

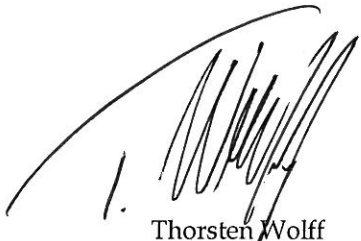


## Type Approval Certificate

*This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.*

This certificate is issued to:

<b>PRODUCER</b>	Hans Turck GmbH & Co. KG Witzlebenstr. 7 45472 Mülheim an der Ruhr Germany
<b>PLACES OF PRODUCTION</b>	Turck Mechatec GmbH Witzlebenstr. 7 45472 Mülheim an der Ruhr Germany  Werner Turck GmbH & Co. KG Goethestr. 7 58553 Halver Germany
<b>DESCRIPTION</b>	Remote I/O system
<b>TYPE</b>	excom <sup>®</sup>  Comprising the following modules:  MT16-2G/MSA    24 VDC zone-1 module rack for 16 modules PSD24EX        24 VDC power supply module DM80EX         8-channel digital input/output module DI40EX         4-channel digital input module DO401EX        4-channel digital output module
<b>Certificate No.</b>	14/20032
<b>Issue Date</b>	12 June 2014
<b>Expiry Date</b>	11 June 2019
<b>Sheet</b>	1 of 2



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Hamburg Technical Support Office  
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<b>TYPE continued</b>	DF20EX	2-channel frequency module
	AI401EX	4-channel analogue input module, active / passive
	AO401EX	4-channel analogue output module
	AI43EX	4-channel potentiometer module
	TI41EX	4-channel temperature input module (only PT100)
	AIH40EX	4-channel analogue input module, active, HART®
	AIH41EX	4-channel analogue input module, passive, HART®
	AOH40EX	4-channel analogue output module, HART®
	TI40EX	4-channel temperature input module (RTD / TC)
	GDP-IS/FW2.2	gateway for Profibus-DP communication (intrinsically safe)
	SC12EX	Profibus-DP segment coupler (RS485-IS)
	OC11Ex/2G.2	Profibus-DP fibre-optic coupler (RS485-IS), zone-1 device
	OC11Ex/3G.2	Profibus-DP fibre-optic coupler (RS485), zone-2 device
	BM1	dummy module for unused slots
	BM-PS	cover for unused power supply slots

**APPLICATION** Marine applications for use in environmental categories ENV1, ENV2 and ENV3 (general power distribution zone) as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 – 2013.

**STANDARD** Manufacturer's specification

**OTHER CONDITIONS** Ratings for application in hazardous areas are to be obtained from the applicable Ex Certificates.

*"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."*

*The Design Appraisal Document No. HTS/ETS 29825-14 and its supplementary Type Approval Terms and Conditions form part of this Certificate.*

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## Type Approval Certificate

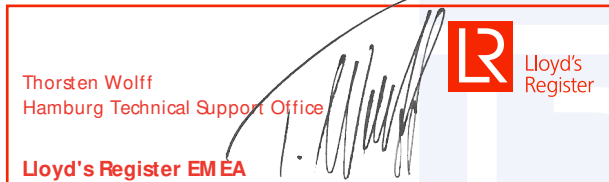
*This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.*

This certificate supersedes certificate number 16/40041 issued on 22.06.2016 which is hereby cancelled.

This certificate is issued to:

<b>PRODUCER</b>	Hans Turck GmbH & Co. KG Witzlebenstrasse 7 45472 Muelheim an der Ruhr Germany
<b>DESCRIPTION</b>	Power converter model EXCOM AC/DC Converter
<b>TYPE</b>	PPSA230EX (HW V1.1a) <sup>(1)</sup> PPSA115EX (HW V1.1a) <sup>(1)</sup> MT-PPS (subrack for PPSA) (HW V1.0a)
	(1) Produced at production location 1 only.
<b>APPLICATION</b>	Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2 and ENV3 on the "Power Distribution Zone" as defined in LR Test Specification No. 1: July 2015.
<b>STANDARD</b>	Manufacture's specification

<b>Certificate No.</b>	17/20036
<b>Issue Date</b>	07 April 2017
<b>Expiry Date</b>	21 July 2021
<b>Sheet</b>	1 of 3



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**RATINGS**

Type	Nominal Voltage	Output Power	Output Voltage
PPSA230EX	230 Vac	66.5 W	24 Vdc
PPSA115EX	115 Vac		

**OTHER CONDITIONS**

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations, when installed on LR classed vessels.

If the specified standards are amended during validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.



In case of applications other than Marine, the application of this type approval certificate will be limited to the relevant scope of the specified standards and acceptance thereof by the local authorities.

**PLACE OF PRODUCTION**

1. Werner Turck GmbH & Co. KG  
Goethestrasse 7  
58553 Halver  
Germany
2. Turck Mechatec GmbH  
Witzlebenstrasse 7  
45472 Muelheim an der Ruhr  
Germany

**Certificate No.** 17/20036  
**Issue Date** 07 April 2017  
**Expiry Date** 21 July 2021  
**Sheet** 2 of 3

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Hamburg Technical Support Office

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LR031.1.2013.12

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*The Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.*

*If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.*

*The Design Appraisal Document No. HTS/ETS 35109-17 and its supplementary Type Approval Terms and Conditions form part of this Certificate.*

**Certificate No.** 17/20036  
**Issue Date** 07 April 2017  
**Expiry Date** 21 July 2021  
**Sheet** 3 of 3

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