



Certificate of Compliance

Certificate: 70184020

Master Contract: 268277

Project: 70203739

Date Issued: January 17, 2019

Issued to: Elster GmbH
Steinern Strasse 19-21
Mainz Kastel,
55252
GERMANY

Attention: Thomas Neig

The products listed below 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 US Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only



Issued by:

C Brooks

PRODUCTS

CLASS 2258 02 - PROCESS CONTROL EQUIPMENT for Hazardous Locations

Class I Division 1 Groups B, C, D T6

Associated Equipment for Class I, Division 1, Groups A, B, C and D;

Ex db [ia Ga] IIC T6 Gb

Tamb = -40 °C to +60 °C

Gas Chromatograph, Models EnCal 3000 proChain GC, Input rated: 24 V d.c, 5 A, 120 W, Um =250V.

Intrinsically Safe output entity parameters are as follows:

Uo = 12.6V, Io = 496mA, Po = 1.413W, Co = 1.15µF, Lo = 141µH.

Model 7 ELS96 **** (see model code below)

Model code			
Division	Manufacturer's Code	Production Site	Serial Number
7 = Gas	ELS = Elster GmbH Mainz	96 = MZ-Kastel	8 digit unique number **** *



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Notes:

1. The above model is Pollution Degree 2, Overvoltage Category I.
2. Mode of operation: Continuous.
3. Environmental Conditions: $-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$, 5000 m max, 80% to temperatures up to 31°C decreasing linearly to 50% R.H. at 40°C .

Conditions of Acceptability:

1. The enclosure is non-conducting and may generate an ignition capable level of electrostatic charge under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it might be subjected to external conditions which might cause a build up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should be done only with a damp cloth
2. This equipment has flamepaths which differ from those in CAN/CSA-C22.2 No. 60079-1 and are not intended for repair
3. The equipment shall not be used with process gases which contain oxygen or any other oxidizer in concentrations greater than found in normal air.
4. The internal heaters shall be set to operate within the temperature range of $\geq 0^{\circ}\text{C}$ and $\leq +40^{\circ}\text{C}$.
5. The equipment shall be supplied by a Limited Energy Circuit (LEC) as defined in CSA C22.2 No. 61010-1-12, a Class 2 power as defined in article 725.121 of NFPA70.
6. Equipment has only been tested for all aspects of Hazard in the safety standard. No evaluation of functional safety and performance characteristics has been conducted.
7. Primary Battery is intended for replacement only by a trained service technician.

CLASS 2258 82 PROCESS CONTROL EQUIPMENT for Hazardous Locations - Certified to US Standards

Class I Division 1 Groups B, C, D T6

Associated Equipment for Class I, Division 1, Groups A, B, C and D;

Class I Zone 1 AEx db [ia Ga] IIC T6 Gb

Tamb = -40°C to $+60^{\circ}\text{C}$

EnCal 3000 proChain GC (gas chromatograph). 24 V d.c, 5 A, 120 W, Um =250V.

Intrinsically Safe output entity parameters are as follows:

Uo = 12.6V, Io = 496mA, Po = 1.413W, Co = 1.15 μF , Lo = 141 μH .

Model 7 ELS96 ***** (see model code below)

Model code			
Division	Manufacturer's Code	Production Site	Serial Number
7 = Gas	ELS = Elster GmbH Mainz	96 = MZ-Kastel	8 digit unique number *****

Notes:

1. The above model is Pollution Degree 2, Overvoltage Category I.
2. Mode of operation: Continuous.
3. Environmental Conditions: $-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$, 5000 m max, 80% to temperatures up to 31°C decreasing linearly to 50% R.H. at 40°C .



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Conditions of Acceptability:

1. The enclosure is non-conducting and may generate an ignition capable level of electrostatic charge under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it might be subjected to external conditions which might cause a build up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should be done only with a damp cloth
2. This equipment has flamepaths which differ from those in ANSI/UL 60079-1 and are not intended for repair.
3. The equipment shall not be used with process gases which contain oxygen or any other oxidizer in concentrations greater than found in normal air.
4. The internal heaters shall be set to operate within the temperature range of $\geq 0^{\circ}\text{C}$ and $\leq +40^{\circ}\text{C}$.
5. The equipment shall be supplied by a Limited Energy Circuit (LEC) as defined in CSA C22.2 No. 61010-1-12, a Class 2 power as defined in article 725.121 of NFPA70.
6. Equipment has only been tested for all aspects of Hazard in the safety standard. No evaluation of functional safety and performance characteristics has been conducted.
7. Primary Battery is intended for replacement only by a trained service technician.

APPLICABLE REQUIREMENTS

CAN/CSA-C22.2 No. 0-10 (R2015)	- Canadian Electrical Code, Part II - General requirements
CAN/CSA-C22.2 No. 60079-0:15	- Electrical apparatus for explosive gas atmospheres- Part 0: 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”
CAN/CSA-C22.2 No.30-M1986 (2016)	- Explosion-Proof Enclosures for Use in Class I Hazardous Locations
ANSI/UL 60079-0: 6 th Edition	- Electrical Apparatus for Explosive Gas Atmospheres - Part 0: Equipment - General Requirements
ANSI/UL 60079-1: 7 th Edition	- Explosive Atmospheres - Part 1: Equipment Protection by Flameproof Enclosures “d”
ANSI/UL 60079-11: 6 th Edition	- Explosive Atmospheres - Part 11: Equipment Protection by intrinsic safety “i”
FM 3600:2011	- Electrical Equipment for Use in Hazardous (Classified) Locations General Requirements
FM 3615:2006	- Explosionproof Electrical Equipment General Requirements
CAN/CSA C22.2 No. 61010-1-12 (R2017)	- Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements – Third Edition
ANSI/UL 61010-1-12- 2016	- Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements – Third Edition (April 29, 2016)



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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.

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.

The following markings are provided on a 2 mm thick stainless steel nameplate that is secured to the equipment with M5 x 6 mm sealing screws (wire locked).

- CSA Monogram for Canada and US
- Submitter's name or the file number "268277" (near the cCSAus Monogram)
- Model number in accordance with the product section of this report
- Electrical ratings in volts, amperes and watts
- Tamb = -40 °C to +60 °C
- Marking in accordance with the product section of this report.
- Intrinsically Safe input rating: Um = 250V.
- Intrinsically Safe output entity parameters: Uo = 12.6V, Io = 496mA, Po = 1.413W, Co = 1.15µF, Lo = 141µH.
- Date of manufacture: Month and year of manufacture or date code. If a serial number is used instead of date of manufacture, a record of serial numbers shall be kept traceable to date of manufacture. (Not related to date of sale).
- The designation "CSA 18.70184020X" indicating year of issue and CSA Certificate number.
- The maximum sample gas pressure – 1.5 barg.
- The warning "WARNING: DISCONNECT POWER BEFORE OPENING. - DO NOT OPEN WHEN AN EXPLOSIVE GAS ATMOSPHERE IS PRESENT"
"DÉBRANCHER LA ÉNERGIE AVANT OUVERTURE. NE PAS OUVRIR SI UNE EXPLOSIVE GAZ ATMOSPHERE EST PRESENT. "
- The warning "POTENTIAL ELECTROSTATIC CHARGING HAZARD, SEE INSTRUCTIONS".
"CHARGE ÉLECTROSTATIQUE POTENTIELLE DANGER, VOIR INSTRUCTIONS."
- The warning "IF CONDUITS ARE USED, SEAL THEM WITHIN 2 INCHES"
"SI CONDUITS SONT UTILISES, SCELLER MOINS DE 2 POUNCES."
- The specific thread type and size of the cable entries shall be identified, i.e. M20 x 1.5, M25 x 1.5.

The following additional markings are provided on the equipment.

- The protective earthing TERMINAL is identified by the IEC 60417 No 5019 symbol "⊥" "adjacent to the TERMINAL.
- Use cable or wires and cable entries suitable for 80 °C and 70 °C respectively.