

# LOOP POWERED, CURRENT OUTPUT, INDUSTRIAL VIBRATION SENSOR

Model Number  
**646B00**

Revision: B  
ECN #: 25316

## ENGLISH

**Performance**  
Measurement Range 0.0 to 98.1 m/s<sup>2</sup> rms [1]  
Output 4-20 mA [2][3]  
Frequency Range (± 10 %) 3 to 1 kHz [4]  
Broadband Resolution 0.49 m/s<sup>2</sup> rms  
Non-Linearity ± 1 %  
**Environmental**  
Temperature Range -40 to 185 °F  
**Electrical**  
Excitation Voltage 12 to 30 VDC  
Load Resistance 50(Vs-12) ohm  
Settling Time (within 2% of value) <15 sec  
Electrical Isolation (Case) >10<sup>8</sup> ohm

**Physical**  
Size (Hex x Height) 1.0 in x 2.6 in  
Weight 4.7 oz  
Mounting Thread 1/4-28 UNF  
Mounting Torque 3 to 5 ft-lb  
Sensing Element Ceramic  
Sensing Geometry Shear  
Housing Material Stainless Steel  
Sealing Welded Hermetic  
Electrical Connector 2-Pin MIL-C-5015  
Electrical Connection Position Top  
Electrical Connections (Pin A) 4-20 mA Pos (+)  
Electrical Connections (Pin B) 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 EEx ia IIC T4, -40°C≤Tas80°C, II 1 G  
Hazardous Area Approval EEx nL IIC T4, -40°C≤Tas80°C, II 3 G  
Hazardous Area Approval DIV I, CL I, II, III, GRPS A-G, Exia, AExia, IIC T4  
Hazardous Area Approval 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 (±20%)  
Electrical Connector 3-Pin MIL-C-5015  
Electrical Connections (Pin A) 4-20 mA Pos (+)  
Electrical Connections (Pin B) 4-20 mA Neg/Signal Output Neg  
Electrical Connections (Pin C) 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)



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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