



# Certificate of Compliance

**Certificate:** 2495719

**Master Contract:** 252935

**Project:** 2495719

**Date Issued:** May 30, 2012

**Issued to:** **Hohner Automation Limited**

Units 14-16  
Whitegate Industrial Estate  
Wrexham, UK, LL13 8UG  
Wales  
Attention: Mike Jeffery

*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.*



*Rawn Murphy*

**Issued by:** Rawn Murphy

## **PRODUCTS**

**CLASS 2258 04** - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations

**CLASS 2258 84** - 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 T6:**

**Ex ia IIC T4:**

**Class I Zone 0 AEx ia IIC T4:**

**AEx iaD 20 T135°C:**

**AEx tD 21 T75°C:**

Model number *ab-06c-de-fg* OR *abc-de-06f-gh-jk* Absolute Shaft Encoder (both Solid and Hollow shaft) or a Special Product (per Part code system 1, 2, 3 or 4 – see appendix), composed of an Encoder and a DLS-00x Flow Line Sensor; input rated 28V dc max, 4-20mA max, intrinsically safe when powered by a Certified Safety



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barrier and installed as specified by Control Drawing No. EX-INS-DLS-01 with entity parameters:  $U_i = 28V$ ,  $I_i = 150mA$ ,  $P_i = 0.76W$ ,  $C_i = 12nF$ ,  $L_i = 0$ ;  $-20\text{ }^\circ\text{C} \leq T_{amb} \leq +60\text{ }^\circ\text{C}$ .

Where:

*a,b,c,d,e,f,g,h,j,k* = each letter is a combination of up to two alphanumeric characters (up to 20 in total) indicating Series Type, Shaft Size, Cable Length or connector, Termination (Radial or Axial), Cable Length and Material & Ramp Angle evaluated under this certification and OPTIONAL Special Product attributes that are not relevant to CSA certification (See the Appendix in this report).

Notes:

- 1) The Absolute Shaft Encoder shall be powered by a suitable certified Class 2 power supply unless installed per control drawing EX-INS-DLS-01.
- 2) When installed per control drawing EX-INS-DLS-01, the intrinsically safe circuit shall comply with Article 504.30 (A) of NFPA 70 and Clause F6.1 of CSA C22.1.
- 3) The wiring between the Absolute Shaft Encoder-to-Field Junction Box-to-Safety barrier shall have a minimum insulation thickness of 0.5 mm.

**APPLICABLE REQUIREMENTS**

CSA C22.2 No. 0-10	General Requirements - Canadian Electrical Code, Part II
CAN/CSA C22.2 No. 142-M1987	Process Control Equipment
CSA C22.2 No. 94.1-07	Enclosures for Electrical Equipment, Non-Environmental Considerations
CSA C22.2 No. 94.2-07	Enclosures for Electrical Equipment, Environmental Considerations
CAN/CSA-C22.2 No. 157-92	Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations
CAN/CSA-C22.2 No. 60079-0:11	Explosive atmospheres — Part 0: Equipment — General requirements
CAN/CSA-C22.2 No. 60079-11:11	Explosive atmospheres — Part 11: Equipment protection by intrinsic safety “i”
CSA C22.2 No. 25-1966	Enclosures for Use in Class II Groups E, F, and G Hazardous Locations
UL 916 (4th Ed.)	Energy Management Equipment
UL 50 (1st Ed.)	



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	Enclosures for Electrical Equipment, Non-Environmental Considerations
UL 50E (1st Ed.)	Enclosures for Electrical Equipment, Environmental Considerations
UL 913 (7th Ed.)	Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II and III, Division 1, Hazardous Locations
ANSI/UL 60079-0:09 (5th Ed.)	Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements
ANSI/UL 60079-11:09 (5th Ed.)	Electrical apparatus for Explosive Gas Atmospheres - Part 11: Intrinsic Safety "i"
ANSI/ISA-61241-0 (12.10.02)-2006	Electrical Apparatus for Use in Zone 20, Zone 21 and Zone 22 Hazardous (Classified) Locations – General Requirements
ANSI/ISA-61241-1 (12.10.03)-2006 (R2011)	Electrical Apparatus for Use in Zone 21 and Zone 22 Hazardous (Classified) Locations – Protection by Enclosures "tD"
ANSI/ISA-61241-11 (12.10.04)-2006 (R2011)	Electrical Apparatus for Use in Zone 20, Zone 21 and Zone 22 Hazardous (Classified) Locations – Protection by Intrinsic Safety "iD"

The following standards were used in whole or in part as a guideline:

CAN/CSA C22.2 No. 60529-05	Degrees of protection provided by enclosures (IP Code)
ANSI/NEMA IEC 60529-2004	Degrees of protection provided by enclosures (IP Code)
IEC 60529-1989	Degrees of protection provided by enclosures (IP Code)
IEC 60079-0 (Ed. 5)	Explosive atmospheres – Part 0: Equipment – General requirements
IEC 60079-11 (Ed. 5)	Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i"



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## **MARKINGS**

The label material will be engraved brass or stainless steel screwed into position by a minimum of three screws, located in a visible position on the outside of the enclosure. (Refer to Drawing CSA-42A-EM-01). The following marking details appear:

- Manufacturer's name, "Hohner Automation", or CSA Master Contract Number "252935", adjacent to the CSA Mark in lieu of Manufacturer's name.
- Model number: As specified in the PRODUCTS section, above.
- Electrical ratings/ Entity Parameters: As specified in the PRODUCTS section, above.
- Ambient temperature rating: As specified in the PRODUCTS section, above (may be abbreviated).
- Manufacturing date in MMY format, or serial number, traceable to month of manufacture.
- Enclosure designation: As specified in the PRODUCTS section, above.
- The CSA Mark, with or without the "C" and "US" indicators, as shown on page 1 of the Certificate of Conformity.
- Hazardous Location designation: As specified in the PRODUCTS section, above.
- Temperature Code: As specified in the PRODUCTS section, above.
- The following words;
  - "Ex ia"
  - "INTRINSICALLY SAFE"
  - "WARNING- EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY" (Equivalent wording is acceptable).
  - "WARNING- TO PREVENT IGNITION OF FLAMMABLE OR COMBUSTIBLE ATMOSPHERES, DISCONNECT POWER BEFORE SERVICING".
  - "12.2495719" (Certificate number) adjacent to the CSA Monogram
  - "CAUTION - DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT"
- The following alternate markings are acceptable:
  - "Class I Zone 0 Ex ia IIC T4"

*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".*