



Certificate of Compliance

Certificate: 70017227

Master Contract: 213004

Project: 80116972

Date Issued: 2022-07-05

Issued to: R. STAHL HMI Systems GmbH
Adolf-Grimme Allee 8
Köln, North Rhine-Westphalia 50829
GERMANY

Attention: Nabil Benighil

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:

Jeremy Lim

PRODUCTS

CLASS 2258-04 PROCESS CONTROL EQUIPMENT - For Hazardous Locations

CLASS 2258-84 PROCESS CONTROL EQUIPMENT - For Hazardous Locations - Certified to US Standards

Class I, Division 1, Groups A, B, C and D T4

Ex ia [ia Ga] [ia Da IIIC] IIC T4 Gb

Class I, Zone 1, AEx ia [ia Ga] [ia Da IIIC] IIC T4 Gb

Trex Device Communicator - handheld, battery-powered, intrinsically safe, portable maintenance tool, typically for use in a process plant. The equipment is powered by four lithium-ion cells (ICR18650K) in a 2-series x 2 parallel combination, with a peak voltage of 8.4 V. $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +50^{\circ}\text{C}$.



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Type designation: TREX – a b c d e f g

where:

- a = Communication Module:** (specifies the installed devices according to EN/IEC 60079-11):
 - C Device Communicator
 - L Device Communicator Plus
 - E Blank
- b = Applications:** (specifies software items and does not affect intrinsic safety)
 - H HART
 - F HART + FOUNDATION Fieldbus
- c = Power Module Type :** (specifies the installed devices according to IEC 60079-11)
 - P Rechargeable Li-Ion Power Module
- d = Product Certification:**
 - KL ATEX, CSA, CSA us, IECEx Intrinsically Safe (includes FISCO as applicable)
 - KB CSA and CSA us, Intrinsically Safe
- e = Radio Options:**
 - W Wireless / Bluetooth
 - 9 None
- f = Support:**
 - Sn Standard Support (not relevant for hazardous area certification)
 - Pn Premium Support (not relevant for hazardous area certification)
- g = Options:**
 - These options does not affect intrinsic safety

The Trex Device Communicator consists of the following basic modules:

- a) Baseboard main unit with CPU and I.S. power supply circuits;
- b) Front panel with keypad, LED backlighted touch-display;
- c) Replaceable power module.

The following modules are optionally built in or may be attached by the customer or a service center:

- d) Wireless Board
- e) Trex Device Communicator communication module.
- f) Trex Device Communicator Plus communication module

Apart from the HART, mA and FOUNDATION Fieldbus, two connectors (protected by rubber covers) are for use outside the hazardous area:

- Micro USB interface for downloading updates from a PC: 7.13 V, 85 mA.
- AC adaptor for charging the power module and operating in parallel: 12-17 Vdc, 4A

There are three versions:

- Trex Device Communicator blank module, with no electronics or external connections;
- Trex Device Communicator communication module, with four external connections;
- Trex Device Communicator Plus communication module, with nine external connections.



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The **Trex Device Communicator communication module** has the following entity parameters:

Table 1			
	FOUNDATION(TM) fieldbus (non-FISCO)	FOUNDATION(TM) fieldbus (FISCO)	HART®
	FF + and -	FF + and -	HART + and -
Ui	30 Vdc	30 Vdc	30 Vdc
Ii	380 mA	215 mA (IIC) 380 mA (IIB)	200 mA
Pi	1.3 W	1.9 W (IIC) 5.3 W (IIB)	1.0 W
Ci	0	0	0
Li	0	0	0
Uo	1.89 V	1.89 V	1.89 V
Io	32 µA	32 µA	32 µA
Po	61 µW	61 µW	61 µW
Ca	14.3 µF	14.3 µF	14.3 µF
La	100 mH	100 mH	100 mH

Table 2							
	mA- Interface mA	FOUNDATION(TM) fieldbus (non-FISCO)		HART®		FOUNDATION(TM) fieldbus (FISCO)	
		FF pwr and F-	FF + and -	HART + pwr	HART + and -	FF pwr and F-	FF + and -
Ui	30 Vdc	17.5 Vdc	30 Vdc	30 Vdc	30 Vdc	17.5 Vdc	30 Vdc
Ii	200mA	300mA	380 mA	200mA	200mA	380 mA	215 mA (IIC) 380 mA (IIB)
Pi	1.0W	1.3W	1.3 W	1.0W	1.0W	1.3W	1.9 W (IIC) 5.3 W (IIB)
Ci	0	231 nF	0	0	0	231 nF	0
Li	0	0	0	0	0	0	0
Uo	0	17.31 V	1.89 V	25.69V	1.89 V	17.31V	1.89 V
Io	0	199mA	32 µA	105 mA	1.9 µA	199 mA	32 µA
Po	0	0.94W	61 µW	668mW	3.6 mW	0.94W	61 µW
Ca	-	See Table 3	14.3 µF	See Table 4	14.3 µF	See Table 3	14.3 µF
La	-	See Table 3	100 mH	See Table 4	100 mH	See Table 3	100 mH



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Table 3: L/C Output values (FF pwr and F-)

Ca [nF]	19	69	115
La [µH]	100	50	30

Table 4: L/C Output values (FF pwr and F-)

Ca [nF]	57	64	75	102
La [µH]	1000	750	500	100

Condition of Acceptability

1. The Trex Device Communicator shall only be charged in a non-hazardous location with suitable environmental control, using a charger specifically supplied for use with the unit. The charging locations shall provide a pollution degree 2 or 1 environment, and the ambient temperature during charging shall be in the range 0°C to 35°C.

APPLICABLE REQUIREMENTS

CAN/CSA C22.2 No. 61010-1:2012, 3 rd Ed.	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements - Third Edition
CAN/CSA-C22.2 No. 60079-0:2011, 5 th Ed.	Explosive Atmospheres - Part 0: Equipment - General requirements
CAN/CSA-C22.2 No. 60079-11:2014, 6 th Ed.	Explosive Atmospheres – Part 11: Equipment protection by intrinsic safety "i"
ANSI/ISA-61010-1, 3 rd Ed.	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements - Third Edition
UL 913:2013, 8 th Ed.	Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II and III, Division 1, Hazardous Locations
ANSI/UL 60079-0:2013, 6 th Ed.	Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements
ANSI/UL 60079-11:2013, 6 th Ed.	Electrical apparatus for Explosive Gas Atmospheres - Part 11: Intrinsic Safety "i"

MARKINGS

As per descriptive report.



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
80116972	2022-07-05	Update to CSA 70017227 to introduce the following modifications: 1) The following additional manufacturing locations were introduced: - S.C. EMERSON S.R.L. iCenter, Unit M4 Str Emerson nr.4 Cluj-Napoca Romania. - Computational Systems Inc (CSI) Emerson Process Management LLLP 835 Innovation Dr Knoxville Tennessee 37932 United States of America. 2) The addition of a non-IS safety resistor (R28) on CDB-2 PCB, making this alternative to the original CDB-2 PCB. Drawings were updated to recognise this change.
80105023	2021-11-09	Acceptance of additional charger
70188468	2019-10-09	Change of value of R351 on BB-1. Delete of EX-marking of R351 on BB-1. Minor changes of lacquering area on the base board. Change of CPU-1 BOM/Schematic/Layout. Changes of components on CDB-1 and CDB-2 Change of the Layout of DISP-1 Change of the Labels
70151965	2017-11-28	Regarding the functionality of the Trex Device Communicator the layout according the drawing 2013 10 01 5 LC has changed. Two additional tracks in the same power island were included.
70108150	2017-03-15	Change of different components on the PCBs CDB-1 and CDB-2.
70093746	2016-11-21	Surface resistance test, changes of some diodes and some minor changes of the test documentation.
70017227	2016-06-21	Original Certification