



TYPE APPROVAL CERTIFICATE

Certificate no.:
TAA00001EK
Revision No:
3

This is to certify:

that the **Peripheral Equipment**

with type designation(s)
Intrinsically safe remote -I/O system excom

issued to

Hans Turck GmbH & Co. KG
Mülheim an der Ruhr, Nordrhein-Westfalen, Germany

is found to comply with

DNV rules for classification – Ships, offshore units, and high speed and light craft

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Location classes:

Temperature	B
Humidity	B
Vibration	A
EMC	A
Enclosure	Required protection according to the Rules shall be provided upon installation on board.

Issued at **Hamburg** on **2024-07-08**

This Certificate is valid until **2029-07-07**.

DNV local unit: **Essen**

Approval Engineer: **Heinz Scheffler**



for **DNV**

Digitally Signed By: **Lesniewski, Dariusz**

Location: **DNV GL SE Hamburg, Germany**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2023-09

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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.

Mat.-No.	Designation	Description
6900293	PPSA230EX	AC/DC Power Converter Rated voltage: 24 VDC / 230 VAC
6900294	PPSA115EX	AC/DC Power Converter Rated voltage: 24 VDC / 115 VAC
9100516	MT-PPS	Sub rack for PPSA
6884275	GDP-IS	Gateway for Profibus-DP communication
6884047	SC12Ex	PROFIBUS-DP segment coupler (RS485-IS)
6890427	OC11Ex/2G.2	PROFIBUS-DP optocoupler for zone 1
6890428	OC11Ex/3G.2	PROFIBUS-DP optocoupler for zone 2
9100688	MT16-2G/MSA	module rack, zone 1, for 16 Modules, marine ship approved
6881721	PSD24EX	Power supply module, 24 VDC, zone 1
6884004	DI40Ex	Input Module, digital, 4-channel
6884232	DI401EX	Input Module, Digital, 4-channel
6884203	DO401EX	Output module, digital, 4-channel
6884006	DM80EX	I/O module, digital, 8-channel
6884204	AI401Ex	Input module, analog, 4-channel
6884266	AIH401EX	Input Module, Analog, 4-channel, HART
6884137	AI43EX	Potentiometer module, Analog, 4-channel
6884001	AIH40Ex	Input module, Analog, active, 4-channel, HART
6884005	AIH41Ex	Input module, Analog, passive, 4-channel, HART

Mat.-No.	Designation	Description
6884205	AO401Ex	Output module, analog, 4-channel
6884267	AOH401EX	Output Module, Analog, 4-channel, HART
6884003	AOH40Ex	output module, analog, 4-channel, HART
6884000	TI40Ex	Temperature Input Module, 4-channel
100028780	TI401EX	Temperature Input Module, 4-Channel
6884190	TI41EX	Temperature Input module, 4-channel
6884061	DF20EX	Frequency Module, 2-channel
6884036	BM1	Dummy modules for empty slots
6884044	BM-PS	Power Supply Cover
100000127	GEN-2G	Multiprotocol Gateway for Ethernet
100004545	GEN-3G	Multiprotocol Gateway for Ethernet
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 - Fibre Optic Media Converter for Zone 1
100000554	FOCEN11-3G	100BASE-TX - Fibre Optic Media Converter for Zone 2
100000550	SC11Ex-3G	PROFIBUS-DP segment coupler (RS485-IS)

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV Rules for Pt.4 Ch.9 Control and Monitoring Systems.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified / recognized Certification Body.

Type Approval documentation

Test Reports and Technical Documentation: TAA00001EK_Overview_Documents_Rev.00

Tests carried out

Applicable tests according to Class Guideline DNV-CG-0339, August 2021.

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE