

Certificate of Compliance

Certificate: 2385571

Master Contract: 252010

Project 2447891

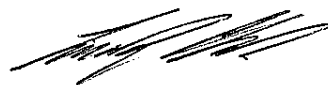
Date Issued: August 10, 2011

Issued to: Mine Safety Appliances
1000 Cranberry Woods Drive
Cranberry Township, PA 16066
USA

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



Issued by: Jocelyn Jens
Product Group Coordinator



Authorized by: Lindsay Clark
Operations Manager

PRODUCTS

CLASS 4818 03 - SIGNAL APPLIANCES - Miscellaneous - For Hazardous Locations

Class I, Div. 1 & 2, Groups C and D

UV/IR test lamp, Model FlameGard 5 Test Lamp, portable, battery operated (12 V).

APPLICABLE REQUIREMENTS

- CAN/CSA-C22.2 No. 0-M91 - General Requirements - Canadian Electrical Code, Part II
- C22.2 No. 30-M1986 - Explosion-Proof Enclosures for Use in Class I Hazardous Locations
- C22.2 No. 142-M1987 - Process Control Equipment

MARKINGS

Appear on a metal nameplate secured to the enclosure via drive pins or rivets.

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PRODUCTS

CLASS 4818 03 - SIGNAL APPLIANCES -Miscellaneous - For Hazardous Locations

Class I, Div. 1, Groups B, C and D; Class II, Div. 1, Groups E, F and G; Class III

Model FlameGard 5 MSIR, flame detector, input rated 20 to 36 V dc, 4.4 W max, output 4-20 mA, relay contacts rated 250 V ac or 30 V dc, 8 A resistive, Enclosure Type 6P/ IP67, Ambient Temperature -40°C to +80°C.

APPLICABLE REQUIREMENTS

- CAN/CSA-C22.2 No. 0-M91 - General Requirements – Canadian Electrical Code, Part II
- CSA Std C22.2 No. 25-1966 - Enclosures for Use in Class II, Groups E, F and G Hazardous Locations
- CSA Std C22.2 No. 30-M1986 - Explosion-Proof Enclosures for Use in Class I Hazardous Locations
- CAN/CSA-C22.2 No. 94-M91 - Special Purpose Enclosures
- CSA Std C22.2 No. 142-M1987 - Process Control Equipment
- IEC 60529, Ed. 2.1 - Degrees of Protection provided by enclosures.

MARKINGS

Adhesive nameplates are attached to a powder coated metal surface. The markings appear on a CSA accepted nameplate material manufactured by Nelson Name Plate Co., type A- Heavy Duty, Pressure sensitive '300' (9472LE adhesive), Clear Polyester, 3 mil to 4 mil.

Note: Jurisdictions in Canada may require these markings to also be provided in French language. It is the responsibility of the manufacturer to provide bilingual marking, where applicable, in accordance with the requirements of the Provincial Regulatory Authorities. It is the responsibility of the manufacturer to determine this requirement and have bilingual wording added to the "Markings".

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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.



PRODUCTS

CLASS 4818 03 - SIGNAL APPLIANCES -Miscellaneous - For Hazardous Locations

CLASS 4818 83 - SIGNAL APPLIANCES - Miscellaneous - For Hazardous Locations - CERTIFIED TO U.S. STANDARDS

Class I, Groups B, C and D; Class II, Groups E, F and G; Class III; Type 4X:

Flame detectors, explosion-proof, Models FlameGard 5 UV/IR and FlameGard 5 UV/IR-H2, input rated 24 V dc, 3.6 W max, output 4-20 mA, relay contacts rated 250 V ac or 30 V dc, 8 A resistive.

APPLICABLE REQUIREMENTS

- CAN/CSA-C22.2 No. 0-M91 - General Requirements - Canadian Electrical Code, Part II
- CSA Std C22.2 No. 25-1966 - Enclosures for Use in Class II, Groups E, F and G Hazardous Locations
- CSA Std C22.2 No. 30-M1986 - Explosion-Proof Enclosures for Use in Class I Hazardous Locations
- CAN/CSA-C22.2 No. 94 -M91 - Special Purpose Enclosures
- CSA Std C22.2 No. 142-M1987 - Process Control Equipment
- UL 50 (11th Ed.) - Enclosures for Electrical Equipment
- UL Std No. 916(4th Ed.) - Energy Management Equipment
- UL Std No. 1203(4th Ed.) - Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations

MARKINGS

The marking details appear on a metal nameplate attached to the cover by means of drive pins.

Note: Jurisdictions in Canada may require these markings to also be provided in French language. It is the responsibility of the manufacturer to provide bilingual marking, where applicable, in accordance with the requirements of the Provincial Regulatory Authorities. It is the responsibility of the manufacturer to determine this requirement and have bilingual wording added to the "Markings".

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CLASS 4828 02 - SIGNAL APPLIANCES - Toxic Gas Detection Instruments - For Hazardous Locations

Class I, Div. 1, Groups B, C and D;
Class I, Zone 1, Group IIB+H2

Intelligent Sensor, H₂S Gas, Model Ultima MOS-5, Stationary, Input rated 24 V dc, 7 W Max; Output rated 0-22 Ma, relay contacts rated 8 A, 250 V ac or 8 A, 30 V dc resistive, Encl. Type 4X with remote sensor. May be used with sensors: Part No 50445-1, -5, -9 or 50448-1, -5, -9 or 50454-1, -5, -9 or 50457-1, -5, -9, or 51457-1, -5, -9 or 51457-1L, -5L, -9L.

Ultima MOS-5 P/N 32426-21 through -28, -37 through -44 which denotes relay options, field wiring termination, HART and Modbus combinations and material of enclosure.

APPLICABLE STANDARDS

- | | |
|----------------------------|---|
| CAN/CSA-C22.2 No. 0-M91 | - General Requirements – Canadian Electrical Code, Part II |
| CSA Std C22.2 No.30-M1986 | - Explosion-Proof Enclosures for Use in Class I Hazardous Locations |
| CAN/CSA-C22.2 No.94-M91 | - Special Purpose Enclosures |
| CSA Std C22.2 No.142-M1987 | - Process Control Equipment |
| CSA Std C22.2 No.152-M1984 | - Combustible Gas Detection Instruments |

MARKINGS

Appear on a metal nameplate secured to the enclosure via screws.

Note - Jurisdictions in Canada may require these markings to also be provided in French language. It is the responsibility of the manufacturer to provide bilingual marking, where applicable, in accordance with the requirements of the Provincial Regulatory Authorities. It is the responsibility of the manufacturer to determine this requirement and have bilingual wording added to the "Markings".

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CLASS 2258 02 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations

Class I, Div. 1, Groups B, C, D; Class II, Div. 1, Groups E, F, G; Class III, Div. 1:
Class I, Div. 2, Groups B, C, D; Class II, Div. 2, Groups E, F, G; Class III, Div. 2:

Open Path Gas Detector, Model Ultima OPIR-5, consisting of Source, P/N 329001-3 and P/N 329001-4 and Receiver, P/N 329000-a; input rated 20-36 V dc (24 V dc nominal), 12 W (Source) 10 W (Receiver), with 4-20 mA, Modbus and HART communications; Relay Contact Rated 250 V ac, 8 A resistive, 30 V dc, 8 A resistive; -60 Deg. C $\leq$ Tamb. $\leq$ +75 Deg. C; Temperature Code T3C; Encl. Type 4X, IP66/67.

Model Code:

P/N 329000-a

where "a" denotes Output and Terminals; 17 through 24.

APPLICABLE REQUIREMENTS

- | | |
|----------------------------|---|
| CAN/CSA-C22.2 No. 0-M91 | - General Requirements – Canadian Electrical Code, Part II |
| C22.2 No. 25-1966 | - Enclosures for Use in Class II, Groups E, F and G Hazardous Locations |
| C22.2 No. 30-M1986 | - Explosion-Proof Enclosures for Use in Class I Hazardous Locations |
| CAN/CSA-C22.2 No. 94-M91 | - Special Purpose Enclosures |
| C22.2 No. 142-M1987 | - Process Control Equipment |
| C22.2 No. 213-M1987 | - Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations |
| CAN/CSA-C22.2 No. 60529:05 | - Degrees of protection provided by enclosures (IP Code) |

MARKINGS

Markings are silk-screened onto a min 0.02 in. thick 316 SST nameplate, secured to the enclosure with drive pins or screws, mounted in bottomed holes.

The following marking details appear:

- CSA Monogram;
- Manufacturer's name;
- Model designation;
- Date code and/or Serial number;
- Electrical Input rating in volts and watts;

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- Relay contact ratings (appears in referenced Installation Manual);
- Hazardous location designations;
- Temperature code rating;
- Minimum and Maximum ambient temperature;
- Special Purpose Enclosure Rating "Type 4X";
- Ingress Rating "IP 66/67";
- The statement "WARNING - DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT";
- The statement: "Seal all conduits within 18 inches of enclosure";
- The statement: "Use wiring suitable for 32 Deg. C above ambient" (Source);
- The statement: "Use wiring suitable for 16 Deg. C above ambient" (Receiver);
- The statement: "Read and understand Instruction Manual before operating or servicing".

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CLASS 2258 02 - Process Control Equipment - For Hazardous Locations

CLASS 2258 03 - Process Control Equipment - Intrinsically Safe and Non Incendive Systems - For Hazardous Locations

Class I, II, III Division 1 and 2, Groups B, C, D, E, F, G; T5

UltraSonic EX-5 Ultrasonic Gas Leak Detector rated 24 V dc, 250 mA, Ambient Temperature $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$; Enclosure Type 4X, IP66.

APPLICABLE REQUIREMENTS

- CAN/CSA Standard C22.2 No. 0-M91 - General Requirements - Canadian Electrical Code, Part II
- CSA Standard C22.2 No. 94.1-07 - Enclosures for Electrical Equipment, Non-Environmental Considerations
- CSA Standard C22.2 No. 94.2-07 - Enclosures for Electrical Equipment, Environmental Considerations
- CSA Standard C22.2 No. 142-M1987 - Process Control Equipment
- CSA Standard C22.2 No. 25-1966 - Enclosures for Use in Class II Groups E, F, and G Hazardous Locations
- CSA Standard C22.2 No. 30-M1986 - Explosion-Proof Enclosures for Use in Class I Hazardous Locations
- CAN/CSA Standard C22.2 No. 157-92 - Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations.
- CSA Standard C22.2 No. 213-M1987 - Non-incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
- CAN/CSA- C22.2 No. 60529:05 - Degrees of Protection Provided By Enclosures (IP Code)

MARKINGS

The following markings appear on adhesive nameplate, manufactured by Nelson Name Plate Co., type A- Heavy Duty, Pressure sensitive '300' (9472LE adhesive), ClearPolyester, 3 mil to 4 mil.

1. Manufacturers name "Mine Safety Appliances", or CSA Master Contract number "252010" adjacent the CSA Mark, in lieu of manufacturers name.
2. Model designation, as specified in the PRODUCTS section, above.
3. Complete electrical rating, as specified in the PRODUCTS section, above.
4. Maximum ambient temperature rating, as specified in the PRODUCTS section, above.
5. Date code / Serial number traceable to month and year of manufacture.
6. Enclosure type ratings, as specified in the PRODUCTS section, above.

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7. The CSA mark, as shown on the Certificate of Compliance.
8. Hazardous Location designation, as specified in the PRODUCTS section, above or equivalent
9. Temperature code, as specified in the PRODUCTS section, above.
10. The words: "WARNING – EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.
11. The following words:
 - a. "Exia".
 - b. "Intrinsically Safe"
 - c. WARNING: Substitution of components may impair intrinsic safety.
12. The words: "WARNING – KEEP COVER TIGHT WHILE CIRCUITS ARE ALIVE" or equivalent;

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