

# CERTIFICATE OF CONFORMITY



1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**

- 2. **Certificate No:** FM18US0068X
- 3. **Equipment:**  
(Type Reference and Name) *Listing - 1*  
**Excom Remote I/O System**  
*Listing - 2*  
**PSD24Ex Power Supply**  
*Listing - 3*  
**Excom Backplanes**
- 4. **Name of Listing Company:** Turck Inc.
- 5. **Address of Listing Company:** 3000 Campus Drive  
Plymouth, MN 55441  
USA

6. The examination and test results are recorded in confidential report number:  
3009281 dated 3<sup>rd</sup> October 2002

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM Class 3600:2011, FM Class 3610:2010, FM Class 3611:2004, FM Class 3810:2005,  
ANSI/ISA 60079-0:2009, ANSI/ISA 60079-11:2011, ISA-S12.23.01:1998, ISA-S12.16.01:1998

- 8. 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.
- 9. 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.
- 10. **Equipment Ratings:**

*Listing - 1*  
Nonincendive Class I, Division 2, Groups A, B, C, & D with Nonincendive Field Wiring connections and Intrinsically Safe connections to Class I, II, & III, Division 1, Groups A, B, C, D, E, F, & G indoor hazardous (classified) locations; Class I, Zone 1 AEx ib [ia], Group IIC with Intrinsically Safe connections to Class I, Zone 0, Group IIC indoor hazardous (classified) locations with a temperature code of T4 at +70°C, installed per control drawing IS-2.500.

**Certificate issued by:**

  
\_\_\_\_\_  
J.E. Marquedant  
VP, Manager, Electrical Systems

22 March 2018  
\_\_\_\_\_  
Date

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
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# SCHEDULE



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*Listing – 2*

Nonincendive Class I, Division 2, Groups A, B, C, & D; Class I, Zone 1 AEx e mb [ib], Group IIC with Intrinsically Safe connections to Class I, Zone 1, Group IIC indoor hazardous (classified) locations with a temperature code of T4 at +70°C, installed per control drawing IS-2.500.

*Listing – 3*

Nonincendive Class I, Division 2, Groups A, B, C, & D with Intrinsically Safe connections to Class I, II, & III, Division 1, Groups A, B, C, D, E, F, & G indoor hazardous (classified) locations; Class I, Zone 1 AEx e ib [ia], Group IIC with Intrinsically Safe connections to Class I, Zone 0, Group IIC indoor hazardous (classified) locations with a temperature code of T4 at +70°C, installed per control drawing IS-2.500.

11. The marking of the equipment shall include:

*Listing – 1*

Class I, Division 2, Groups A, B, C, D; T4; Ta = -20°C to +70°C;  
Associated Nonincendive for Class I, Division 2, Groups A, B, C, D; NIFW;  
Associated Intrinsically Safe for Class I, II, III, Division 1, Groups A, B, C, D, E, F, G; Entity  
Class I Zone 1 AEx ib [ia], Group IIC; T4; Ta = -20°C to +70°C; Entity

*Listing – 2*

Class I, Division 2, Groups A, B, C, D; T4; Ta = -20°C to +70°C;  
Class I Zone 1 AEx e mb [ib], Group IIC; T4; Ta = -20°C to +70°C

*Listing – 3*

Class I, Division 2, Groups A, B, C, D; T4; Ta = -20°C to +70°C;  
Associated Intrinsically Safe for Class I, II, III, Division 1, Groups A, B, C, D, E, F, G; Entity  
Class I Zone 1 AEx e ib [ia], Group IIC; T4; Ta = -20°C to +70°C; Entity

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 16 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-swappabilty of these modules, the modules are supplied with integrated rails for module mounting coating.

**Operation Temperature Ranges** - The Excom system modules operate at an ambient temperature of -20°C to +70°C.

**Ratings** - The system modules are powered via the backplane by the PSD24Ex power supply module. The power supply is supplied from an external voltage source with a range of 18V to 32V.

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Listing – 1

## **Excom Remote I/O System**

Model No.	Description
AI401Ex	Analog Input Module
AIH40Ex	Analog Input Module
AIH41Ex	Analog Input Module
AI42Ex	Analog Input Module
AO40Ex	Analog Output Module
AO401Ex	Analog Output Module
DF20Ex	Discrete I/O Module
DI40Ex	Discrete Input Module
DM80Ex	Discrete I/O Module
DO40Ex	Discrete Output Module
DO401Ex	Discrete Output Module
GDP1.5	Gateway
GDP-IS	Gateway Module
TI40Ex	Thermocouple Input Module

Listing – 2

## **PSD24Ex Power Supply**

Listing – 3

## **Excom Backplane**

Model No.	Description
MT8-2G	Backplane with 8 I/O slots
MT9-C024	Backplane with 8 I/O slots and cage clamp terminals
MT9-R024	Backplane with 8 I/O slots and screw clamp terminals
MT16-2G	Backplane with 16 I/O slots
MT16-2G/MSA	Backplane with 16 I/O slots modified for shipboard use
MT18-C024	Backplane with 16 I/O slots and cage clamp terminals
MT18-R024	Backplane with 16 I/O slots and screw clamp terminals

### 13. **Specific Conditions of Use:**

1. The Excom System shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application.

### 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.

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## 16. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
3 <sup>rd</sup> October 2002	Original Issue.
22 <sup>nd</sup> March 2018	Supplement 3: Report Reference: – RR212937 dated 22 <sup>nd</sup> March 2018 Description of the Change: Update certificate to latest format. Correct marking errors on power module. Adding Approved backplane modules to certificate.

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