

EU Declaration of Conformity – Amplified Series Speed Sensors

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

Equipment: Intrinsically Safe amplified pickups

Designation/Model: DMX-xxx-y, DRX-xxx-y, HX-xxx-y, HDX-xxx-y, HNX-xxx-y, MRX-xxx-y, MRDX-xxx-y

NOTE: “xxx” 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.

Marking: MOTION SENSORS INC
ELIZABETH CITY, NC 27909
YYY-XXX
SERIAL #: YEAR OF CONSTRUCTION:
Ex II 1 G
Ex ia IIC T4 (Tamb: -40°C to 51°C)
Ex ia IIC T2 (Tamb: -40°C to 125°C)
Ex ia IIA T4 (Tamb: -40°C to 51°C)
Ex ia IIA T2 (Tamb: -40°C to 125°C)
LCIE 03 ATEX 6286 X
IECEx LCIE 14.0024 X
U_i≤...V, I_i≤...mA, P_i≤...W, C_i≤...uF, L_i≤...mH*
U_o≤...V, I_o≤...mA, P_o≤...W, C_o≤...uF, L_o≤...mH*

*See specific part drawing for entity parameter values

This declaration of conformity is issued under the sole responsibility of the manufacturer. The object of the declaration is in conformity with the relevant Union harmonisation Legislation. We hereby declare that the product, which is subject of this declaration, is in conformity with the following standards:

ATEX	ATEX Directive 2014/34/EU: Equipment and protective systems intended for use in potentially explosive atmospheres. <i>Applicable Standards: BS EN IEC 60079-0:2018*; EN60079-11:2012</i>	EU-Type Examination Certificate: LCIE 03 ATEX 6286 X
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
IECEx	IEC Certification for Explosive Atmospheres. <i>Applicable Standards: BS EN IEC 60079-0:2018*; IEC 60079-11: 2011</i>	IECEx Certificate of Conformity: IECEx LCIE 14.0024 X
2014/30/EU	Electromagnetic Compatibility <i>Applicable Standards: EN 61000-6-3 (2007), EN 61000-6-2 (2005)</i>	

*MSI has performed internal assessments for EN 60079-0:2012+A11-2013 to BS EN IEC 60079-0:2018 revision and IEC 60079-0: 2011 + IS1:2013 to BS EN IEC 60079-0:2018 revision; there is no impact upon product.

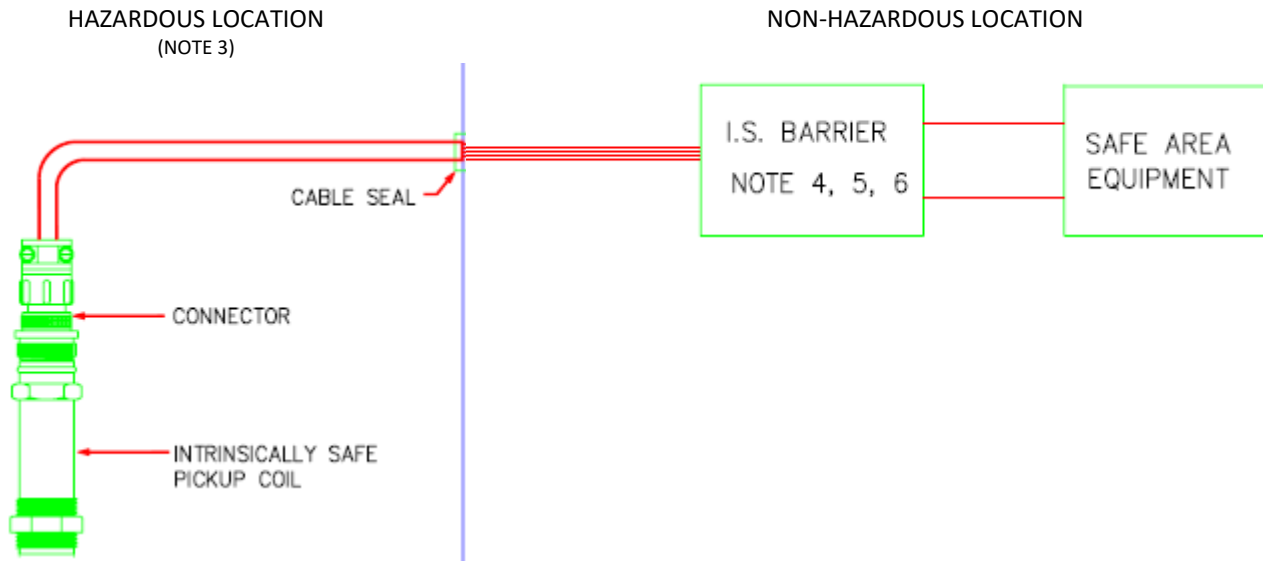


Marcy Bergman Pritchard
President
Motion Sensors, Inc.

SIGNED: 10/17/19

EU-Type Examination Certificate & IECEx 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



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. All pickup coils (with or without integral pre-amp) are suitable for hazardous locations Class I, Zone 0 and Class I, Division 1 (Groups as noted depended on the model). Pickup coils equipped with the "MS" type connector are only suitable for hazardous locations Class 1, Division 1, Groups A, B, C, D; Class II, Division 1 Group G, Class III, and Coal Dust. Pickup coils with an "NPT" connector or "pigtail" leads can be used in hazardous locations Class 1, Division 1, Groups A,B,C,D; Class II, Division 1, Groups E, F, G, and Class III. For ATEX installations, pickup coils are suitable for use in Ex ia IIC or IIB hazardous locations, where Exia is defined as Intrinsically Safe/Securite Intrinsic.
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 system installations, select 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.
6. Barriers must be installed in accordance with manufacturer's instructions.
7. Exia is defined as intrinsically safe/securite intrinsic.

Special Conditions for Safe Use:

The amplified series of pickups are intrinsically safe electrical equipment and can be used in potentially explosive atmospheres. The input terminal block can be only connected to certified intrinsically safe equipment and the combination must be compatible with intrinsic safety rules and the electrical parameters in the below table. Install pickups as per control drawing ST-A-1298-6 and ST-A-1298-10.

CSA Entity Parameters

Class/Group (CSA)	Part Numbers	Ui/Vmax	Ii/Imax	Ci/Ci	Li/Li
Class 1, Zone 0 Group IIC/Class 1, DIV 1, Group A,B,C,D	DMX-XXX-1, DMX-XXX-2, DRX-XXX-1, DRX-XXX-2, MRX-XXX-1, MRX-XXX-2, MRDX-XXX-1, MRDX-XXX-2, HX-XXX-1, HX-XXX-2, HDX-XXX-1, HDX-XXX-2, HNX-XXX-1, HNX-XXX-2.	30 VDC	200 mA	0 uF	0.5 mH
Class 1, Zone 0 Group IIA/Class 1, DIV 1, Group D	DMX-XXX-3, DRX-XXX-3, DMX-XXX-4, DRX-XXX-4, DMX-XXX-5, DRX-XXX-5, MRX-XXX-3, MRX-XXX-4, MRX-XXX-5, MRDX-XXX-3, MRDX-XXX-4, MRDX-XXX-5, HX-XXX-3, HX-XXX-4, HX-XXX-5, HNX-XXX-3, HNX-XXX-4, or HNX-XXX-5	30 VDC	190 mA	0 uF	0.5 mH

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
DMX-XXX-1, DMX-XXX-2, DRX-XXX-1, DRX-XXX-2, MRX-XXX-1, MRX-XXX-2, MRDX-XXX-1, MRDX-XXX-2, HX-XXX-1, HX-XXX-2, HDX-XXX-1, HDX-XXX-2, HNX-XXX-1, HNX-XXX-2.	IIC	Ui = 30V; Ii = 200mA; Pi = 0.75W; Ci = 0; Li = 0.5mH
DMX-XXX-3, DRX-XXX-3, DMX-XXX-4, DRX-XXX-4, DMX-XXX-5, DRX-XXX-5, MRX-XXX-3, MRX-XXX-4, MRX-XXX-5, MRDX-XXX-3, MRDX-XXX-4, MRDX-XXX-5, HX-XXX-3, HX-XXX-4, HX-XXX-5, HNX-XXX-3, HNX-XXX-4, or HNX-XXX-5	IIA	Ui = 30V; Ii = 190mA; Pi = 2.55W; Ci = 0; Li = 0.5mH

Maximum Ambient Temperature:

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

ATEX Certified Group IIC and IIA:

T2	T4
-40°C to +125°C	-40°C to +51°C

CSA Certified Group IIC:

T2	T4
-40°C to +125°C	-40°C to +51°C

CSA Certified Group IIA:

T2	T4
-40°C to +100°C	-40°C to +51°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).

WARNING: Do not separate when energized.