Certificate of Compliance

Certificate: 2481541 **Master Contract:** 236433

Project: 70199952 **Date Issued:** January 21, 2018

Issued to: **Rotork Fluid Systems**
(A Division of Exeeco Ltd)
9 Brown Lane West,
Holbeck
Leeds
LS12 6BH
ENGLAND

Attention: **Phillip Adams**

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

Issued by: Stewart Finch IEng

PRODUCTS

CLASS 2258 02 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations

Ex db eb*, IIB, T4, -40°C ≤ Ta ≤ 65°C
Ex db eb*, IIC, T4, -20°C ≤ Ta ≤ 65°C
(* "eb" added on versions with increased safety terminal enclosure option, for single Ø and DC versions only)

Electro-Hydraulic Power Unit; Series SI-2.1; rated 24 Vdc, 190 VA or 115/230Vac, 400 VA, 50/60 Hz, single phase or 380 – 480 Vac, 205 VA, 50/60 Hz, 3 phase; Encl. Type 4 and/or 6, power unit can supply a maximum hydraulic pressure of 175 foot pound per square inch.

Evaluation only covers the Electro-Hydraulic Power Unit.

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Specific Conditions of Use (CAN/CSA-C22.2 No. 60079-0:15, clause 29.3 e)

1. The maximum constructional gap (I_c) is less than that required by Tables 2 and 3 of CAN/CSA C22.2 No 60079-1:2016 as detailed below:

Flamepath	Maximum Gap (mm)	Minimum L (mm)
Electrical Enclosure / Electrical Cover (SI-2.1)	0.15	26.2
Electrical Enclosure/Electrical Cover (SB-2)	0.15	26.2
Terminal Enclosure/ Terminal Cover (Short)	0.15	26.7
Terminal Enclosure/ Terminal Cover (Long)	0.15	26.7
Terminal Enclosure/ Terminal Cover (Short) (IIB only)	0.2	26.7
Terminal Enclosure/ Terminal Cover (Long) (IIB only)	0.2	26.7
Main Body / Terminal Bung	0.115	25.95
Motor Enclosure/ Motor Cover	0.15	27.00
Motor Flange/Enclosure	0.15	27.00
Motor Bushing / Motor Flange	-0.035	28.00
Motor Shaft / Motor Bushing	0.167[Note 1]	28.00

[Note 1] This is based upon a minimum gap specification 'k' of 0.05 mm in accordance with clause 8.1.2 of CAN/CSA C22.2 No 60079-1.

2. Electro-Hydraulic Power Units that are manufactured using the enclosure window material (Makrolon 6717) are only suitable for installation in areas where the risk of impact upon the viewing window is low.

3. This equipment included some external non-metallic parts, including the outer protective coating. Cleaning must only be carried out with a damp cloth.

4. Increased safety "eb" is optional and only be applied to single phase and DC versions only.

5. All cover securing screws shall be stainless steel (A4-80) to ISO 4762.

6. Any installation must ensure that any external sources of heating or cooling, when combined with the local ambient temperature does not cause the maximum or minimum operating temperature of the equipment to be exceeded. The hydraulic system connected to the Electro-Hydraulic Power Units could provide an external heat source.

7. The final installation and/or use of the Series SI-2.1 power unit is subject to acceptance and/or inspection by CSA International or the local inspection authority having jurisdiction.

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APPLICABLE REQUIREMENTS

CAN/CSA C22.2 No. 0-M91 (R2015)	General Requirements - Canadian Electrical Code, Part II
CAN/CSA C22.2 No 60079-0:2015	Explosive atmospheres — Part 0: Equipment — General Requirements (IEC 60079-0:2011, MOD)
CAN/CSA C22.2 No 60079-1:2016	Explosive atmospheres — Part 1: Equipment protection by flameproof enclosures “d” (IEC 60079-1:2014, MOD)
CAN/CSA C22.2 No 60079-7:2016	Explosive atmospheres — Part 7: Equipment protection by increased safety “e” (IEC 60079-7:2015, MOD)
CAN/CSA-C22.2 No. 61010-1-04	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements
CAN/CSA-C22.2 No. 94.2-15	Enclosures for electrical equipment environmental considerations.

MARKINGS

Markings as indicated below and as shown in submittor’s drawings 2032178, 2032179 and 2032181 appear on a metal nameplate mechanically fasten to each power unit.

- Submittor’s Name/Tradename/Tradename
- Hazardous Location Protection Method (eg. Ex d or Ex de)
- Temperature Code
- Operating Ambient
- Model Number
- Electrical Rating
- Serial Number
- Enclosure Type
- CSA Monogram
- Warning in regards to not open the enclosure if the area is hazardous or if unit is energized.
- Reference to year of certification and certificate number, followed by “X” to indicate special condition of use
- A warning stating that “Seal conduits at enclosure wall”

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
70199952	January 21, 2018	Update to the latest standards. Introduction of an alternative Short Terminal Cover 46754 and 46754CH CASTING,TERMINAL COVER (Gravity Die Cast) Aluminium BS EN 1706-AC-42000-K-T6 (LM25TF) DC and single phase versions. Introduction of an alternative Thermal Fuse – Type SF-129R-1, Schott Japan Corporation. HPU-800. Drawing amendments to address changes covered by this variation along with minor editorial changes and corrections, e.g. correct supplier/manufacturer details, remove "SMP" from drawing references, update material references to a common format.
70093780	March 28, 2017	1. Increase in the ambient temperature range from +60ºC to +65ºC for gas group IIC. 2. Modifications to the 'k' and 'm' dimensions associated with the motor shaft flamepaths. 3. Introduce an alternative terminal cover (long) manufactured in LM25-TF (heat treated) - BS 1490. 4. Introduction of alternative motor types for the 24 Vdc, single phase and three phase versions. 5. Drawing amendment to address the above modifications, and certain other minor drawing modifications.
70008564	July 31, 2014	Change of manufacturers address
2520331	April 30, 2012	Update of report to revise critical document list.
2481541	February 16, 2012	CSA Certification of Hydraulic Power Unit, model SI-2.1 for use in hazardous locations