Model	Number		
176B12			

# **CHARGE OUTPUT PRESSURE SENSOR**

Revision: C ECN #: 55628

Performance	ENGLISH	SI		
Sensitivity(+/- 20 %)	6 pC/psi	87 pC/bar		
Measurement Range	725 psi	50 bar		
Maximum Pressure(Total)	5,200 psi	358.5 bar		
Resonant Frequency	≥ 100 kHz	≥ 100 kHz		
Transverse Resonance	> 15 kHz	> 15 kHz		
Frequency Response(± 5.0 %)	20,000 Hz	20,000 Hz	[1][2]	
Non-Linearity	≤ 1 % FS	≤ 1 % FS	[3]	
Environmental				
Maximum Shock(Axial)	2,000 g pk	19,600 m/s² pk	[4]	
Acceleration Sensitivity	0.0036 psi/g	.00025 bar/g	[5]	
Acceleration Sensitivity	.002 psi/g	.00014 bar/g	[6]	
Temperature Range(Continuous)	-94 to 1,400 °F	-70 to 760 ℃		
Temperature Range(Connector)	-76 to 250 °F	-60 to 121 ℃		
Temperature Response	See Graph	See Graph	[6]	
Hazardous Area Approval	See Manual	See Manual		
Radiation Exposure Limit(Integrated	1E10 N/cm <sup>2</sup>	1E10 N/cm <sup>2</sup>		
Neutron Flux)				
Radiation Exposure Limit(Integrated	1E8 rad	1E8 rad		
Gamma Flux)				
Electrical				
Output Polarity	Differential	Differential		
Capacitance(with cable pin - pin)	150 pF	150 pF	[6]	
Resistance(Pin-Pin)(Room Temp)	≥ 10 <sup>9</sup> Ohm	≥ 10 <sup>9</sup> Ohm		
Resistance(Pin-Case)(Room Temp)	≥ 10 <sup>9</sup> Ohm	≥ 10 <sup>9</sup> Ohm		
Resistance(Pin-Pin)(1400°F/760°C)	≥ 50,000 Ohm	≥ 50,000 Ohm		
Resistance(Pin-Case)(1400°F/760°C)	≥ 100,000 Ohm	≥ 100,000 Ohm		
Physical	·	·		
Sensing Element	UHT-12™	UHT-12™		
Sensing Geometry	Compression	Compression		
Housing Material	Nickel Alloy	Nickel Alloy		
Sealing	Welded Hermetic	Welded Hermetic		
Electrical Connector	LEMO	LEMO		
Cable Type	Hardline	Hardline		
Cable Length	10 ft	3 m		
Weight(with cable)	4.6 oz	130 gm	[6]	



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Sensitivity Deviaition(%) Typical Sensitivity Deviation vs Temperature 10-5 0--5 -10 0 750 1000 1250 1450 Temperature (°F)

All specifications are at room temperature unless otherwise specified. In the interest of constant product improvement, we reserve the right to change specifications without notice. This model, designated with an RH prefix, is RoHS compliant. For further details, and to obtain PCB's RoHS Statement of Conformance, please visit http://www.pcb.com

## **OPTIONAL VERSIONS**

Optional versions have identical specifications and accessories as listed for the standard model except where noted below. More than one option may be used.

[1] Low frequency response is determined by external signal conditioning electronics.

[2] Upper frequency response is calculated from Resonant Frequency.

[3]Zero-based, least-squares line method.

[4] Half-sine pulse duration, 1 msec

[5]Maximum.

[6]Typical.

[7] See PCB Declaration of Conformance PS058 for details.

## **SUPPLIED ACCESSORIES:**

Model 065A71 Seal, 0.4315" OD x 0.375" ID x .030" thk, 316L silver plated (1)

Model 69862-01 Clamp Nut (1)

Model PCS-1 Calibration of dynamic pressure sensors up to 100% range

Entered: ND	Engineer: RPF	Sales: RWM	Approved: RPF	Spec Number:
Date: 04/03/2025	Date: 04/03/2025	Date: 04/03/2025	Date: 04/03/2025	78283



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