



CERTIFICATE NUMBER	21-2177321-PDA
EFFECTIVE DATE	29-Oct-2021
EXPIRY DATE	28-Oct-2026
ABS TECHNICAL OFFICE	Hamburg Engineering Department

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

R. STAHL SCHALTGERAETE GMBH

located at

AM BAHNHOF 30, D-74638 WALDENBURG, Germany

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: I/O System
Model: Remote I/O System IS1 and IS1+ Series 94**
Fieldbus Isolating Repeater Series 9185
Media Converter and Unmanaged Switch Series 9721
Endorsements:
Tier: 2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 28/Oct/2026 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

Efstratios Maliatsos, Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

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Tier: 2 - PDA Issued

Product: I/O System
Model: Remote I/O System IS1 and IS1+ Series 94**
Fieldbus Isolating Repeater Series 9185
Media Converter and Unmanaged Switch Series 9721

Endorsements:

Intended Service:

Remote Input/ Output Modules and Fieldbus Isolating Repeaters in control and monitoring systems, for use in hazardous areas.

Description:

For a detailed listing of the modules covered by this certificate refer to attachment.
For Ex Markings refer to individual IECEx certificates.

Rating:

Power Supply: 24V DC or 90...250V AC, depending on CPU and Power Module.
Fieldbus communications: Modbus RTU, TCP, Ethernet IP, Profinet, Profibus DP V0 and DP V1 HART.
Ambient Temperature: -25°C to +70°C
Degree of Protection: IP20

Service Restriction:

1. Unit Certification is not required for the original equipment manufacturer. However, unit certification in accordance with 4-9-3/Table 2 and 4-9-9/Table 2 is required by the user to customize this equipment where this equipment is used for Category II or III services in 4-9-3/Table 1.
2. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments:

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. Tests and approval are for hardware only. Each particular application/ installation is to be specifically approved in conjunction with the relevant system in which the units are being used.
3. Equipment is approved for installation in the general power distribution zone.
4. For compliance with EMC Emission and Immunity requirements:
 - Hardware installed in metal cabinet
 - EMC-Cable gland or separate screen rails inside the enclosure or
 - Cabinet to connect the screen of the signal cables
 - Shielded signal cables

Notes/Drawing/Documentation:

- Technical Datasheets (2021)
- Drawing No. 9445_35 Power-Modul for Zone 2_EK00_III_en, Technical Datasheet
 - Drawing No. 9496_6_031_001_0_01_de_en, Technical Datasheet
 - Drawing No. 9442-35_EK00_III_EN, Technical Datasheet
 - Drawing No. 972_13-42-x4 Switch Unmanaged_AK00_III_en, Technical Datasheet
 - Drawing No. 9469_35 Zone-2 AK00 III_en, Technical Datasheet
 - Drawing No. 9472_35 Digital Input Output Module for Ex n Zone 2_EK00 III en, Technical Datasheet

Test Reports:

- Drawing No. 11787_DNV_GL_EMV_signed, EMC Tests, Stahl GmbH, 26-08-2019
- Drawing No. 190742-02-01-A-01-e, Electrical Tests, KRIWAN Testzentrum GmbH, 21-11-2019
- Drawing No. 190742-AU01+UMS01, Environmental Tests, KRIWAN Testzentrum GmbH, 19-11-2019
- Drawing No. 200001-AU01+UMS01, Cold Test, KRIWAN Testzentrum GmbH, 5-2-2020

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- Drawing No. 210631-01-01-A-01-e, EMC Tests (6GHz), KRIWAN Testzentrum GmbH, 23-09-2021
- Drawing No. Kriwan_200721_AU01_BMT01_Rev01_IS1, Insulation Resistance test, KRIWAN Testzentrum GmbH, 31-08-2020
- Drawing No. Kriwan_200721_AU01_UMS01_Rev01_IS1, Environmental Tests, KRIWAN Testzentrum GmbH, 25-11-2020

Terms of Validity:

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STANDARDS

ABS Rules:

2021 Marine Vessel Rules: 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-8-3/1.7, 4-8-3/1.11.1, 4-8-3/1.17, 4-8-3/13, 4-9-9/13.1, 4-9-9/Table 1 & Table 2
2021 Mobile Offshore Unit Rules: 1-1-4/9.7, 1-1-A2, 1-1-A3, 4-3-1/11, 4-3-1/15, 4-3-1/17

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA

R. STAHL Schaltgeräte GmbH
Am Bahnhof 30, 74638 Waldenburg, Germany
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Product Listing	Designation	Zone	IECEX Certificate
CPU & Power Modules (for Zone 1 or Zone 2)			
9440/15-01-*1	CPU & Power module for up to 16 I/O modules, with Display	2	IECEX PTB 14.0039
9440/22-01-*1 (*1 = 11 or 21)	CPU & Power module for up to 8 I/O modules, with Display	1	IECEX KEM 08.0038X
9490/1*-12	Socket	1	
9441/12-00-*0	CPU module	1	IECEX KEM 08.0035X
9444/12-11	Power supply module for up to 8 I/O modules	1	
9492/12-1*-**	Socket	1	
9442/35-10-00	CPU module	2	IECEX PTB 17.0031X
9445/35-12	Power module for up to 16 I/O modules + Power supply set	2	IECEX PTB 17.0042X
9496/35-03-00	Socket 3 Slots	2	IECEX DEK 17.0026X
9496/35-04-00	Socket 4 slots	2	IECEX DEK 17.0026X
I/O modules with IS field circuits (Ex ib or ia)			
9462/12-0*-11	Analog Input Module 6/8x AI for HART transmitters, 0/4...20mA, line monitoring, FS	1	IECEX PTB 06.0001X
9468/32-08-1*	Analog Universal Module HART 8x AI/AO for HART transmitter/valves, 0/4...20mA, line monitoring	1	IECEX DEK 12.0054X
9468/33-08-1*	Analog Universal Module HART 8x AI/AO for HART transmitter/valves, 0/4...20mA, line monitoring	2	IECEX DEK 12.0054X
9470/32-16-1*	Digital Input Output Module 16x DI/DO, for volt-free contacts and low energy valves, 2 frequency input up to 20kHz, line monitoring	1	IECEX DEK 12.0044X
9470/33-16-1*	Digital Input Output Module 16x DI/DO, for volt-free contacts and low energy valves, 2 frequency input up to 20kHz, line monitoring	2	IECEX DEK 12.0044X
9475/32-04-**	Digital Output Module 4x DO, line monitoring	1	IECEX DEK 12.0070X
9475/32-08-**	Digital Output Module 8x DO, line monitoring	1	IECEX DEK 12.0070X
9475/33-04-**	Digital Output Module 4x DO, line monitoring	2	IECEX DEK 12.0070X
9475/33-08-**	Digital Output Module 8x DO, line monitoring	2	IECEX DEK 12.0070X
9482/32-08-1*	Temperature Input Module 8x Temperature Input, RTD's and thermocouples	1	IECEX DEK 13.0046X
9482/33-08-1*	Temperature Input Module 8x Temperature Input, RTD's and thermocouples	2	IECEX DEK 13.0046X

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I/O modules for Non-IS field circuits			
9469/35-08-1*	Universal Module HART 8x AI/AO or 4x AI/AO + 4 DI/DO for transmitters, control valves, PNP proximity switches, solenoids	2	IECEEx DEK 17.0044X
9471/35-16-1*	Digital Input Output Module NAMUR 16x DI or DO, for NAMUR proximity switches, solenoid valves, frequency Signals	2	IECEEx DEK 16.0010X
9472/35-16-1*	Digital Input Output Module 24 V 16x DI or DO, for PNP/NAMUR proximity switches, solenoid valves, frequency Signals	2	IECEEx DEK 16.0010X
9477/12-06-12	Digital Output Module Relay, 6x relay output, 250V AC or 30-220V DC, 0.12-2A, NO	1	IECEEx PTB 06.0001X
9477/12-08-12	Digital Output Module Relay, 8x relay output, 60V DC, 2A, NO	1	IECEEx PTB 06.0001X
9490/11-3*	Socket for Digital Output Module Relay 9477/12	1	IECEEx PTB 06.0001X
9477/15-08-12	Digital Output Module Relay, 8x relay output, 250V AC or 30-220V DC, 0.12-2A, NO	2	IECEEx PTB 06.0001X

I/O modules with reduced environment conditions			
9478/22-08-51	8x valves, Digital output module with valve for compressed air Ambient temperature: 0°C ... 60°C	1	IECEEx PTB 06.0001X

Accessories			
9494/**-**	BusRail for IS1 / IS1+ system	1	IECEEx PTB 17.0013X
Terminals	Terminals for I/O Modules listed in the instruction manual (spring / screw)	1 / 2	
SUB D Terminal	RS 485-IS	1	IECEEx PTB 11.0027
9721/13-11-*4	Media Converter FXopis/TX SC SM/MM Ex op is	2	IECEX TUR 13.0014X
9721/13-42-**	Unmanaged Switch FX op is SC / TX RJ45	2	IECEX TUR 16.0002X
9185/1*-**-10	Fieldbus Isolating Repeater	2	IECEEx BVS06.0004X
9787/15-11-11	USB RS485 Converter	2	IECEEx TUR 18.038X