





Model Number 646B11		LOOP POWERED, CURRENT OUTPUT, INDUSTRIAL VIBRATION SENSOR		Revision: A ECN #: 26557	
Performance	ENGLISH	SI		OPTIONAL VERSIONS	
Measurement Range	0.0 to 10 g rms	0.0 to 98.1 m/s ² rms	[1]	Optional versions have identical specifications and accessories as listed for the standard model except where noted below. More than one option may be used.	
Output	4-20 mA	4-20 mA		EX - ATEX or ATEX and CSA Hazardous Area Approval	
Frequency Range(± 10 %)	180 to 300,000 cpm	3 to 5 kHz	[2][3]	Hazardous Area Approval EEx ia IIC T4, -40°C≤Tas80° EEx ia IIC T4, -40°C≤Tas80°	
Broadband Resolution	0.05 g rms	0.49 m/s ² rms	[4]	C, II 1 G C, II 1 G	
Non-Linearity	± 1 %	± 1 %		Hazardous Area Approval EEx nL IIC T4, -40°C≤Tas80° EEx nL IIC T4, -40°C≤Tas80°	
Environmental				C, II 3 G C, II 3 G	
Temperature Range	-40 to 185 °F	-40 to 85 °C		Hazardous Area Approval DIV I, CL I, II, III, GRPS A-G, DIV I, CL I, II, III, GRPS A-G,	
Electrical				Exia, AExia, IIC T4 Exia, AExia, IIC T4	
Excitation Voltage	12 to 30 VDC	12 to 30 VDC		Hazardous Area Approval DIV II, CL I, GRPS A-D, DIV II, CL I, GRPS A-D,	
Load Resistance	50(Vs-12) ohm	50(Vs-12) ohm		ExnL, AExnA, IIC T4 ExnL, AExnA, IIC T4	
Settling Time(within 2% of value)	<15 sec	<15 sec		M - Metric Mount	
Electrical Isolation(Case)	>10 ⁸ ohm	>10 ⁸ ohm		Supplied Accessory : Model M081A61 Mounting Stud 1/4-28 to M6 X 1 (1) replaces Model 081A40	
Physical				RV - Buffered Analog Signal Output - 100 mV/g (±20%)	
Size (Hex x Height)	1.0 in x 4.2 in	25.4 mm x 107 mm		Electrical Connector Integral Cable Integral Cable	
Weight(without cable)	4.7 oz	131 gm		Electrical Connections(Red) 4-20 mA Pos (+) 4-20 mA Pos (+)	
Mounting Thread	1/4-28 UNF	Not Applicable		Electrical Connections(Black) 4-20 mA Neg (-) 4-20 mA Neg (-)	
Mounting Torque	3 to 5 ft-lb	4 to 7 N-m		Electrical Connections(White) Signal Output Pos Signal Output Pos	
Sensing Element	Ceramic	Ceramic		Electrical Connections(Green) Signal Output Neg Signal Output Neg	
Sensing Geometry	Shear	Shear		NOTES:	
Housing Material	Stainless Steel	Stainless Steel		[1] Conversion Factor 1g = 9.81 m/s ² .	
Sealing	Welded Hermetic	Welded Hermetic		[2] Current will fluctuate at frequencies below 5 Hz.	
Electrical Connector	Integral Cable	Integral Cable		[3] 1Hz = 60 cpm (cycles per minute).	
Electrical Connection Position	Top	Top		[4] Typical.	
Electrical Connections(Red)	4-20 mA Pos (+)	4-20 mA Pos (+)		[5] See PCB Declaration of Conformance PS039 or PS053 for details.	
Electrical Connections(Blue)	4-20 mA Neg (-)	4-20 mA Neg (-)		SUPPLIED ACCESSORIES:	
Cable Length	10 ft	3.0 m		Model 081A40 Mounting Stud (1)	
Cable Type	Polyurethane	Polyurethane		Model ICS-4 NIST-traceable single-axis amplitude response calibration from 0 cpm (0 Hz) to upper 10% frequency for 4 - 20 mA output vibration sensor (1)	
 [5]			 		
<p>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.</p> <p>ICP® is a registered trademark of PCB Group, Inc.</p>					
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