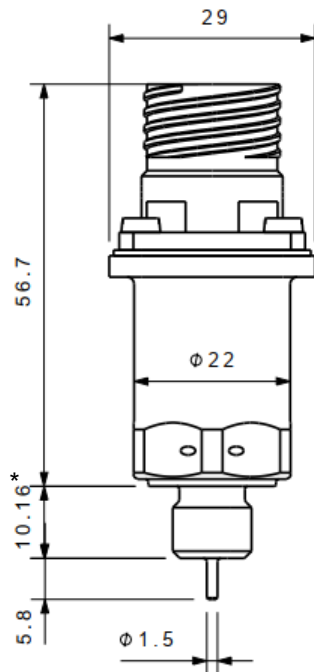
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Dimensions and Interfaces

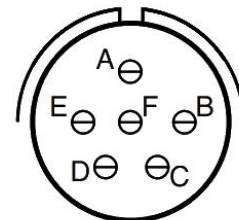
Housing & Pressure Interface



Electrical Interface (I/F)

The electrical I/F is a D38999/20WB98PN compatible circular connector.

Connector Pin Out	
Supply +	A
Pressure Signal	B
GND	C
Temp Signal	D
Temp Signal	E
No Connect (NC)	F



*) 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 A	<ul style="list-style-type: none">First revision.	12.09.2024

Notice and Disclaimer

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