

SA6200A IPT™ SEISMIC ACCELEROMETER SENSOR

Installation Manual



The SA6200A can sense a wide range of vibration frequencies, and is ideal for use on a variety of machines. A built-in amplifier provides a high level, low impedance output for connection to a signal conditioner for 4-20 mA output or to a vibration monitor. The SA6200A consists of a temperature stabilized piezo-electric sensor and amplifier, packaged in a stainless steel case to operate continually in a wet, corrosive environment of up to 120°C (248°F). The sensing circuit is electrically isolated to 500Vrms.

Features

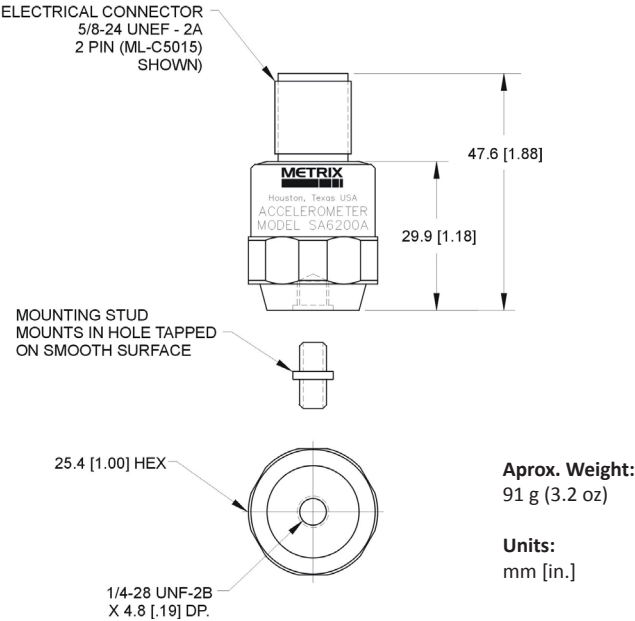
- Wide Frequency Response
- Hermetic S.S. Case
- Polarity Indifferent

Applications

- Motors
- Gear Boxes
- Paper Machines
- Process Pumps
- Large Fans
- Rotor Blade Pass Sensing
- Turbocharger Engine Vibration
- Cooling Tower Fans



OUTLINE & DIMENSIONS



TYPICAL MOUNTING



ATEX/IECEx Special Conditions for Safe Use:

To ensure temperature classification and safety, the power supply should adhere to the following: $U_i \leq 30V$, $I_i \leq 100mA$, $P_i \leq 0.75W$, $C_i \leq 12nF$, $L_i=0$ NRTL,

Ambient Operating Temperature: T3/T4: -54°C to +121°C

The mounting of the apparatus into an installation must be carried out in such a way that metallic body of the accelereometer is reliably connected to the system earth.

1. SAFE AREA APPARATUS IS NOT SPECIFIED EXCEPT THAT IT MUST NOT BE SUPPLIED FROM NOR CONTAIN IN NORMAL OR ABNORMAL CONDITIONS A SOURCE OF POTENTIAL WITH RESPECT TO EARTH IN EXCESS OF 250 VRMS OR 250 VDC.

2. THE SAFETY BARRIER MUST CONFORM TO THE FOLLOWING:

$V_{oc}, V_o \leq V_{max}, V_i$

lsc, li, lmax, l;

2006

3. CIRCUIT IN HAZARDOUS AREA MUST BE CAPABLE OF WITHSTANDING A VOLTAGE TEST OF 500 VRMS TO EARTH OR TO THE FRAME OF THE APPARATUS FOR ONE MINUTE.

4. THE CAPACITANCE AND EITHER THE INDUCTANCE OR INDUCTANCE TO RESISTANCE (L/R) RATIO OF THE INTERCONNECTING CABLE MUST NOT EXCEED THE FOLLOWING:

$C_{\text{cable}} \ll C_{\text{a}} \ll C_{\text{i}}$

$$L_{\text{cable}} \leq L_a - L_i$$

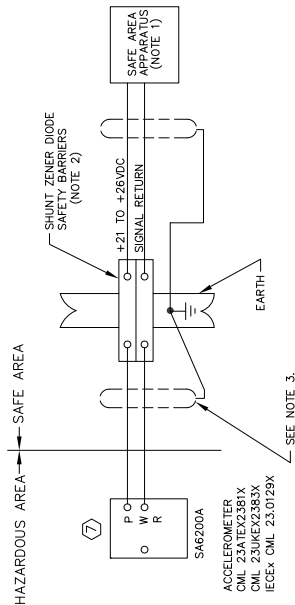
5. THE HAZARDOUS AREA CABLE IS TO BE INSTALLED AS EITHER A SEPARATE CABLE OR A SEPARATE CIRCUIT WITHIN A "TYPE A" CABLE OR WITHIN A "TYPE B" CABLE AS DEFINED IN EN 50039 (1980). THE PEAK VOLTAGE OF ANY CIRCUIT IN THE "TYPE B" CABLE MUST NOT EXCEED 60V.

6. THE INSTALLATION MUST COMPLY WITH THE APPROPRIATE NATIONAL INSTALLATION REQUIREMENTS. EXAMPLE: UK. BS5345 PART 4 (1977).

7 REFER TO SPECIFICATION DRAWING 9308 FOR ADDITIONAL INSTALLATION AND WIRING DETAILS.

WARNING: DO NOT SEPARATE WHEN ENERGIZED

INSTALLATION ACCELEROMETER IN HAZARDOUS LOCATION



Entity Parameters

$i_{\max}. V_i = 30V$

$I_{\max} I_i = 100 \text{ mA}$

$P_i = 0.75W$

1. $\frac{1}{2}$

$$U = \frac{1}{2} \int_{\mathbb{R}^3} |\nabla \phi|^2 dx$$

AGENCY APPROVED PRODUCT
DO NOT DEVIATE FROM
DOCUMENTED CONSTRUCTION
OR LISTED PARTS

Verifie et Certifie
conforme à l'exécution

Date: _____

Signature: _____

[illegible]

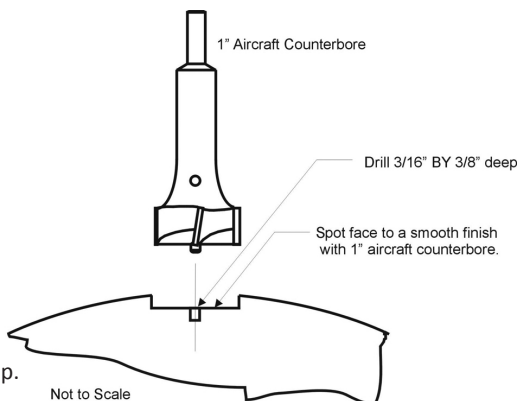
**WARNING:****ATEX/UKEX/IECEx Specific conditions for safe use (Ex ia and Ex ec)**

The equipment shall only be installed where there is no risk of mechanical impact, or shall be protected from mechanical impact by a suitable additional enclosure or guard.

STUD MOUNTING THE SA6200A ACCELEROMETER

Installation Procedure

1. Center punch hole location.
2. Drill 3/16" diameter by 1/2" deep hole on punch mark.
3. Remove metal shavings.
4. Using the 3/16" hole as a guide, spot face to the depth required for a flat mounting surface.
5. Drill out the center hole using the 7/32" (#3) drill bit.
6. Tap hole with 1/4-28 UNF tapered tap.
7. Remove tap and metal shavings.
8. Continue tapping 1/4-28 UNF bottom tap.
9. Remove tap, deburr and metal shavings.
10. Apply a light oil to accelerometer stud and mating surface.
11. Install accelerometer, torque between 18 and 22 in/lbs.



Tools needed

1. Half inch variable speed Drill Motor.
2. 3/16" (#12) drill bit.
3. 7/32" (#3) drill bit.
4. 1" Aircraft Counterbore with 3/16" pilot.
5. 3/32" Allen Wrench.
6. Cutting fluid, Tap Magic or equal.
7. Torque wrench calibrated in inch pounds.
8. 1/4"-28 UNF taper and bottom tap.
9. 7/8" crow foot attachment.
10. Tap handle.
11. Small ball peen hammer.
12. Center punch.
13. Light Oil.

ENVIRONMENTAL INFORMATION



This electronic equipment was manufactured according to high quality standards to ensure safe and reliable operation when used as intended. Due to its nature, this equipment may contain small quantities of substances known to be hazardous to the environment or to human health if released into the environment.

For this reason, Waste Electrical and Electronic Equipment (commonly known as WEEE) should never be disposed of in the public waste stream. The “Crossed-Out Waste Bin” label affixed to this product is a reminder to dispose of this product in accordance with local WEEE regulations. If you have questions about the disposal process, please contact Metrix Customer Service.



WARNING:

ATEX/UKEX/IECEx Specific conditions of use (Special Conditions) (Ex ia)

- The equipment shall be only connected to a certified associated intrinsically safe equipment. This combination shall be compatible as regards intrinsic safety rules (see electrical parameter).
- The equipment shall be installed per drawing number 9352-AGENCY rev. C dated 2015/04/15 of the instruction manual number M9313 rev. N dated 2024/09.
- The mounting of the apparatus into an installation shall be carried out in such a way that metallic body of the accelerometer is reliably connected to the system earth.
- The equipment shall only be installed where there is no risk of mechanical impact or shall be protected from mechanical impact by a suitable additional enclosure or guard.



WARNING:

ATEX/UKEX/IECEx Specific conditions of use (Special Conditions) (Ex ec)

- The electrical parameters of power supply can be connected to the equipment shall not exceed the following values:
- $U \leq 30V$; $I \leq 100mA$; $P \leq 0.75W$.
- The user shall ensure degree of protection IP54 at the threaded connector during installation.
- The mounting of the apparatus into an installation shall be carried out in such a way that metallic body of the accelerometer is reliably connected to the system earth.
- The equipment shall be installed per drawing number 9352-AGENCY rev. C dated 2015/04/15 of the instruction manual number M9313 rev. N dated 2024/09.

MODEL SA6200A			
NRTL Approval (North America): 	NRTL Markings: INTRINSICALLY SAFE/INCREASED SAFTEY Class I, Div. 1 & 2, Groups A, B, C, D Temp Code T3/T4 $-54^{\circ}\text{C} \leq \text{Ta} \leq 121^{\circ}\text{C}$	UL/CSA Standards: UL 60079-0:2019 UL 60079-7:2017 UL 60079-11:2013 CSA C22.2 60079-0:2015 CSA C22.2 60079-7:2016 CSA C22.2 60079-11:2014	Intrinsically Safe: when installed as per dwg 9352-AGENCY Increased Safety: Field wiring to transmitter must comply with local code WARNING: Do not open when energized. ATTENTION: Ne pas ouvrir quand energise
IECEx Approval (World): 	IEC Markings: Ex ia IIC T3/T4 Ga $-54^{\circ}\text{C} \leq \text{Ta} \leq 121^{\circ}\text{C}$ IECEx CML23.0129X Ex ec IIC T3/T4 Gc $-54^{\circ}\text{C} \leq \text{Ta} \leq 121^{\circ}\text{C}$ IECEx CML23.0129X	IEC Standards: IEC60079-0:2017 IEC60079-11:2011 IEC60079-7:2015	
ATEX/UKEX Approval (Europe): 	ATEX Markings:  II 1G Ex ia IIC T3/T4 Ga $-54^{\circ}\text{C} \leq \text{Ta} \leq 121^{\circ}\text{C}$ CML23ATEX2381X CML23UKEX2383X    II 3G Ex ec IIC T3/T4 Gc $-54^{\circ}\text{C} \leq \text{Ta} \leq 121^{\circ}\text{C}$ CML23ATEX4282X CML23UKEX4384X  	EN Standards: EN60079-0:2018 EN60079-11:2012 EN60079-7:2015	

Note: Metrix is continuously improving our products. Please refer to our website to download the latest version of this document.

© 2026, Metrix Instrument Company, L.P. All rights reserved.

info@metrixvibration.com • metrixvibration.com
 8824 Fallbrook Dr. Houston, TX 77064, USA • Tel: 1.281.940.1802