



Type Approval Certificate

[Remote I/O System]

Initial Approval 12 October 2016
Manufacturer Werner Turck GmbH & Co. KG
Goethestr. 7, 58553 Halver, Germany

Product Description Remote I/O System (Type : excom)

* Applicant : Hans Turck GmbH & Co. KG
Witzlebenstr. 7, 45472 Muelheim an der Ruhr,
Germany

“ See Appendix 1 ”

Approval Condition “ See Appendix 1 ”



THIS IS TO CERTIFY that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows.

Pt. 6, Ch. 2, Art. 301 of the Rules for Classification, Steel Ships.

This Certificate is valid until 11 October 2026
Reissued at Busan, Korea on 11 December 2024



This certificate is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication of the certificate can be confirmed from "<http://e-cert.krs.co.kr>" by using the tracking No(ME24058045441) and certificate No.(HMB35622-AC001).



KOREAN REGISTER

*General Manager of
Marine & Ocean Equipment Team*

- Note :**
1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.
 2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.
 3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.
 4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.

Product Description and/or Approval Condition

Date of Issue : 11 December 2024

A. Product Description

excom remote I/O-system for fieldbus systems for the use in explosion hazardous areas. The system is equipped with bus-compatible, decentralized I/O-modules with protection class IP20 for the connection of binary and analog intrinsically safe field devices. The system consists of power supply units or power supply modules, gateways, I/O-modules, as well as module racks to accommodate all components. A module rack can accommodate a maximum of 16 modules, 2 gateways and 2 power supply modules.

Rated voltage : 24V DC; 115V AC; 230V AC

Comprising the following devices:

Ident No.	Type	Description
9100688	MT16-2G/MSA	24 VDC, Module rack for max. 16 I/O modules
6884006	DM80EX	8-channel digital input/output module
6884004	DI40EX	4-channel digital input module
6884203	DO401EX	4-channel digital output module
6884061	DF20EX	2-channel frequency module
6884204	AI401Ex	4-channel analog input module, active / passive
6884205	AO401Ex	4-channel analog output module
6884137	AI43EX	4-channel potentiometer module
6884001	AIH40EX	4-channel analog input module, active, HART®
6884005	AIH41EX	4-channel analog input module, passive, HART®
6884003	AOH40EX	4-channel analog output module, HART®
6884190	TI41Ex	4-channel temperature input module (only PT100)
6884000	TI40Ex	4-channel temperature input module (RTD/TC)
6884210	GDP-IS/FW2. 2	Gateway for Profibus-DP communication
6884275	GDP-IS/FW2. 3	Gateway for Profibus-DP communication
6884047	SC12EX	Profibus-DP segment coupler (RS485-IS)
6890427	OC11Ex/2G. 2	Profibus-DP fibre-optic coupler (RS485-IS), zone-1 device
6890428	OC11Ex/3G. 2	Profibus-DP fibre-optic coupler (RS485), zone-2 device
6884036	BM1	Dummy module for unused slots
6884044	BM-PS	Cover for unused power supply slots
6881721	PSD24EX	24 VDC power supply module
6900293	PPSA230EX	AC/DC converter (230 VAC/24 VDC)
6900294	PPSA115EX	AC/DC converter (115 VAC/24 VDC)
9100516	MT-PPS	Upstream subrack for PPSA
100000127	GEN-2G	Multiprotocol Gateway for Ethernet for Zone 1
100004545	GEN-3G	Multiprotocol Gateway for Ethernet for Zone 2
100000551	FOC11Ex-2G	RS485-IS-Fiber Optic Media Converter for Zone 1
100000549	FOC11-3G	RS485-Fiber Optic Media Converter for Zone 2
100000552	FOC12Ex-2G	RS485-IS-Fiber Optic Media Converter for Zone 1
100000553	FOC12-3G	RS485-Fiber Optic Media Converter for Zone 2
100000555	FOCEN11Ex-2G	IS-100BASE-TX-Fiber-Optic Ethernet Media Converter for Zone 1
100000554	FOCEN11-3G	100BASE-TX-Fiber-Optic Ethernet Media Converter for Zone 2
100000550	SC11Ex-3G	Segment Coupler
6884266	AIH401EX	4-channel analog input module, HART
6884267	AOH401EX	4-channel analog output module, HART
100028780	TI401EX	4-Channel Temperature Input Module
6884232	DI401EX	4-channel digital input module

B. Documentation

1) Documents

- Datasheets dated 2016-02-13

- Module rack for max. 16 I/O modules, MT16-2G/MSA
- 8-channel digital input/output module, DM80EX
- 4-channel digital input module, DI40EX
- 4-channel digital output module, DO401EX
- 2-channel frequency module, DF20EX
- 4-channel analog input module, active / passive, AI401Ex
- 4-channel analog output module, AO401Ex
- 4-channel potentiometer module, AI43EX
- 4-channel analog input module, active, HART®, AIH40EX
- 4-channel analog input module, passive, HART®, AIH41EX
- 4-channel analog output module, HART®, AOH40EX
- 4-channel temperature input module (only PT100), TI41Ex

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4-channel temperature input module (RTD/TC), TI40Ex
 Gateway for Profibus-DP communication, GDP-IS/FW2.2
 Profibus-DP segment coupler (RS485-IS), SC12EX
 Profibus-DP fibre-optic coupler (RS485-IS), zone-1 device, OC11Ex/2G.2
 Profibus-DP fibre-optic coupler (RS485), zone-2 device, OC11Ex/3G.2
 Dummy module for unused slots, BM1
 Cover for unused power supply slots, BM-PS
 24 VDC power supply module, PSD24EX
 Multiprotocol Gateway for Ethernet, GEN-2G / GEN-3G
 RS485-IS-Fiber Optic Media Converter for Zone 1, FOC11Ex-2G / FOC12Ex-2G
 RS485-Fiber Optic Media Converter for Zone 2, FOC11-3G / FOC12-3G
 IS-100BASE-TX-Fiber-Optic Ethernet Media Converter for Zone 1, FOCEN11Ex-2G
 100BASE-TX-Fiber-Optic Ethernet Media Converter for Zone 2, FOCEN11-3G
 Segment Coupler, SC11Ex-3G
 Input Module, Analog, HART, 4-channel, AIH401EX
 Output Module, Analog, HART, 4-channel, AOH401EX
 4-Channel Temperature Input Module, TI401EX
 Input Module, Digital, 4-channel, DI401EX

- Product specification for AC/DC converter (Ver. 1.0) dated 2015/12
- Manual no. D301266 dated 2013/01

2) Test reports

- Turck test report no. FM 7.3-11 dated 2005-09-05, L/11/025 Rev. 0.2 dated 2011-12-08, L/13/039 Rev. 0.0 dated 2013-12-10, 2015-TK-1109001 dated 2015-11-09
- Phoenix Testlab GmbH test report no. E132656E1 2nd version dated 2013-12-10, E132656E2 dated 2013-12-10, U132656E1 2nd version dated 2013-12-11, S130227E1 dated 2013-01-29, E231498E1 dated 2024-06-03, U231498E2 dated 2024-05-22, U231498E1 2nd version dated 2024-05-22
- EMC Test NRW GmbH test report no. P09-Z-00101-004 dated 2011-12-12
- Onetech test report no. E15DR-D011 dated 2015-12-08, R15DR-D018 dated 2015-12-08
- CETECOM GmbH test report no. 21-1-0132801T01 dated 2021-10-13

3) Ex-proof certificates

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|---|--|
| - PTB 03 ATEX 2115 (for SC12EX) | - PTB 05 ATEX 2051 X (for OC11Ex/2G.2) |
| - PTB 05 ATEX 2053 X (for OC11Ex/3G.2) | - PTB 02 ATEX 2032 (for DI40EX) |
| - PTB 03 ATEX 2217 (for AI401EX) | - PTB 00 ATEX 2179 (for AOH401EX) |
| - PTB 13 ATEX 2014 (for TI41EX) | - PTB 06 ATEX 2026 (for AI43EX) |
| - PTB 04 ATEX 2047 (for PPSA230EX, PPSA115EX) | - PTB 04 ATEX 2091 X (for MT-PPS) |
| - IECEx PTB 13.0040U (for MT16-2G/MSA) | - IECEx PTB 13.0039 (for PSD24EX) |
| - IECEx PTB 13.0037 (for GDP-IS/FW2.2) | - IECEx PTB 13.0041 (for DM80EX) |
| - IECEx PTB 12.0016 (for DO401EX) | - IECEx PTB 12.0018X (for AIH40EX, AIH41EX) |
| - IECEx PTB 12.0030 (for AOH40EX) | - IECEx PTB 11.0095 (for TI40EX) |
| - IECEx PTB 13.0041 (for DM80EX) | - IECEx BVS 22.0044X (for GEN-2G) |
| - IECEx BVS 19.0060 (for GEN-3G) | - IECEx PTB 18.0034 (for AIH401EX, AOH401EX) |
| - IECEx EPS 17.0085X (for SC11Ex-3G) | - IECEx PTB 15.0043 (for DI401EX) |
| - IECEx PTB 21.0019X (for TI401EX) | |
| - IECEx BVS 23.0025X (for FOCEN11Ex-2G, FOCEN11-3G) | |
| - IECEx EPS 21.0017X (for FOC11Ex-2G, FOC11-3G, FOC12Ex-2G, FOC12-3G) | |

C. Approval condition

- 1) This approval is granted on the basis of the approved documentation and the test reports (IACS UR E10 Rev.9).
- 2) Degree of protection shall be complied with Rule Pt.6 Ch.1 Sec.2 201.2.(5).
- 3) The product or packing is to be marked with the applicant's name and type designation on a suitable position.
- 4) Explosion-proof certification by a notified/recognized Certification Body is not covered by this certificate. Ratings and Special Condition for Safe Use in hazardous areas are to be obtained from the relevant valid Ex-Certificate.
- 5) Individual Product Certification is not required.

< End of Certificate >