Certificate of Compliance

Certificate: 70166719 **Master Contract:** 271625

Project: 80110216 **Date Issued:** December 16, 2022

Issued To: **Online Electronics, Ltd.**
Online House,
Blackburn Business Park,
Woodburn Road
Aberdeen, Aberdeenshire, AB21 0PS
United Kingdom

Attention: Alan Webster

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: Carlos García

Carlos García

PRODUCTS

CLASS 2258 02 – Process Control Equipment - For Hazardous Locations

When IS relay circuit connected

Model A	Model L
Class I Div 1 Groups B, C, D T6...T4* **Ex db [ia Ga] IIC T6…T4* Gb** **-50°C ≤ T_a ≤ +85°C***	**Ex db [ia Ga] IIC T6…T4* Gb** **-50°C ≤ T_a ≤ +85°C***

* Minimum and maximum values, values within this range may be quoted dependent upon configuration; refer to conditions of acceptability (specific conditions of use)

Where there is a remote IS sensor and has IS relay circuit connected.

Model A	Model L
Class I Div 1 Groups A*, B, C, D T6...T4** **Ex db ia [ia Ga] IIC T6…T4** Ga/Gb** **-50°C < T_a < +85°C****	**Ex db ia [ia Ga] IIC T6…T4** Ga/Gb** **-50°C < T_a < +85°C****

* The remote sensor is acceptable for Group A applications. The main equipment enclosure is acceptable for Group B, C, and D applications only.

** Minimum and maximum values, values within this range may be quoted dependent upon configuration; refer to conditions of acceptability (specific conditions of use)

When no IS remote sensor and no IS relay circuit connected

Model A	Model L
Class I Div 1 Groups B, C, D T6...T4* Ex db IIC T6…T4* Gb -50°C ≤ T_a ≤ +85°C*	**Ex db IIC T6…T4* Gb -50°C ≤ T_a ≤ +85°C***

* Minimum and maximum values, values within this range may be quoted dependent upon configuration; refer to conditions of acceptability (specific conditions of use)

Online Electronics 4003 or SPI-MAG 403 Non-Intrusive Scraper Passage Indicator, Rated:

24 Vdc, 10 W (main supply) & 30 V, 2 A (relay contacts) – Externally powered
Four batteries in series (Alkaline – DURACELL ID1300/PC1300, Energizer Industrial) or two batteries in series (Lithium – SAFT, LS33600) & 30 V, 2 A (relay contacts) – battery powered
Enclosure Type 4X

CLASS 2258 82 – Process Control Equipment - For Hazardous Locations - Certified to US Standards

When IS relay circuit connected

Model A	Model L
Class I Div 1 Groups B, C, D T6...T4* Class I, Zone 1, AEx db [ia Ga] IIC T6…T4* Gb -50°C < T_a < +85°C*	**Class I, Zone 1, AEx db [ia Ga] IIC T6…T4* Gb -50°C < T_a < +85°C***

* Minimum and maximum values, values within this range may be quoted dependent upon configuration; refer to conditions of acceptability (specific conditions of use)

Where there is a remote IS sensor and has IS relay circuit connected.

Model A	Model L
Class I Div 1 Groups A*, B, C, D T6...T4 Class I, Zone 0/1, AEx db ia [ia Ga] IIC T6…T4** Ga/Gb -50°C ≤ T_a ≤ +85°C**	**Class I, Zone 0/1, AEx db ia [ia Ga] IIC T6…T4** Ga/Gb -50°C ≤ T_a ≤ +85°C**

* The remote sensor is acceptable for Group A applications. The main equipment enclosure is acceptable for Group B, C, and D applications only.
** Minimum and maximum values, values within this range may be quoted dependent upon configuration; refer to conditions of acceptability (specific conditions of use)

When no IS remote sensor and no IS relay circuit connected

Model A	Model L
Class I Div 1 Groups B, C, D T6...T4* Class I, Zone 1, AEx db IIC T6…T4* Gb -50°C ≤ T_a ≤ +85°C*	**Class I, Zone 1, AEx db IIC T6…T4* Gb -50°C ≤ T_a ≤ +85°C***

* Minimum and maximum values, values within this range may be quoted dependent upon configuration; refer to conditions of acceptability (specific conditions of use)

Online Electronics 4003 or SPI-MAG 403 Non-Intrusive Scraper Passage Indicator, Rated:

24 Vdc, 10 W (main supply) & 30 V, 2 A (relay contacts) – Externally powered
Four batteries in series (Alkaline – DURACELL ID1300/PC1300, Energizer Industrial) or two batteries in series (Lithium – SAFT, LS33600) & 30 V, 2 A (relay contacts) – battery powered
Enclosure Type 4X

Conditions of Acceptability (Specific Conditions of Use):

i. The equipment shall be supplied with Limited Energy Circuit (LEC), Class 2 as defined in article 725.121 of NFPA70, or Limited Power Source (LPS) as defined in CAN/CSA C22.2 No. 60950-1.
ii. Equipment has only been tested for safety. No evaluation of functional safety and performance characteristics has been conducted.
iii. The battery shall be only replaced by trained personnel for installation and maintenance.
iv. Equipment is not to be used with or come in direct contact with flammable liquids.
v. Contact Online Electronics Ltd. For information about the dimension of flameproof joints. Equipment is provided with cable gland entries. Blanking plugs, cable glands, conduit hubs or fittings, shall be appropriately approved, and rated Type 4X and suitable certified for the type of protection, when used with this equipment.
vi. Do not open when an explosive gas atmosphere may be present.
vii. Potential electrostatic charging hazard. The equipment should not be mounted in areas where it could be subjected to highly efficient charging mechanisms, such as fast moving dust or particle filled air, and shall only be cleaned with an anti-static or damp cloth.
viii. Transducer, cable and electronics shall only be used as a complete assembly.
ix. The equipment contains a shunt Zener diode interface which requires connection to a suitable earth in accordance with the Canadian and national electrical codes C22.1 and NFPA70.
x. Internal and external threaded holes are provided for earthing and equipotential bonding. Protective earthing conductors employed shall be greater or equal to the size of the phase conductors, equipotential conductors shall have a minimum cross sectional area of 4mm^2. The end user shall ensure conductors cannot be readily loosened or twisted. Light metals shall not be used unless special precautions are taken to guard against corrosion.
xi. External power supply shall not exceed 30VDC.
xii. External power and signals shall only be supplied according to manufacturers' instructions using suitable cable and suitable Ex certified glands.
xiii. The sensor cable length shall not exceed 20 meters.
xiv. All wiring for external connections shall be made using suitable crimp ferrules to prevent accidental disconnection as per UL/CSA C22.2 No. 60079-11 Cl. 6.2.2.

xv. When the relay is used for IS interface, all relay contacts shall only be connected to intrinsically circuits. Once the contacts are connected to any non-IS circuits they are no longer be acceptable for IS interface.
xvi. Terminal blocks used to connect to external intrinsic safe circuits must have an insulating partition cover fitted.
xvii. Wire used for intrinsic safe circuit connection must have a conductor size of at least 0.05mm and shall have insulation with a minimum thickness of 1mm. Additional suitable insulating sleeving may fitted to achieve this.
xviii. Unused entries shall be sealed using suitable Ex certified blanking elements.
xix. The temperature at the cable entry point may exceed +60°C. Cables suitable for use at this temperature must be used.
xx. Use only ALKALINE, D cells, rated for at least 250mA continuous current (DURACELL INDUSTRIAL ID1300, PC1300, Energizer Industrial) for equipment rated 1.5V, 18Ah, 17 Ah or 16 Ah.
xxi. Use only LITHIUM THIONYL CHLORIDE, D cells, rated for at least 250mA continuous current (SAFT LS33600 recommended) for equipment rated 3.6V, 17Ah.
xxii. As part of the routine maintenance schedule, the condition of the window cement shall be periodically inspected for any degradation or discolouration of the cement that may compromise the explosion protection.
xxiii. Ambient temperature rating depends on temperature class, internal power dissipation, remote sensor and application of the relay. Refer to the tables below.

Without IS interface to relay

Power Supply	PD	Temperature Class		
		T6	T5	T4
External supply (1 W*)	1 W	-50°C to +69°C (**+78°C)	-50°C to +84°C (**+85°C)	-50°C to +85°C
External supply (5 W*)	5 W	-50°C to +69°C (**+70°C)	-50°C to +84°C (**+85°C)	-50°C to +85°C
External supply (10 W*)	10 W	-50°C to +60°C	-50°C to +75°C	-50°C to +85°C
Alkaline battery (DURACELL, ID1300, PC1300, ENERGIZER INDUSTRIAL)	1 W	-18°C to +51°C	-18°C to +51°C	-18°C to +51°C
	5 W	-18°C to +41°C	-18°C to +41°C	-18°C to +41°C
Lithium battery (SAFT LS33600)	1 W	-50°C to +69°C (**+78°C)	-50°C to +82°C	-50°C to +82°C
	5 W	-50°C to +69°C (**+70°C)	-50°C to +72°C	-50°C to +72°C

With IS interface to relay

Power Supply	PD	Temperature Class		
		T6	T5	T4
External supply (1 W*)	1 W	-40°C to +69°C (**+78°C)	-40°C to +82°C	-40°C to +82°C
External supply (5 W*)	5 W	-40°C to +69°C (**+70°C)	-40°C to +72°C	-40°C to +72°C
External supply (10 W*)	10 W	-40°C to +59°C	-40°C to +59°C	-40°C to +59°C
	1 W	-18°C to +51°C	-18°C to +51°C	-18°C to +51°C

Power Supply	PD	Temperature Class		
		T6	T5	T4
Alkaline battery (DURACELL, ID1300, PC1300, ENERGIZER INDUSTRIAL)	5 W	-18°C to +41°C	-18°C to +41°C	-18°C to +41°C
Lithium battery (SAFT, LS33600)	1 W	-40°C to +69°C (**+78°C)	-40°C to +82°C	-40°C to +82°C
	5 W	-40°C to +69°C (**+70°C)	-40°C to +72°C	-40°C to +72°C

* When the unit is externally powered (no batteries fitted) the upper ambient temperature limit can be interpolated based on power dissipation.

** With no external or remote sensor attached to the flameproof enclosure.

Note: When batteries are fitted as back-up power in an externally-powered unit the ambient temperature for the battery unit shall take precedence between the two ranges.

APPLICABLE REQUIREMENTS

C22.2 No. 0-10 (R2015)	-	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
UL 61010-1:16	-	Safety Electrical Equipment For Measurement, Control, and Laboratory Use; Part 1: General Requirements
CSA C22.2 No. 94.2:20 Third Edition		Enclosures for Electrical Equipment, Environmental Considerations
ANSI/UL 50E-2020 Third Edition		Enclosures for Electrical Equipment, Environmental Considerations
CSA C22.2 No. 60079-0:19	-	Explosive atmospheres — Part 0: Equipment — General requirements
CAN/CSA-C22.2 No. 60079-1:16	-	Explosive atmospheres — Part 1: Equipment protection by flameproof enclosures “d”
CAN/CSA C22.2 No. 60079-11:14	-	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i”
UL 60079-0:19 Ed. 7	-	Standard for Safety for Explosive Atmospheres – Part 0: Equipment – General Requirements
UL 60079-1:15	-	Safety Explosive Atmospheres – Part 1: Equipment Protection by Flameproof Enclosures “d”
UL 60079-11:18	-	Safety Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety ″i″
CAN/CSA-C22.2 No. 30-M1986(R 2016)	-	Explosion-proof enclosures for use in class I hazardous locations
UL 1203:18	-	Safety Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in 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.

Markings appear on a minimum 0.02" (0.5mm) thick stainless steel 304/316 plate, secured to the body with non-penetrating screws, in bottomed holes provided by the enclosure manufacturer. The text on the label will be etched or engraved.

The following marking details appear on drawing 4003_X015 respectively drawing 4003_X020:

- The products listed 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.
- Manufacturers name "Online Electronics Ltd.", or CSA Master Contract number "271625" adjacent the CSA Mark, in lieu of manufacturers name.
- Model designation, as specified in the PRODUCTS section, above.
- Complete electrical rating, as specified in the PRODUCTS section, above.
- Maximum ambient temperature rating, as specified in the PRODUCTS section, above.
- Date code / Serial number traceable to month and year of manufacture.
- Hazardous locations designation as specified in the PRODUCTS section, above or equivalent.
- Temperature code, as specified in the PRODUCTS section, above.
- The warning words: - "DO NOT OPEN IN AN EXPLOSIVE ATMOSPHERE" and "NE PAS OUVRIR EN ATMOSPHERE EXPLOSIVE" or equivalent.
- The warning words: - "SEAL REQUIRED WITHIN 50mm OF ENCLOSURE" and "SCELLEMENT REQUIS A MOINS DE 50mm" or equivalent.
- The warning words: - "MUST BE INSTALLED IN ACCORDANCE WITH THE USER MANUAL" and DOIT ETRÊ INSTALLÊ CONFORMÊMENT AU MANUEL or equivalent.
- For Zone marked equipment the Certificate Number Reference "18CA70166719" next to the CSA logo or preceded by "CSA" agency name.

Certificate: 70166719 **Master Contract:** 271625
Project: 80110216 **Date Issued:** December 16, 2022

Notes:

Products certified under Class C225802, C225882 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca