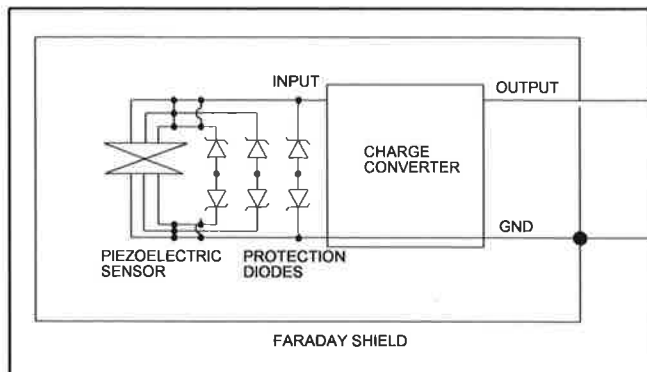


# PROPRIETARY AND CONFIDENTIAL

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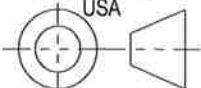
| MODEL NO | REV | ECN   | DATE     | SENSITIVITY |
|----------|-----|-------|----------|-------------|
| 2006M1   | B   | 11209 | 07/30/14 | 1000 mV/psi |
| 2006M2   | A   | 11209 | 07/30/14 | 300 mV/psi  |



HOUSING  
**SCHEMATIC DIAGRAM**

8. EXPOSED TO MEDIA
7. SIGNAL GROUND TO CASE ISOLATION > 100MOhms
6. STRUCTURAL JOINTS ARE TIG WELDED PER DRAWING 178-2006M1.
5. CONNECTOR MATERIAL: 300 SERIES STAINLESS STEEL
4. HOUSING MATERIAL: 316L SERIES STAINLESS STEEL
3. CHARGE CONVERTER HAS NO VOLTAGE ENHANCING/GENERATING PARTS.
2. TOTAL SENSOR CAPACITANCE,  $C_i$  (PIEZO ELEMENTS PLUS CIRCUIT CAPACITORS): 8800pF MAXIMUM, THIS SENSOR CONTAINS NO INDUCTIVE COMPONENTS
1. DIODES: 43V $\pm$ 5%max, >500mW, DO-35 ZENER

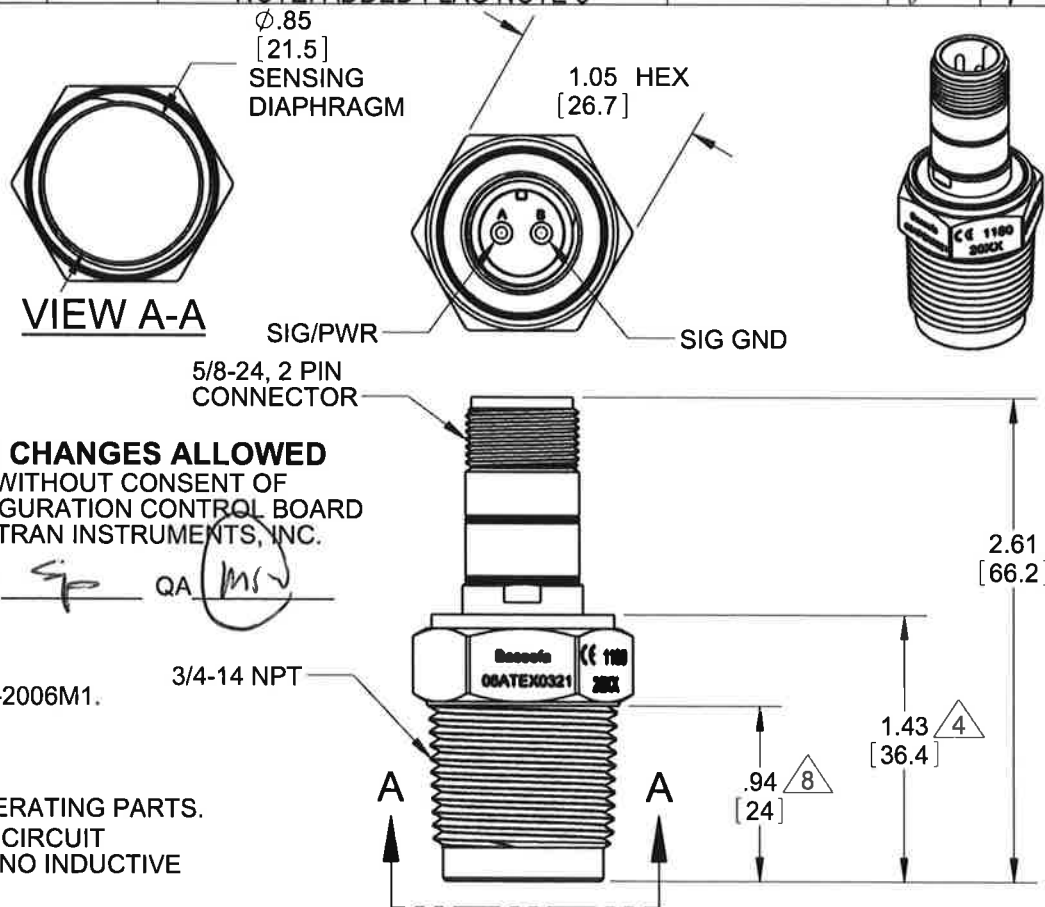
NOTES: UNLESS OTHERWISE SPECIFIED

|                                                                                     |           |                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                     |           | <p>UNLESS OTHERWISE SPECIFIED:<br/>INTERPRET DIM &amp; TOL PER<br/>ASME Y14.5M - 1994.<br/>REMOVE BURRS.<br/>COUNTERSINK INTERNAL THDS<br/>90° TO MAJOR DIA.<br/>CHAM EXT THDS 45° TO MINOR DIA.<br/>THD LENGTHS AND DEPTHS ARE FOR<br/>MIN FULL THDS.<br/>THDS PER MIL-S-7742.<br/>DIMENSIONS APPLY AFTER FINISHING.</p> |
|                                                                                     |           |                                                                                                                                                                                                                                                                                                                           |
|                                                                                     |           |                                                                                                                                                                                                                                                                                                                           |
|                                                                                     |           |                                                                                                                                                                                                                                                                                                                           |
| 2006M1                                                                              |           |                                                                                                                                                                                                                                                                                                                           |
| USED ON                                                                             | NEXT ASSY |                                                                                                                                                                                                                                                                                                                           |
| APPLICATION                                                                         |           |                                                                                                                                                                                                                                                                                                                           |
| THIRD ANGLE PROJECTION<br>USA                                                       |           |                                                                                                                                                                                                                                                                                                                           |
|  |           | <p>63/</p> <p>ALL MACHINED SURFACES.<br/>TOTAL RUNOUT WITHIN .005.<br/>BREAK SHARP EDGES .005 TO .010.<br/>MACHINED FILLET RADII .005 TO .015.<br/>WELDING SYMBOLS PER AWS A2.4.<br/>ABBREVIATIONS PER MIL-STD-12.</p>                                                                                                    |

ALL MACHINED SURFACES.  
TOTAL RUNOUT WITHIN .005.  
BREAK SHARP EDGES .005 TO .010.  
MACHINED FILLET RADII .005 TO .015.  
WELDING SYMBOLS PER AWS A2.4.  
ABBREVIATIONS PER MIL-STD-12.

## REVISIONS

| REV | ECN   | DESCRIPTION                                               | BY/DATE     | CHK                | APPR               |
|-----|-------|-----------------------------------------------------------|-------------|--------------------|--------------------|
| B   | 11209 | UPDATED HOUSING MAT'L CALL OUT<br>NOTE. ADDED FLAG NOTE 8 | EC 08/27/14 | <i>[Signature]</i> | <i>[Signature]</i> |



**NO CHANGES ALLOWED**  
WITHOUT CONSENT OF  
CONFIGURATION CONTROL BOARD  
DYTRAN INSTRUMENTS, INC.

ENG *[Signature]*

QA *[Signature]*

CONTRACT NO.



TITLE:

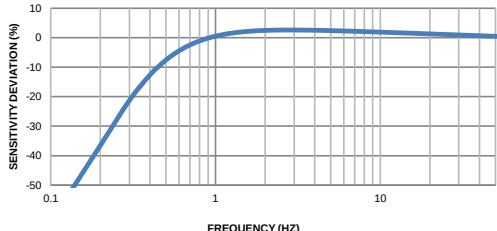
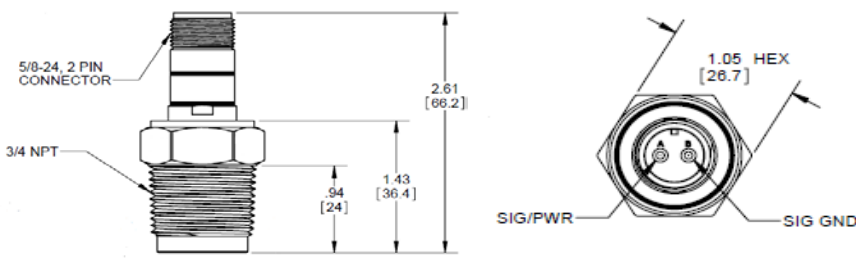
**OUTLINE/INSTALLATION  
DRAWING, MODEL 2006M1**

| SIZE | CAGE CODE | DWG. NO.   | REV |
|------|-----------|------------|-----|
| A    | 2W033     | 127-2006M1 | B   |

SCALE: NONE

SOLIDWORKS

SHEET 1 OF 1

| MODEL NUMBER                                                                      |  | PERFORMANCE SPECIFICATION                                                                                                                                                      |                      |                            |                       | DOC NO.                      |            |
|-----------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------------|-----------------------|------------------------------|------------|
| 2006M1                                                                            |  |                                                                                                                                                                                |                      |                            |                       | PS2006M1                     |            |
|                                                                                   |  | ACOUSTIC PRESSURE SENSOR, IEPE                                                                                                                                                 |                      |                            |                       | REV C , ECN 12560 , 03/25/16 |            |
|  |  | <ul style="list-style-type: none"><li>• HIGH INTENSITY ACOUSTIC SENSOR</li><li>• HIGH SENSITIVITY</li><li>• INTERNALLY GROUND ISOLATED</li><li>• HERMETICALLY SEALED</li></ul> |                      |                            |                       |                              |            |
|                                                                                   |  | ENGLISH                                                                                                                                                                        |                      | SI                         |                       |                              |            |
| PHYSICAL                                                                          |  |                                                                                                                                                                                |                      |                            |                       |                              |            |
| Weight, Max                                                                       |  | 4.7                                                                                                                                                                            | oz                   | 135                        | grams                 |                              |            |
| Mounting Provision                                                                |  | 3/4-14 NPT                                                                                                                                                                     |                      | 3/4-14 NPT                 |                       |                              |            |
| Connector                                                                         |  | 5/8-24, 2-PIN                                                                                                                                                                  |                      | 5/8-24, 2-PIN              |                       |                              |            |
| Body/Diaphragm                                                                    |  | 300 Series Stainless Steel                                                                                                                                                     |                      | 300 Series Stainless Steel |                       |                              |            |
| Connector                                                                         |  | 300 Series Stainless Steel                                                                                                                                                     |                      | 300 Series Stainless Steel |                       |                              |            |
| PERFORMANCE                                                                       |  |                                                                                                                                                                                |                      |                            |                       |                              |            |
| Sensitivity +/- 6% [3]                                                            |  | 1000                                                                                                                                                                           | mV/psi               | 0.145                      | mV/Pa                 |                              |            |
| Range F.S for 5 volts peak out                                                    |  | 5                                                                                                                                                                              | psi                  | 34474                      | Pa                    |                              |            |
| Absolute Maximum Pressure [4]                                                     |  | 5075                                                                                                                                                                           | psi                  | 35                         | MPa                   |                              |            |
| Equivalent Electrical Noise (Resolution)                                          |  | 1.00E-05                                                                                                                                                                       | psi                  | 0.0689                     | Pa                    |                              |            |
| Mounted Resonant Frequency                                                        |  | > 21                                                                                                                                                                           | kHz                  | > 21                       | kHz                   |                              |            |
| Frequency Response, +/- 5%                                                        |  | 2500                                                                                                                                                                           | Hz                   | 2500                       | Hz                    |                              |            |
| Minimum Rise Time of Input Pulse                                                  |  | 5                                                                                                                                                                              | µsec                 | 5                          | µsec                  |                              |            |
| Discharge Time Constant                                                           |  | 0.6 to 1.5                                                                                                                                                                     | sec                  | 0.6 to 1.5                 | sec                   |                              |            |
| Linearity [1]                                                                     |  | +/-1                                                                                                                                                                           | %F.S                 | +/-1                       | %F.S                  |                              |            |
| Lower -3db Frequency                                                              |  | 0.25                                                                                                                                                                           | Hz                   | 0.25                       | Hz                    |                              |            |
| Lower 10% Frequency                                                               |  | 0.5                                                                                                                                                                            | Hz                   | 0.5                        | Hz                    |                              |            |
| ENVIRONMENTAL                                                                     |  |                                                                                                                                                                                |                      |                            |                       |                              |            |
| Maximum Vibration                                                                 |  | 100                                                                                                                                                                            | g rms                | 981                        | m/s <sup>2</sup> rms  |                              |            |
| Maximum Shock                                                                     |  | 500                                                                                                                                                                            | g pk                 | 4905                       | m/s <sup>2</sup> peak |                              |            |
| Temperature Range                                                                 |  | -60 to +250                                                                                                                                                                    | °F                   | -51 to +121                | °C                    |                              |            |
| Thermal Coefficient Of Sensitivity                                                |  | 0.06                                                                                                                                                                           | % / °F               | 0.11                       | % / °C                |                              |            |
| Environmental Seal                                                                |  | Hermetic                                                                                                                                                                       |                      | Hermetic                   |                       |                              |            |
| ELECTRICAL                                                                        |  |                                                                                                                                                                                |                      |                            |                       |                              |            |
| Excitation Voltage Range [2]                                                      |  | +20 to +30                                                                                                                                                                     | VDC                  | +20 to +30                 | VDC                   |                              |            |
| Excitation Current Range [2]                                                      |  | 2 to 20                                                                                                                                                                        | mA                   | 2 to 20                    | mA                    |                              |            |
| Output Impedance, NOM                                                             |  | 150                                                                                                                                                                            | Ω                    | 150                        | Ω                     |                              |            |
| Output Bias Voltage                                                               |  | 11 to 13                                                                                                                                                                       | VDC                  | 11 to 13                   | VDC                   |                              |            |
| Output Signal Polarity For Increasing Pressure                                    |  | Positive                                                                                                                                                                       |                      | Positive                   |                       |                              |            |
|                                                                                   |  | <b>This family also includes:</b>                                                                                                                                              |                      |                            |                       |                              |            |
|                                                                                   |  | Model                                                                                                                                                                          | Sensitivity (mV/psi) | Range (psi pk)             | Resolution (Grms)     | Oper. Temp(°F)               | TC (Sec)   |
|                                                                                   |  | 2006M2                                                                                                                                                                         | 300                  | 16.5                       | 3.00E-05              | -60 to +250                  | 0.6 to 1.5 |
|                                                                                   |  |                                                                                                                                                                                |                      |                            |                       |                              |            |
|                                                                                   |  |                                                                                                                                                                                |                      |                            |                       |                              |            |
|                                                                                   |  | Please, refer to the performance specifications of the products in this family for detailed description.                                                                       |                      |                            |                       |                              |            |
|                                                                                   |  | <b>NOTES:</b>                                                                                                                                                                  |                      |                            |                       |                              |            |
|                                                                                   |  | [1] Percent full scale, zero based fit straight line method.                                                                                                                   |                      |                            |                       |                              |            |
|                                                                                   |  | [2] From constant current type power unit only. This sensor MUST NOT BE CONNECTED to a DC power source without current limiting, 20mA Maximum.                                 |                      |                            |                       |                              |            |
|                                                                                   |  | [3] A calibration certificate traceable to NIST is supplied with each instrument.                                                                                              |                      |                            |                       |                              |            |
|                                                                                   |  | [4] Full pressure must be applied gradually. Do not exceed 100psi/ sec.                                                                                                        |                      |                            |                       |                              |            |
|                                                                                   |  | <b>CERTIFICATIONS:</b>                                                                                                                                                         |                      |                            |                       |                              |            |
|                                                                                   |  | ATEX Ex II 1G Ex ia IIC T4 Ga (marked on each microphone)                                                                                                                      |                      |                            |                       |                              |            |
|                                                                                   |  | Baseefa06ATEX0321 (marked on each microphone)                                                                                                                                  |                      |                            |                       |                              |            |
|                                                                                   |  | CE certified (marked on each microphone)                                                    |                      |                            |                       |                              |            |
|                                                                                   |  | <b>TYPICAL LOW FREQUENCY RESPONSE</b>                                                                                                                                          |                      |                            |                       |                              |            |
|                                                                                   |  |                                                                                            |                      |                            |                       |                              |            |
|                                                                                   |  |                                                                                           |                      |                            |                       |                              |            |
|                                                                                   |  | Dimensions in brackets are in millimeters. Refer to 127-2006M1 for more information.                                                                                           |                      |                            |                       |                              |            |



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