

CERTIFICATE OF CONFORMITY



- HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
- Certificate No:** FM21US0117X
- Equipment:** Excom Remote I/O System
(Type Reference and Name)
- Name of Listing Company:** Hans Turck GmbH & Co. KG
- Address of Listing Company:** Witzelebenstraße 7
45472 Muelheim an der Ruhr
Germany
- The examination and test results are recorded in confidential report number:
PR457711 dated 25th April 2022
- FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:
FM Class 3600:2022, FM Class 3610:2021, FM Class 3611:2021, FM Class 3810:2021,
ANSI/ISA 60079-0:2013, ANSI/UL 60079-0:2020, ANSI/ISA 60079-5:2013, ANSI/UL 60079-7:2021,
ANSI/ISA 60079-11:2018, ANSI/ISA 60079-15:2013, ANSI/UL 60079-15:2020, ANSI/ISA 60079-18:2019,
ANSI/ISA 60079-28:2021, ANSI/UL 12.12.01:2017, ANSI/UL 61010:2015
- If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
- This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.
- Equipment Ratings:**
See Annex

Certificate issued by:

J.E. Marquedant

J.E. Marquedant
VP, Manager - Electrical Systems

15 July 2022

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

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11. The marking of the equipment shall include:

See Annex

12. **Description of Equipment:**

General - The excom system is a remote I/O System which consists of power supplies, a backplane, gateways and I/O Modules. The system can operate with either a single or redundant power supplies. The backplane serves to distribute energy, transmit data, and connect field devices. The gateways function as both a master and slave subsystem. In the roles as the master they control the internal data bus, while in the role as the slaves they communicate with the higher level fieldbus devices. The gateways control data communication between the I/O Modules and the process control system. The I/O Modules interface to the intrinsically safe field devices. A total of 24 I/O Modules may be operated within a single backplane. The gateways and I/O Modules are hot swappable, which means they can be plugged onto and removed from the backplane during operation in the hazardous (classified) location. In order to accommodate the hot-swapability of these modules, the modules are supplied with integrated rails for module mounting.

Ratings – The excom system modules are powered via the backplane by a power supply module. The power supply is supplied from Excom 115/230 AC to DC powers supply or from an external voltage source with a range of 18V to 32V. The system modules operate at an ambient temperature of -20°C to +70°C.

See Control Drawing IS-2.500

See Annex for models

13. **Specific Conditions of Use:**

1. The Excom system forms part of the explosion protected remote I/O-fieldbus system Excom and shall be operated only in combination with certified components of this system.
2. For Division installation, the Excom System shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application.
3. For Zone installation and operation in hazardous areas, the components shall be installed in a separate enclosure with the degree of protection by enclosure IP54 in accordance of IEC 60529.
4. For installation and operation in a non hazardous area, the empty slots of the backplane shall have blanking plates installed for a degree of protection IP20 in accordance of IEC 60529.
5. For models OC11Ex/2G.2, FOC11Ex-2G, FOC12Ex-2G, OC11/Ex-3G.2, FOC11-3G, FOC12-3G, the optical waveguide has to be electrically insulated and used without screening and shall not be armoured.
6. For model PSM24-3G.1, the equipment shall only be used in an area of at least pollution degree 2, as

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defined in IEC 60664-1.

14. Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

15. Schedule Drawings

A copy of the technical documentation has been kept by FM Approvals.

16. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
25 th April 2022	Original Issue.
15 th July 2022	Supplement 1: Report Reference: – RR232692 dated 15 th July 2022. Description of the Change: Add DI401Ex model. Update model number naming for models OC11Ex/2G.2, OC11Ex/3G.2, SC11-3G, and GDP-NI/FM2.3. Extend lower temperature range to -40°C for models PSM-3G.1, FOC11Ex-2G, FOC12Ex-2G, SC11-3G, SC11Ex-3G, and GEN-3G.

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Annex

MT08-3G 8 I/O module rack
MT16-3G 16 I/O module rack
MT24-3G 24 I/O module rack

Equipment ratings

Nonincendive for Class I, Division 2, Groups A, B, C, and D T4 with Intrinsically Safe Connections to Class I, II, III, Groups A, B, C, D, E, F and G; Increased Safety and Intrinsic Safety with Intrinsically Safe connections to Class I, Zone 0 AEx ec ib ic [ia Ga], Group IIC T4 Gc; hazardous (classified) locations.

Equipment markings

Class I Division 2, Groups A, B, C, D; T4
Intrinsically Safe connections to Class I, II, III, Division 1, Groups A, B, C, D, E, F, G
Class I, Zone 2, AEx ec ib ic [ia Ga] IIC T4 Gc; Entity - IS-2.500
Ta = -20°C to +70°C

MT-PPS 2 position rack for PPSA Ex power supplies

Equipment ratings

Nonincendive for Class I, Division 2, Groups A, B, C, and D T4; Increased Safety for Class I, Zone 1 AEx eb, Group IIC T4 Gb; hazardous (classified) locations.

Equipment markings

Class I Division 2, Groups A, B, C, D; T4
Class I, Zone 1, AEx eb IIC T4 Gb
Ta = -20°C to +70°C

PPSA115Ex 115 VAC-24 VDC power supply modules for MT-PPS sub-racks

PPSA230Ex 230 VAC-24 VDC power supply modules for MT-PPS sub-racks

Equipment ratings

Nonincendive for Class I, Division 2, Groups A, B, C, and D T4; Increased Safety and Encapsulation for Class I, Zone 1 AEx eb mb, Group IIC T4 Gb; hazardous (classified) locations.

Equipment markings

Class I Division 2, Groups A, B, C, D; T4
Class I, Zone 1, AEx eb mb IIC T4 Gb
Ta = -20°C to +70°C

PSM24-3G.1 DC Power Supply modules for MT 3G backplanes

Equipment ratings

Nonincendive for Class I, Division 2, Groups A, B, C, and D T4; Increased Safety, Protected Sparking and Intrinsic Safety for Class I, Zone 2 with Intrinsically Safe Connections to Class I, Zone 1 for AEx ec nC ic [ib Gb], Group IIC T4 Gc; hazardous (classified) locations.

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Equipment markings

Class I Division 2, Groups A, B, C, D; T4
Class I, Zone 2, AEx ec nC ic [ib Gb] IIC T4 Gc; Entity - IS-2.500
Ta = -40°C to +70°C

PS-F24Ex Power supply conditioner module

Equipment ratings

Nonincendive for Class I, Division 2, Groups A, B, C, and D T4; Increased Safety and Powder Filling for Class I, Zone 1 AEx eb qb, Group IIC T4 Gb; hazardous (classified) locations.

Equipment markings

Class I Division 2, Groups A, B, C, D; T4
Class I, Zone 1, AEx eb qb IIC T4 Gb
Ta = -20°C to +70°C

OC11Ex/2G.2 Optical coupler

Equipment ratings

Nonincendive for Class I, Division 2, Groups A, B, C, and D T4; Increased Safety and Encapsulation for Class I, Zone 1 with Intrinsically Safe Connections to Zone 1 for AEx eb mb [ib op is Gb], Group IIC T4 Gb; hazardous (classified) locations.

Equipment markings

Class I Division 2, Groups A, B, C, D; T4
Class I, Zone 1, AEx eb mb [ib op is Gb] IIC T4 Gb; Entity - IS-2.500
Ta = -20°C to +70°C

OC11Ex/3G.2 Optical coupler

Equipment ratings

Nonincendive for Class I, Division 2, Groups A, B, C, and D T4; Non-Sparking for Class I, Zone 2 with Intrinsically Safe Connections to Class I, Zone 1 for AEx nA [op is Gb], Group IIC T4 Gc; hazardous (classified) locations.

Equipment markings

Class I Division 2, Groups A, B, C, D; T4
Class I, Zone 2, AEx nA [op is Gb] IIC T4 Gc; Entity - IS-2.500
Ta = -20°C to +70°C

FOC11Ex-2G Optical coupler

FOC12Ex-2G Optical coupler

Equipment ratings

Nonincendive for Class I, Division 2, Groups A, B, C, and D T4; Intrinsically Safe and Encapsulation for Class I, Zone 1 with Intrinsically Safe Connections to Class 1, Zone 0 AEx ib mb [op is Ga], Group IIC T4 Gc; Intrinsic Safety connections to Zone 20 [AEx op is Da], Group IIIC; Intrinsic Safety connections to Zone 21 [AEx ib Db], Group IIIC; hazardous (classified) locations.

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Equipment markings

Class I Division 2, Groups A, B, C, D; T4
Class I Zone 1 AEx ib mb [op is Ga] IIC T4 Gb; Entity - IS-2.500
Zone 20 [AEx op is Da] IIIC; Entity - IS-2.500
Zone 21 [AEx ib Db] IIIC; Entity - IS-2.500
Ta = -40°C to +70°C

FOC11-3G Optical coupler

FOC12-3G Optical coupler

Equipment ratings

Nonincendive for Class I, Division 2, Groups A, B, C, and D T4; Increased Safety, Encapsulation, and Intrinsically Safe for Class I, Zone 2 with Intrinsically Safe Connections to Class I, Zone 0 for AEx ec mc ic [op is Ga], Group IIC T4 Gc; Intrinsic Safety connections to Zone 20 [AEx op is Da], Group IIIC Group IIIC; hazardous (classified) locations.

Equipment markings

Class I Division 2, Groups A, B, C, D; T4
Class I Zone 2 AEx ec mc ic [op is Ga] IIC T4 Gc; Entity - IS-2.500
Zone 20 [AEx op is Da] IIIC; Entity - IS-2.500
Ta = -40°C to +70°C

SC11-3G Segment coupler

Equipment ratings

Nonincendive for Class I, Division 2, Groups A, B, C, and D T4; Increased Safety and Intrinsic Safety for Class I, Zone 2 AEx ec ic, Group IIC T4 Gc; hazardous (classified) locations.

Equipment markings

Class I Division 2, Groups A, B, C, D; T4
Class I, Zone 2, AEx ec ic IIC T4 Gc
Ta = -40°C to +70°C

SC11Ex-3G Segment coupler

Equipment ratings

Nonincendive for Class I, Division 2, Groups A, B, C, and D T4; Increased Safety and Intrinsic Safety for Class I, Zone 2 with Intrinsically Safe Connections to Class I, Zone 1 for AEx ec ic [ib Gb], Group IIC T4 Gc; Intrinsic Safety connections to Zone 21 [AEx ib Db] Group IIIC; hazardous (classified) locations.

Equipment markings

Class I Division 2, Groups A, B, C, D; T4
Class I, Zone 2, AEx ec ic [ib Gb] IIC T4 Gc; Entity - IS-2.500
Zone 21 [AEx ib Db] IIIC
Ta = -40°C to +70°C

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GDP-NI/FW2.3 Profibus DP Gateway

Equipment ratings

Nonincendive for Class I, Division 2, Groups A, B, C, and D T4; Increased Safety and Intrinsic Safety for Class I, Zone 2 with Intrinsically Safe Connections to Class I, Zone 1 for AEx ec ic [ib Gb], Group IIC T4 Gb; hazardous (classified) locations.

Equipment markings

Class I Division 2, Groups A, B, C, D; T4
Class I, Zone 2, AEx ec ic [ib Gb] IIC T4 Gc; Entity - IS-2.500
Ta = -20°C to +70°C

GEN-3G Ethernet Gateway

Equipment ratings

Nonincendive for Class I, Division 2, Groups A, B, C, and D T4; Increased Safety and Intrinsic Safety for Class I, Zone 2 with Intrinsically Safe Connections to Class I, Zone 1 for AEx ec ib [ib Gb] IIC T4 Gc; hazardous (classified) locations.

Equipment markings

Class I Division 2, Groups A, B, C, D; T4
Class I, Zone 2, AEx ec ib [ib Gb] IIC T4 Gc; Entity - IS-2.500
Ta = -40°C to +70°C

AIH401Ex 4 Channel Analog Input Module with HART

AOH401Ex 4 Channel Analog Output Module with HART

TI41Ex 4 Channel Temperature/mV Input Module

DI401Ex 4 Channel Digital Input Module

Equipment ratings

Nonincendive for Class I, Division 2, Groups A, B, C, and D T4 with Intrinsically Safe Connections to Class I, II, III, Groups A, B, C, D, E, F and G; Intrinsic Safety for Class I, Zone 1 with Intrinsically Safe Connections to Class I, Zone 0 for AEx ib [ja Ga], Group IIC T4 Gb; Intrinsic Safety Connections to Zone 20 [AEx ia Da], Group IIIC hazardous (classified) locations.

Equipment markings

Class I Division 2, Groups A, B, C, D; T4
Intrinsically Safe connections to Class I, II, III, Division 1, Groups A, B, C, D, E, F, G; Entity - IS-2.500
Class I, Zone 1, AEx ib [ja Ga] IIC T4 Gb Entity - IS-2.500
Zone 20 [AEx ia Da] IIIC; Entity - IS-2.500
Ta = -20°C to +70°C

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