



Certificate of Compliance

Certificate: 2462519

Master Contract: 253907

Project: 70028722

Date Issued: April 3, 2015

Issued to: Excell Manufacturing Solutions, LLC
9286 Mercantile Dr.
Mentor, Ohio 44060
USA

Attention: Cliff C. Martin

The products listed below are eligible to bear the CSA Mark shown



Issued by: *Gino Surace*
Gino Surace

PRODUCTS

CLASS 3221 01 – VALVES

CLASS 3221 81 – VALVES - Certified to US Standards

Extra-low-voltage solenoid valves

Models:	Rating:
12310GEX, 12310GEX-1	24 Vd.c., 0.93 A

NOTES

1. Models 12310GEX and 12310GEX-1 are rated for ambient temperatures of -50°C to 40 °C.
2. Valve assembly is not included with model 12310GEX or 12310GEX-1.
3. Operation Test (C22.2 No. 139-10, clause 7.5, and UL 429, clause 27) is to be conducted on the end product installation for verification purposes.



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CLASS 3228 01 – VALVES – For Hazardous Locations
CLASS 3228 81 – VALVES - For Hazardous Locations Certified to US Standards

**Class I, Division 1, Groups A, B, C and D; Class II, Division 1, Groups E, F and G; Class III, Division 1
Ex mb IIC
Class I, Zone 1, AEx mb IIC**

Solenoid Assembly, Models 12310GEX and 12310GEX-1-22W-aa, 24V dc, 0.93A; Ambient Temperature Range: -50°C to +40°C; Temperature code: T3; Enclosure rating: IP67.

Solenoid Assembly, Model 12310GEX-1-12W-aa, 24V dc, 0.50A; Ambient Temperature Range: -50°C to +40°C; Temperature code: T4; Enclosure rating: IP67.

Part Number: 12310GEX-1-bbW-aa

aa = Shell Body and Upper/Lower Plates (ZN=Zinc-Nickel Plated or YC=Zinc Plated Yellow Chromate)

bb = Watts (12 or 22)

NOTES

1. Valve assembly is not included with model 12310GEX or 12310GEX-1.
2. Operation Test (C22.2 No. 139-10, clause 7.5, and UL 429, clause 27) is to be conducted on the end product installation for verification purposes.
3. This equipment is suitable for Hazardous Locations installation in the US when using NFPA 70 Article 500 and 505 and in Canada when using Canadian Electrical Code C22.1, Section 18 (with appropriate Appendices).



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APPLICABLE REQUIREMENTS

CAN/CSA Standard C22.2 No. 0-10 <i>(Tenth Edition – September 2010)</i>	General Requirements – Canadian Electrical Code, Part II
CSA Standard C22.2 No. 25-1966 <i>(Reaffirmed 2009)</i>	Enclosures for Use in Class II Groups E, F, and G Hazardous Locations
CSA Standard C22.2 No. 139-10 <i>(Third Edition, June 2010)</i>	Electrically Operated Valves
CAN/CSA-C22.2 No. 60079-0:07 <i>(Fourth Edition – March 2007)</i>	Electrical apparatus for explosive gas atmospheres — Part 0: General requirements
CAN/CSA-E79-18-95 <i>(Reaffirmed 2009)</i>	Electrical apparatus for explosive gas atmospheres – Part 18: Encapsulation “m”
CAN/CSA-C22.2 No. 60529:05 <i>(Edition 2.1 2001-02 – July 2005)</i>	Degrees of protection provided by enclosures (IP Code)
UL Standard 429 <i>(Sixth Edition, Dated November 11, 2009)</i>	Electrically Operated Valves
ANSI/UL Standard 1203 <i>(Fourth Edition, September 2006. With revisions through and including October 28, 2009)</i>	Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations
ANSI/UL 60079-0 <i>(Fifth Edition, dated October 21, 2009 including revisions through and including December 8, 2009)</i>	Electrical Apparatus for Explosive Gas Atmospheres – Part 0: General Requirements
ANSI/UL 60079-18 <i>(Second Edition, dated August 15, 2005)</i>	Electrical Apparatus for Explosive Gas Atmospheres – Part 18: Construction, Test and Marking of Type of Protection Encapsulation “m” Electrical Apparatus
ANSI/IEC 60529-2004 <i>(Edition 2.1 2001-02 with Corrigendum 3, October 2009)</i>	Degrees of protection provided by enclosures (IP Code)



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MARKINGS

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

General: The following marking information is provided on a CSA accepted, UL recognized adhesive type label suitable for the surface or metal nameplate or engraving. Refer to Attachment 1, pages 1 to 2 for nameplate illustrations. The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US, or with adjacent indicator 'US' for US only, or without either indicator for Canada only." Also, see SPECIAL INSTRUCTIONS FOR FIELD SERVICES section of this report.

- Manufacturer name: "PMFG LLC", "PMFG", "Excell Manufacturing Solutions" or CSA Master Contract Number "253907" adjacent to the CSA Mark, in lieu of the manufacturer name;
- Model number: As specified in the PRODUCTS section, above;
- Electrical ratings: As specified in the PRODUCTS section, above;
- Ambient temperature rating: As specified in the PRODUCTS section, above;
- Manufacturing date in MMY format, or serial number, traceable to month of manufacture;
- The CSA Mark with or without "C" and "US" indicators, as shown on the Certificate of Compliance;
- Hazardous Location designation: As specified in the PRODUCTS section, above (may be abbreviated);
- Temperature code: As specified in the PRODUCTS section, above;
- A distinguishing marking to identify factory of manufacture if produced at multiple factories.

The following cautions or equivalent shall be shown at or near the point where the field connections will be made:

- "TO BE CONNECTED TO A CLASS 2 CIRCUIT ONLY", and "RACCORDER UNIQUEMENT À UN CIRCUIT DE CLASSE 2".



Supplement to Certificate of Compliance

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*The products listed, including the latest revision described below,
are eligible to be marked in accordance with the referenced Certificate.*

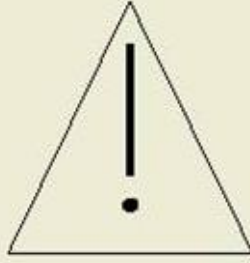
Product Certification History

Project	Date	Description
70028722	Apr 3 2015	Update to report 2462519 to correct ambient temperature.
70018434	Mar 13 2015	Update to report 2462519 to include new lower ambient temperature.
70015331	Dec 19 2014	Update to report 2462519 to add Model 12310GEX-1-12W which is a 12W coil version with a T4 temperature code and include updated and new drawings.
2637656	Jun 21 2013	Update Report 2462519 to add model 12310GEX-1 solenoid assembly to US/Canadian Certification to Class I, Div 1, Grps A, B, C & D; Class II, Div 1, Grps E, F & G; Class III, Div 1; Ex mb IIC; Class I, Zone 1, AEx mb IIC; OrdLoc Classes 3221-01 & 3221-81.
2603218	Feb 20 2013	Update Report 2462519 to document drawing revisions made to resolve FIR 4802847-012513 issues and to add an alternate epoxy material for the plug insert for the 12310GEX model solenoid assembly.
2592888	Jan 25 2013	Update Report 2462519 to add US/Canadian Class II, Division 1, Groups E, F and G; Class III, Division 1 certification to model 12130GEX solenoid assembly.
2563872	Jan 2 2013	Update Report 2462519 to include corrections per FIR 4802847-070912 for model 12310GEX, testing of alternate potting material and addition of IP67 enclosure rating.
2499127	Feb 14 2012	Update Report 2462519 to indicate that model 12310GEX is suitable for installation in the US when using NFPA 70 Articles 500 and 505 and in Canada when using Canadian Electrical Code C22.1, Section 18 (with appropriate Appendices).
2452171	Nov 1 2011	Update Report 2462519 to add Hazardous Locations Certification to model 12310GEX for Class I, Division 1, Groups A, B, C and D; Ex mb IIC; Class I, Zone 1, AEx mb IIC compliance.
2462519	Oct 21 2011	Original certification of solenoid valve model: 12310GEX for ordinary locations.

Certified Product, No Modifications
Permitted Without Review Drawing
Numbers
12310GEX Rev 16 (IECEX Drawing),
1000061 CSA Rev 5

CSA INFORMATION

ASSEMBLIES WILL CARRY THE FOLLOWING INFORMATION




To Be Connected To A Class 2 Circuit Only
"Raccorder Uniquement A Un Circuit De Classe 2"

INSTALLATION INSTRUCTIONS

1. FASTEN SOLENOID TO HYDRAULIC SUB-ASSEMBLY
2. TIGHTEN NUT WITH AID OF A TOOL TO 8 Nm (6.5 FT.LBS)
3. CONNECT WIRES TO APPROPRIATE CONNECTIONS AS SHOWN ON THE MACHINE WIRING DIAGRAM

INCLUDES WEEK AND YEAR

Excell Manufacturing Solutions, Ohio-USA
Type No. 12310GEX-1-22W-YC
Serial # XXXXXX
Ambient Range -50°C to +40°C
24 VDC, 0.93 AMPS



**Class I, Divison 1, Groups A, B, C and D
Ex mb IIC, T3; Enclosure Rating IP67
Class I, Zone 1, AEx mb IIC
Class II, Division 1, Groups E, F and G; Class III Division 1
Conformity Against NEC 500/505 As Applicable**

MAINTENANCE INSTRUCTIONS

1. INSPECT SOLENOID ASSEMBLY FOR FRACTURES OR CRACKS
2. INSPECT CABLE ENTRY AREA FOR DAMAGED OR EXPOSED WIRES
3. ENSURE THE SOLENOID CARRIES A CERTIFICATION LABEL THAT IDENTIFIES IT SUITABLE FOR USE IN HAZARDOUS LOCATIONS

SPECIAL CONDITIONS FOR SAFE USE

THE PERMANENTLY CONNECTED POWER CABLE SHALL BE TERMINATED IN A MANNER THAT IS SUITABLE FOR THE ENVIRONMENT WHERE IT IS BEING USED.

IF IT IS TERMINATED IN A HAZARDOUS AREA APPROPRIATE EXPLOSION PROTECTION SHALL BE PROVIDED.

1000053

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED
1	RELEASED INSTRUCTION SHEET	5/20/2013	MSB
2	Updated Cert Numbers, Address	10/22/2014	MSB
3	Updated Cert Revisions	11/24/2014	MSB
4	Cert #, Changed Label	12/8/2014	MSB
5	Updated Cert Revision, Temp. Rate	3/11/2015	MSB

DRAWN Paquin	2/12/2013	Excell Manufacturing Solutions, LLC 9286 Mercantile Dr. Mentor, Ohio 44060 (216) 261-5700	
CHECKED		TITLE	
QA		INSTRUCTION SHEET (22 Watts) With Yellow Chromate Plating	
MFG		SIZE	DWG NO
APPROVED		C	1000061 CSA i Rev 5
		SCALE	REV 5
			SHEET 1 OF 1