

Model Number  
TO641B31

# 4-20 MA OUTPUT VELOCITY SENSOR WITH TEMPERATURE

Revision: B  
ECN #: 34059

	<u>ENGLISH</u>	<u>SI</u>	
<b>Performance</b>			
Measurement Range(Vibration)	0.0 to 1.0 in/sec rms	0.0 to 25.4 mm/s rms	[2]
(Temperature)	-40 to 257 °F	-40 to 125 °C	[1]
Output	4-20 mA	4-20 mA	
Frequency Range(± 10 %)	600 to 60,000 cpm	10 to 1 kHz	[3][4]
Broadband Resolution	0.005 in/sec rms	0.13 mm/s rms	[5]
Non-Linearity	1 %	1 %	
<b>Environmental</b>			
Temperature Range	-40 to 185 °F	-40 to 85 °C	[1]
<b>Electrical</b>			
Excitation Voltage	12 to 30 VDC	12 to 30 VDC	
Settling Time	<15 sec	<15 sec	
Electrical Isolation(Case)	>10 <sup>8</sup> ohm	>10 <sup>8</sup> ohm	
<b>Physical</b>			
Size (Hex x Height)	1.00 in x 2.60 in	25.4 mm x 66.0 mm	
Weight	4.7 oz	131 gm	
Mounting Thread	1/4-28 UNF	1/4-28 UNF	
Mounting Torque	3 to 5 ft-lb	4 to 7 N-m	
Sensing Element	Ceramic	Ceramic	
Sensing Geometry	Shear	Shear	
Housing Material	Stainless Steel	Stainless Steel	
Sealing	Welded Hermetic	Welded Hermetic	
Electrical Connector	4-Pin Bayonet	4-Pin Bayonet	
Electrical Connection Position	Top	Top	
Electrical Connections(Pin A)	Vibration, 4-20 mA Pos.	Vibration, 4-20 mA Pos.	
(Pin B)	Vibration, 4-20 mA Neg.	Vibration, 4-20 mA Neg.	
(Pin C)	Temperature, 4-20 mA Pos.	Temperature, 4-20 mA Pos.	
(Pin D)	Temperature, 4-20 mA Neg.	Temperature, 4-20 mA Neg.	

**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.

**EX** - Hazardous Area Approval- contact factory for specific approvals

Hazardous Area Approval Ex ia IIC T4, -40°C≤Tas80°C, II 1 G Ex ia IIC T4, -40°C≤Tas80°C, II 1 G

Ex nA IIC T4, -40°C≤Tas80°C, II 3 G Ex nA IIC T4, -40°C≤Tas80°C, II 3 G

DIV I, CL I, II, III, GRPS A-G, Exia, AExia, IIC T4 DIV I, CL I, II, III, GRPS A-G, Exia, AExia, IIC T4

DIV II, CL I, GRPS A-D, ExnL, AExnA, IIC T4 DIV II, CL I, GRPS A-D, ExnL, AExnA, IIC T4

**M** - Metric Mount  
Supplied Accessory : Model M081A61 Mounting Stud 1/4-28 to M6 X 1 (1) replaces Model 081A40

**NOTES:**

[1] Vibration 4-20mA output accuracy is limited to 185°F (85°C)

[2] Conversion Factor 1 in/sec = 0.0254 m/sec.

[3] 1Hz = 60 cpm (cycles per minute).

[4] Current will fluctuate at frequencies below 5 Hz.

[5] Typical value.

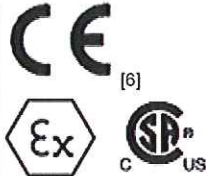
[6] See PCB Declaration of Conformance PS039 for details.

**SUPPLIED ACCESSORIES:**

Model 081A40 Mounting Stud (1)

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

Entered: <i>SLH</i>	Engineer: <i>DOBT</i>	Sales: <i>MPN</i>	Approved: <i>EB</i>	Spec Number:
Date: <i>9-30-10</i>	Date: <i>9-17-10</i>	Date: <i>9-27-10</i>	Date: <i>9-28-10</i>	37431



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.

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