

EC Declaration of Conformity – PMX/PRX Series Preamplifiers

Manufacturer: Motion Sensors, Inc., 786 Pitts Chapel Road, Elizabeth City, NC 27909

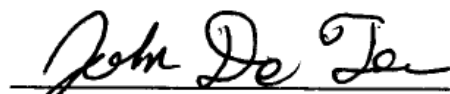
Equipment: Intrinsically Safe preamplifiers

Designation/Model: PMX-xxx-y and PRX-xxx-y

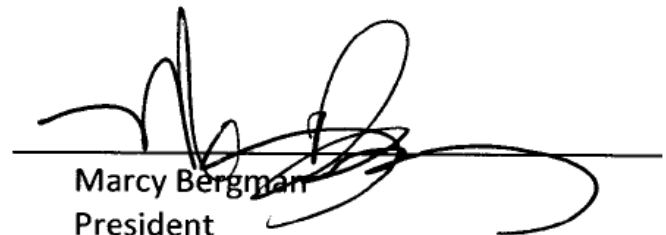
NOTE: “xxx” or “xxxx” in Model number may be any combination of numbers and characters representing specific options. “y” in Model Number will be either a -1, -2, -3, -4 or -5 indicating the pulse output type and Hazardous Location rating.

We hereby declare that the product, which is subject of this declaration, is in conformity with the following standards:

ATEX	ATEX Directive 94/9/EC: Equipment and protective systems intended for use in potentially explosive atmospheres. Applicable Standards - EN 60079-0 (2006); EN 60079-11 (2007)	EC-Type Examination Certificate: LCIE 03 ATEX 6286 X / 02
CSA w/NRTL/C	Applicable CSA Requirements: CSA Std. C22.2 No. 142-M1987, CAN/CSA-E79-11-95, UL Std No. 916, UL Std No. 913	CSA-Type Examination Certificate: 1102298 LR105990-3
2004/108/EC: Electromagnetic Compatibility	Applicable Standards: EN 61000-6-3 (2007), EN 61000-6-2 (2005)	



John DeFeo
Director, Engineering
Motion Sensors, Inc.



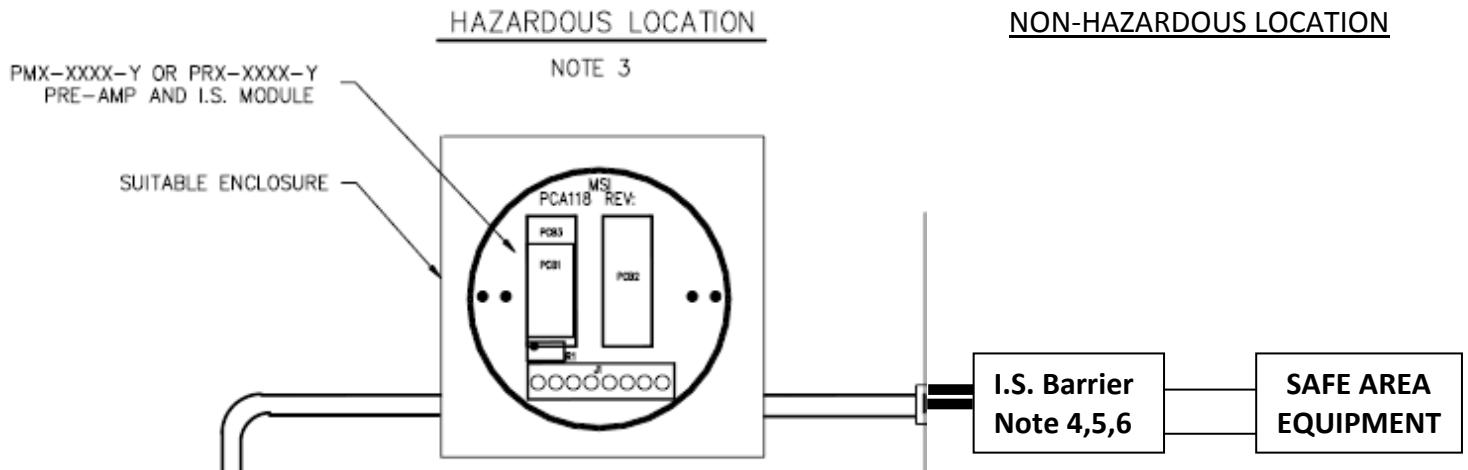
Marcy Bergman
President
Motion Sensors, Inc.

EC-Type Examination Certificate issued by:
Laboratoire Central Des Industries Electriques
Avenue du General-Leclerc 33
F-92266 Fontenay-aux-Roses
(Notified Body Number: 0081)

CSA-Type Examination Certification issued by:
Canadian Standards Association
Toronto, ON Canada

NON-HAZARDOUS LOCATION

NON-HAZARDOUS LOCATION



Notes:

1. For CSA-NRTL Installations: Installation should be in accordance with ANSI/ISA RP12.6 "Installation of Intrinsically Safe Systems for Hazardous Locations" and the National Electric Code (ANSI/NFPA 70). For ATEX Installations: Installation should be in accordance with ATEX Directive for Installation of Intrinsically Safe systems in hazardous locations and in accordance with the relevant local Electric Codes.
2. For CSA Installations: Install in accordance with Canadian Electric Code Part 1. For ATEX Installations: Install in accordance with the relevant local Electric Code.
3. Detached pre-amps are suitable for Hazardous locations Class I, Zone 0 and Class I, Division 1 (Groups as noted depended on the model). For Class II, or Class III locations, the pre-amp must be installed in an approved Class II/III enclosure. For ATEX installations, preamps are suitable for use in Ex ia IIC or IIB hazardous locations, where Exia is defined as Intrinsically Safe/Securite Intrinsic. A suitable enclosure is defined as a metal enclosure with an IP20 rating. For non-metallic enclosures, electrostatic build-up should be avoided. Refer to EN60079-0:2006 Section 7.3
4. For entity installations, select a CSA or ATEX certified barrier that satisfies the following:

$$U_i/V_{max} \geq U_o/V_{oc}; \quad C_i + C_{cable} \leq C_a/C_o$$

$$I_i/I_{max} \geq I_o/I_{sc}; \quad L_i + L_{cable} \leq L_a/L_o$$
5. For entity installations, select a CSA or ATEX certified pickup coil that satisfies the following:

$$U_i/V_{max} \geq U_o/V_{oc}; \quad C_i + C_{cable} \leq C_a/C_o$$

$$I_i/I_{max} \geq I_o/I_{sc}; \quad L_i + L_{cable} \leq L_a/L_o$$
6. For system installations, use two CSA or ATEX certified single channel barriers or one dual channel barrier where each channel has parameters of 28 Vdc (Max) and 600 ohms (Min), such as MTL-778 or Stahl 9002/77-280-094-00.
7. Barriers must be installed in accordance with manufacturer's instructions.
8. Exia is defined as intrinsically safe/securite intrinsic.

NOTE: The preamplifier can also be installed directly mounted to the pickup coil. Refer to drawing ST-A-1298 Sheet 3 for details

The preamplifiers are intrinsically safe electrical equipment and can be used in potentially explosive atmospheres. The apparatus must be installed with certified intrinsically safe equipment and the combination must be compatible with intrinsically safe rules and the electrical parameters in the below table.

CSA Entity Parameters

Class/Group (CSA)	Part Numbers	Electrical Parameters
Class 1, Zone 0 Group IIC/Class 1, DIV 1, Group A,B,C,D	PMX-XXXX-1, PMX-XXXX-2, PRX-XXXX-1, PRX-XXXX-2	Parameters to I.S. Barrier: $U_i/V_{max}=30Vdc$; $I_i/I_{max}=200mA$; $C_i/C_i=0\mu F$; $L_i/L_i = 0.5mH$ Parameters to Pickup Coil: $U_o/V_{oc}=5.9Vdc$; $I_o/I_{sc}=64mA$; $C_o/C_a=1.0\mu F$; $L_o/L_a=3.5mH$
Class 1, Zone 0 Group IIA/Class 1, DIV 1, Group D	PMX-XXXX-3, PMX-XXXX-4, PRX-XXXX-3, PRX-XXXX-4, PRX-XXXX-5, PMX-XXXX-5	Parameters to I.S. Barrier: $U_i/V_{max}=30Vdc$; $I_i/I_{max}=190mA$; $C_i/C_i=0\mu F$; $L_i/L_i = 0.5mH$ Parameters to Pickup Coil: $U_o/V_{oc}=10.5Vdc$; $I_o/I_{sc}=190mA$; $C_o/C_a=4.0\mu F$; $L_o/L_a=1.5mH$

ATEX Entity Parameters

NOTE: Electrical specification U, I, P of the materials which could be associated to the pickup will not exceed any of the following values

Part Numbers	Group	Electrical Parameters
PMX-XXXX-1, PMX-XXXX-2, PRX-XXXX-1, PRX-XXXX-2	IIC	Ui = 30V; li = 200mA; Pi = 0.75W; Ci = 0; Li = 0.5mH Uo=5.9V; lo = 64mA; Co = 1uF; Lo = 3.5 mH
PMX-XXXX-3, PMX-XXXX-4, PRX-XXXX-3, PRX-XXXX-4, PRX-XXXX-5, PMX-XXXX-5	IIA	Ui = 30V; li = 190mA; Pi = 2.55W; Ci = 0; Li = 0.5mH Uo=10.5V; lo = 190mA; Co = 4uF; Lo = 1.5 mH

Maximum Ambient Temperature:

The maximum ambient temperature of the preamplifiers is in accordance with the following temperature classes. Note: Refer to individual product specification sheet for temperature capabilities of specific model being used.

ATEX:

T4	T2
-40°C to +51°C	-40°C to +125°C

CSA:

T4
-20°C to +40°C

Marking:

The amplified series of pickups and preamplifiers shall be marked with either CSA or ATEX identification, or a combination label, as applicable and shall be identified by the part number, date code (AA BB), and Lot Identification number (YYYYYY).