Certificate of Compliance

Certificate: 70019690 (056812_0_000) **Master Contract:** 150254

Project: 70019690 **Date Issued:** 2015-12-31

Issued to: **Arjay Engineering Limited**
2851 Brighton Rd
Oakville, Ontario L6H 6C9
CANADA

Attention: Greg Reeves

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.

Issued by: *Hossein Saleh*
Hossein Saleh

PRODUCTS

CLASS - C225804 - PROCESS CONTROL EQUIPMENT-Intrinsically Safe, Entity - For Hazardous Locations
CLASS - C225884 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity-- For Hazardous Locations - Certified to US Standards

Class I, Division 1, Groups A, B, C, D T4;
Class II, Division 1, Groups E, F, G;
Class III, Division 1:
Ex ia IIC T4 Ga:
Class I, Zone 0, AEx ia IIC T4 Ga:
Ta: -40°C to +55°C

Models PMC2800 and PMC2800-TMP Pulse Cards and Capacitance Level Probes or Capacitance Sensors, rated 15.8 V, 150 mA, 0.593 W, measure the capacitance of probes or sensors and send a conditioned pulsed output signal to an external controller. PMC2800 and PMC2800-TMP pulse cards are powered through certified barriers.

The entity parameters for PMC2800 or PMC2800-TMP cards are as follow.

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PMC2800/PMC2800-TMP Pulse Card Entity Parameters

Pins 2 & 3 of connector J1			Pin 4 of connector J1 (applicable to PMC2800-TMP only)		
U_i, V_{max}	=	15.8 V	U_i, V_{max}	=	8.6 V
I_i, I_{max}	=	150 mA	I_i, I_{max}	=	0 mA
P_i	=	593 mW	P_i	=	0 mW
C_i	=	0.374 µF	C_i	=	0 µF
L_i	=	1.3 mH	L_i	=	1.3 mH

Pin 1 of connector J1 is connected to a Teflon covered metallic capacitance probe or to capacitance sensors with a maximum capacitance of 5000pF including cable.

Conditions of Certification:

1. PMC2800 or PMC2800-TMP encapsulated pulse cards shall be installed within metallic enclosures, or metallic junction box, or non-metallic enclosures that shall meet IP20 requirements.
2. For enclosure models made of Aluminum, in rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered during installation, particularly since the equipment is installed in a Division 1/ Zone 0 location.
3. Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore the equipment shall not be installed in a location where the external conditions can cause build-up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth.
4. The PMC2800 or PMC2800-TMP pulse card must be supplied by a class 2 or limited-energy source in accordance with CSA 61010-1, 3rd Edition.

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APPLICABLE REQUIREMENTS

CAN/CSA-C22.2 No. 0-M91 (R2001)	General Requirements – Canadian Electrical Code, Part II
CAN/CSA C22.2 No. 61010-1-12	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use - Part 1: General Requirements - Third Edition
CAN/CSA-C22.2 No. 60079-0:15	Explosive Atmospheres - Part 0: Equipment - General requirements
CAN/CSA-C22.2 No. 60079-11:14	Explosive Atmospheres – Part 11: Equipment protection by intrinsic safety "i"
ANSI/ISA-61010-1 3rd Edition	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use - Part 1: General Requirements - Third Edition
ANSI/UL 60079-0:13	Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements
ANSI/UL 60079-11:13	Electrical apparatus for Explosive Gas Atmospheres - Part 11: Intrinsic Safety "i"
ANSI/UL 913-2013 (8th Edition)	Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, III, Division 1, Hazardous (Classified) Locations

MARKINGS

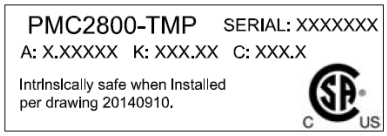
The manufacturer is required to apply the following markings:

- 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.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Sample of Markings



Nameplate adhesive label material approval information:

The following combination of printers, label and ink materials, approved under referenced UL and CSA file numbers are allowed.

Printer Manufacturer	Label Manufacturer	Ribbon/Ink Manufacturer & P/N	Label Stock Material	UL, CSA File No.
Sato	Avery Dennison / Fasson	DNP / Sony Chemicals TR4085	TC/S8025	UL/ULC MH17025
Sato	Avery Dennison / Fasson	DNP / Sony Chemicals TR4070	TC/S-333	UL/ULC MH17025 CSA 97198
Sato	Flexcon	Iimak DC300	22940	UL/ULC MH16635

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
70019690	2015-12-31	North American certification of PMC2800/PMC2800-TMP Capacitance Level Probe and Capacitance Sensors for Division 1 and Zone 0. Class I, Div1, GP ABCD T4; Class II, Div 1, GP EFG; Class III, Div 1: Ex ia IIC T4 Ga: Class I, Zone 0, AEx ia IIC T4 Ga: Ta: -40°C to +55°C