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|-----------------------------------|--|---------------------------------------|----------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Model Number<br><b>643A00</b>     |  | <b>4-20 MA OUTPUT VELOCITY SENSOR</b> |                      |        | Revision: B<br>ECN #: 43341                                                                                                                                  |  |
| <b>Performance</b>                |  | <b>ENGLISH</b>                        | <b>SI</b>            |        | <b>OPTIONAL VERSIONS</b>                                                                                                                                     |  |
| Measurement Range                 |  | 0.0 to 0.5 in/sec rms                 | 0.0 to 12.7 mm/s 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              |        | <b>EX</b> - Hazardous Area Approval- contact factory for specific approvals                                                                                  |  |
| Frequency Range(± 10 %)           |  | 600 to 60,000 cpm                     | 10 to 1 kHz          | [2][3] | Hazardous Area Approval EEx ia IIC T4, -40°C≤Tas80°C, EEx ia IIC T4, -40°C≤Tas80°C,                                                                          |  |
| Broadband Resolution              |  | 0.005 in/sec rms                      | 0.13 mm/s rms        | [4]    | II 1 G II 1 G                                                                                                                                                |  |
| Non-Linearity                     |  | ± 1 %                                 | ± 1 %                |        | Hazardous Area Approval EEx nL IIC T4, -40°C≤Tas80°C, EEx nL IIC T4, -40°C≤Tas80°C,                                                                          |  |
| <b>Environmental</b>              |  |                                       |                      |        | II 3 G 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,                                                                      |  |
| <b>Electrical</b>                 |  |                                       |                      |        | 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, ExnL, DIV II, CL I, GRPS A-D, ExnL,                                                                          |  |
| Settling Time(within 2% of value) |  | <15 sec                               | <15 sec              |        | AExnA, IIC T4 AExnA, IIC T4                                                                                                                                  |  |
| Electrical Isolation(Case)        |  | >10 <sup>8</sup> Ohm                  | >10 <sup>8</sup> Ohm |        |                                                                                                                                                              |  |
| <b>Physical</b>                   |  |                                       |                      |        | <b>M</b> - Metric Mount                                                                                                                                      |  |
| Size (Hex x Height)               |  | 7/8 in x 1.41 in                      | 22.2 mm x 35.8 mm    |        | Supplied Accessory : Model M080A163A (1) replaces Model 080A162                                                                                              |  |
| Weight                            |  | 3.8 oz                                | 108 gm               |        | <b>RV</b> - Buffered Analog Signal Output - 100 mV/g (±20%)                                                                                                  |  |
| Mounting Thread                   |  | 1/4-28 UNF                            | 1/4-28 UNF           |        | Electrical Connector 3-Pin MIL-C-5015 3-Pin MIL-C-5015                                                                                                       |  |
| Mounting Torque(Stud)             |  | 3 to 4 ft-lb                          | 4.1 to 5.4 Nm        | [5][6] | Electrical Connections(Pin A) 4-20 mA Pos (+) 4-20 mA Pos (+)                                                                                                |  |
| Mounting Torque(hex nut)          |  | 2 to 3 ft-lb                          | 2.7 to 4.1 Nm        |        | Electrical Connections(Pin B) 4-20 mA Neg/Signal Output Neg 4-20 mA Neg/Signal Output Neg                                                                    |  |
| Sensing Element                   |  | Ceramic                               | Ceramic              |        | Electrical Connections(Pin C) Signal Output Pos Signal Output Pos                                                                                            |  |
| Sensing Geometry                  |  | Shear                                 | Shear                |        |                                                                                                                                                              |  |
| Housing Material                  |  | Stainless Steel                       | Stainless Steel      |        | <b>NOTES:</b>                                                                                                                                                |  |
| Sealing                           |  | Welded Hermetic                       | Welded Hermetic      |        | [1]Conversion Factor 1 in/sec = 0.0254 m/sec.                                                                                                                |  |
| Electrical Connector              |  | 2-Pin MIL-C-5015                      | 2-Pin MIL-C-5015     |        | [2]1Hz = 60 cpm (cycles per minute).                                                                                                                         |  |
| Electrical Connection Position    |  | Side                                  | Side                 |        | [3]Current will fluctuate at frequencies below 5 Hz.                                                                                                         |  |
| Electrical Connections(Pin A)     |  | 4-20 mA Pos (+)                       | 4-20 mA Pos (+)      |        | [4]Typical value.                                                                                                                                            |  |
| Electrical Connections(Pin B)     |  | 4-20 mA Neg (-)                       | 4-20 mA Neg (-)      |        | [5]1/8" hex Allen key required for English version, 3mm hex Allen key required for metric version.                                                           |  |
|                                   |  |                                       |                      |        | [6]Stud torque must exceed sensor hex nut torque to ensure proper dismantling.                                                                               |  |
|                                   |  |                                       |                      |        | [7]See PCB Declaration of Conformance PS039 for details.                                                                                                     |  |
|                                   |  |                                       |                      |        | <b>SUPPLIED ACCESSORIES:</b>                                                                                                                                 |  |
|                                   |  |                                       |                      |        | Model 080A162 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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