

Model Number  
**645B00**

# LOOP POWERED, CURRENT OUTPUT, INDUSTRIAL VIBRATION SENSOR

Revision: A  
ECN #: 25170

**Performance**

Measurement Range  
Output  
Frequency Range ( $\pm 10\%$ )  
Broadband Resolution  
Non-Linearity  
**Environmental**  
Temperature Range  
**Electrical**  
Excitation Voltage  
Load Resistance  
Settling Time (within 2% of value)  
Electrical Isolation (Case)

**ENGLISH**

0.0 to 5 g rms  
4-20 mA  
180 to 60,000 cpm  
0.025 g rms  
 $\pm 1\%$   
-40 to 185 °F  
12 to 30 VDC  
50(Vs-12) ohm  
<15 sec  
>10<sup>5</sup> ohm

**SI**

0.0 to 49 m/s<sup>2</sup> rms  
4-20 mA  
3 to 1 kHz  
0.24 m/s<sup>2</sup> rms  
 $\pm 1\%$   
-40 to 85 °C  
12 to 30 VDC  
50(Vs-12) ohm  
<15 sec  
>10<sup>8</sup> ohm

[1]  
[2][3]  
[4]

**Physical**

Size (Hex x Height)  
Weight  
Mounting Thread  
Mounting Torque  
Sensing Element  
Sensing Geometry  
Housing Material  
Sealing  
Electrical Connector  
Electrical Connection Position  
Electrical Connections (Pin A)  
Electrical Connections (Pin B)

1.0 in x 2.6 in  
4.7 oz  
1/4-28 UNF  
3 to 5 ft-lb  
Ceramic  
Shear  
Stainless Steel  
Welded Hermetic  
2-Pin MIL-C-5015  
Top  
4-20 mA Pos (+)  
4-20 mA Neg (-)

25.4 mm x 66 mm  
131 gm  
Not Applicable  
4 to 7 N-m  
Ceramic  
Shear  
Stainless Steel  
Welded Hermetic  
2-Pin MIL-C-5015  
Top  
4-20 mA Pos (+)  
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** - ATEX or ATEX and CSA Hazardous Area Approval  
Hazardous Area Approval  
Hazardous Area Approval  
Hazardous Area Approval  
Hazardous Area Approval  
EEx ia IIC T4, -40°C≤Tas80°C, II 1 G  
EEx nL IIC T4, -40°C≤Tas80°C, II 3 G  
DIV I, CL I, II, GRPS A-G, Exia, AExia, 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

**RV** - Buffered Analog Signal Output - 100 mV/g ( $\pm 20\%$ )  
Electrical Connector  
Electrical Connections (Pin A)  
Electrical Connections (Pin B)  
Electrical Connections (Pin C)  
3-Pin MIL-C-5015  
4-20 mA Pos (+)  
4-20 mA Neg/Signal Output Neg  
Signal Output Pos

**NOTES:**

- [1] Conversion Factor 1g = 9.81 m/s<sup>2</sup>.
- [2] Current will fluctuate at frequencies below 5 Hz.
- [3] 1Hz = 60 cpm (cycles per minute).
- [4] Typical.
- [5] See PCB Declaration of Conformance PS039 or PS053 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 (1)

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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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