



Marine & Offshore

Certificate number: 28444/B0 BV

File number: AP4329

Product code: 4501H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

*This certificate is issued to***R. Stahl Schaltgeräte GmbH**

Waldenburg - GERMANY

*for the type of product***PROGRAMMABLE LOGIC CONTROL UNITS**

IS1 Remote I/O System

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

EC Code: 31

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.***This certificate will expire on: 17 Mar 2027****For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 17 Mar 2022,

Dirk Hoepfner



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The **IS1** is a remote I/O system for the mounting on bus rails and may consist of following components:

CPU's:

Module type	Designation / Main characteristic	Zone	SW-version	HW-version
9440/15-01-11	CPU & Power module for up to 16 I/O modules, with Display	2	01-52, 02-52, 03-52; 09-52, 11-19	P, Q, R
9440/22-01-x1 (x1 = 11 or 21)	CPU & Power module for up to 8 I/O modules, with Display, without socket	1	01-52, 02-52, 03-52 09-52, 11-19	11: I-M 21: K-Q
9490/1x-12	Socket	1	-	-
9442/32-10-00	CPU module	1	V1.0.23, V1.0.24	A
9442/35-10-00	CPU module	2	V1.0.23, V1.0.24	A
9445/32-12	Power supply module for up to 16 I/O modules + Power supply set	1	-	A
9445/35-12	Power supply module for up to 16 I/O modules + Power supply set	2	-	A
9496/32-03-00	Socket 3 Slots	1	-	A
9496/35-03-00	Socket 3 Slots	2	-	A
9496/32-04-00	Socket 4 Slots	1	-	A
9496/35-04-00	Socket 4 Slots	2	-	A

I/O modules with IS field circuits and line monitoring:

Module type	Designation / Main characteristic	Zone	SW-version	HW-version
9468/32-08-1x	8x AI/AO for HART transmitter/valves, 0/4..20mA	1	03-08, 04-01	A
9468/33-08-1x	8x AI/AO for HART transmitter/valves, 0/4..20mA	2	03-08, 04-01	A
9470/32-16-1x	16x DI/DO, for volt-free contacts and low energy valves, 2 frequency input up to 20kHz	1	03-07, 03-08	A
9470/33-16-1x	16x DI/DO, for volt-free contacts and low energy valves, 2 frequency input up to 20kHz	2	03-07, 03-08	A
9475/32-04-xx	4x DO, 13.8 to 23.6V DC	1	03-08, 04-01	A, B
9475/32-08-xx	8x DO, 13.8 to 23.6V DC	1	03-08, 04-01	A, B
9475/33-04-xx	4x DO, 13.8 to 23.6V DC	2	03-08, 04-01	A, B
9475/33-08-xx	8x DO, 13.8 to 23.6V DC	2	03-08, 04-01	A, B
9482/32-08-1x	8x temperature in, RTD's and thermocouples	1	03-02	A
9482/33-08-1x	8x temperature in, RTD's and thermocouples	2	03-02	A
9462/12-0*-11	Analog Input Module 6/8x AI for HART transmitters, 0/4...20mA, line monitoring, FS	1	02-03	C

I/O modules for Non IS field circuits:

Module type	Designation / Main characteristic	Zone	SW-version	HW-version
9477/12-06-12	6x relay output, 250V AC or 30-220V DC, 0.12-2A, NO	1	02-02	C
9477/12-08-12	8x relay output, 60V DC, 2A, NO	1	02-02	C
9490/11-3x	Socket for Relay modules 9477/12	1	-	-
9477/15-08-12	8x relay output, 250V AC or 30-220V DC, 0.12-2A, NO	2	02-02	C
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	03-11, 04-02	A, B
9471/35-16-1*	Digital Input Output Module NAMUR 16x DI or DO, for NAMUR proximity switches, solenoid valves, frequency Signals	2	03-06, 04-02	A, B
9472/35-16-1*	Digital Input Output Module 24 V 16x DI or DO, for PNP/NAMUR proximity switches, solenoid valves, frequency signals	2	03-06, 04-02	A, B

Accessories:

Module type	Description	Zone	SW-version	HW-version
9185/11	Ex i Isolating repeater for Profibus DP/Modbus RTU	2	01-04	E
9185/12	Isolating repeater for Profibus DP/Modbus RTU	2	01-04	E
9494/x1-xx	BusRail for IS1 system	1	-	-
9721/13-11-x4	Converter FXopis/TX SC SM/MM Ex op is	2	-	2.0
Terminals	Terminals for I/O Modules listed in the instruction manual (spring / screw)	1/2	-	-
SUB D connector	RS 485-IS (162693)	1	-	-
9721/13-42-**	Unmanaged Switch FX op is SC / TX RJ45	2	-	2.0
9787/15-11-11	USB RS485 Converter	2	-	A
Enclosure	A housing is required to fulfil the EMC requirements	1/2	-	-

I/O modules with reduced environment conditions:

Module type	Designation / Main characteristic	Zone	SW-version	HW-version
9478/22-08-51	8x valves, Digital output module with valve for compressed air Ambient temperature: 0°C ... 60°C	1	02-02	G

Main characteristics:

Power supply: 24V DC or 120/230V AC

Degree of protection: IP20

2. DOCUMENTS AND DRAWINGS:

- Data Sheets: 9468/32 dated 2015-02-11; 9468/33 dated 2015-02-12; 9470/32 dated 2014-11-04; 9470/33 dated 2014-11-04; 9475/32-04-.2 dated 2014-11-06; 9475/32-04-72 dated 2014-11-05; 9475/32-08-.2 dated 2014-11-06; 9482/32 dated 2015-07-23;
9475/33-08-.0 dated 2014-11-12; 9482/33 dated 2015-07-23; 9721/13-11.4 dated 2014-06-04; 94xx_General AK00-III-en; 9441_15_9444_15 AK00-III-en; 9440_15 AK00-III-en; 9440_22 AK00-III-en; 9475_x2_04 AK00-III-en; 9475_x2_08 AK00-III-en; 9477_12 AK00-III-en; 9477_15 AK00-III-en; 9499_DTM AK00-IV-en; 9499_PC_Software AK00-IV-en; 9494 AK00-III-en; 9185_11 Automation; 9185_12 Automation
- KEMA Quality B.V.: NL/KEM/ExTR10.0049/00 dated 2010-12-06; KEMA 06 ATEX 0291 X Issue 2 dated 20 March 2007; KEM 08.0035X Issue 1 dated 2012-1-27; KEM 08.0038X dated 2011-06-10; KEM 10.0051X Issue 1 dated 2012-2-15
- DEKRA Exam GmbH: IECEX BVS 06.0004X issue 2 dated 2012-10-19; IECEX BVS 12.0081X dated 2012-10-25; IECEX BVS 13.0107X dated 2013-10-16; IECEX DEK 12.0044X dated 2012-10-17; IECEX DEK 12.0054X dated 2012-10-16; IECEX DEK 12.0070X issue 1 dated 2013-3-22; IECEX DEK 13.0046X dated 2013-11-14
- Physikalisch Technische Bundesanstalt (PTB): IECEX PTB 11.0027 dated 2011-04-18; PTB 08.0027 Issue 1 dated 2012-1-27; IECEX PTB 08.0026 issue 1 dated 2012-1-27; PTB 08.0025U Issue 1 dated 2012-1-27; IECEX PTB 08.0024U issue 1 dated 2012-1-27; PTB 06.0001X, Issue No. 2 dated 2011-03-23
- SIRA Certification Service: SIRA 06ATEX1188X dated 20 Sep 06; SIRA 07ATEX1201X dated 24 Jul 07
- TÜV Rheinland Industrie Service GmbH: IECEX TUR 13.0014X dated 2013-12-18;

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- Data Sheets: 9442/35 dated 2019-04-18; 9445/35 dated 2019-04-18; 9496/35 dated 2019-04-29; 9462 dated 2016-06-02; 9469/35-08-12 dated 2021-04-13; 9471/35 dated 2019-02-20; 9472/35 dated 2019-02-20; 9490602310 dated 2019-03-20; 9721 dated 21.11.2021; 9787 dated 21.11.2021; 7145 dated 21.11.2021; 8150 dated 21.11.2021; 9478 dated 2016-01-12
- DEKRA: IECEX DEK 16.0010X Issue No. 0 dated 2016-07-22; IECEX DEK 17.0044X Issue No. 1 dated 2019-07-01
- Physikalisch Technische Bundesanstalt (PTB): IECEX PTB 17.0026X Issue No:2 dated 2021-04-28; IECEX PTB 17.0031X Issue No: 1 dated 2019-06-25; IECEX PTB 17.0042X Issue No:3 dated 2019-06-25; IECEX PTB 22.0001X Issue No: 0 dated 2022-01-28
- TÜV: IECEX TUR 16.0002X Issue No:1 dated 2021-07-05; IECEX TUR 18.0038X Issue No:0 dated 2018-10-13

3. TEST REPORTS:

- Det Norske Veritas Certification AS: 2002_3277 rev.02 dated 2002-10-03
- Kriwan Testzentrum GmbH & Co. KG: 130756-01-01-B-02 Rev. 1.0 dated 2013-11-28; 150404-01-01-B-01/01 dated 2015-10-15; 150404-02-01-A-05-e dated 2015-08-31; 150404-03-01-A-05-e dated 2015-08-31; 003055_01_G 25.02.2003; 004142_01_G 30.04.2004; 006467_01_G dated 22.02.2007; 007402_01_G dated 05/Dec/2007; 009057_01_B dated 05.02.2009; 009396_01_G dated 26.Oct 2009
-LGA Quality test: 271439 AP1 dated 22 November 2007

- NKL GmbH: 9468/70/75 dated January 7,2013 en; 9482 Testreport dated August 7,2013; 9721 Testreport dated January 7,2014; Testreport dated 23.01.2009
 - R. Stahl Schaltgeräte GmbH: 10035/13 dated 01.03.2013; 10155 dated 02.12.2013; 10264 dated 07.01.2014; 10278 dated 17.01.2014; 10279 dated 17.01.2014; 10280 dated 17.01.2014; 10281 dated 17.01.2014; 10282 dated 17.01.2014; 10567 dated 21.05.2014; 6337/12 dated 10.12.2012; 6339/12 dated 11.12.2012; 4414/03_en dated 01.04.2003; 4601/04_en dated 28.06.2004; 5223/07 dated 06.12.2007; 5225/07 dated 06.12.2007; 5275/08 dated 18.03.2008; 5277/08 dated 18.03.2008; 5602/09 dated 11.11.2009; 5648/10 dated 22.04.2010; 5691/10 dated 22.04.2010; 5692/10 dated 22.04.2010; 5693/10 dated 22.04.2010; 5694/10 dated 22.04.2010

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- Kriwan: 190742-02-01-A-01-e dated 2019-11-21; 190742-AU01+UMS01 dated 2019-11-19; 200001-AU01+UMS01 dated 2020-02-05; 200721-AU01+BMT01 dated 2020-08-31; 200721-AU01+UMS01 dated 2020-11-25; 210631-01-01-A-01-e dated 2021-09-23
 - R. Stahl Schaltgeräte GmbH: 11787 dated 26.08.2019

4. APPLICATION/LIMITATION:

4.1 - Bureau Veritas Rules and Regulations for the Classification of Steel Ships

4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT** and **AUT-IMS**.

4.3 - Bureau Veritas Environmental Category, **EC Code: 31**

4.4 - The equipment fulfils the EMC requirements for installation in General Power Distribution Zone.

4.5 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev7.

4.6 - In accordance with IACS UR E22 and as applicable to programmable devices for computer based systems of Category II or III, for each ship application:

- Ship specific documentation is to be submitted including software documentation and categorization of the computer based system.

- Inspection and testing before installation onboard is to be performed under the surveillance of the Society.

4.7 - Only Hardware and Firmware successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer is covered by this certificate.

4.8 - The installation shall comply with the Manufacturer's recommendation described in the above-referenced documentation.

4.9 - Ex-certification is not covered by this certificate. Applications in hazardous areas are to be approved in each case according to the Rules and Conditions for Safe Use specified in a valid Ex-Certificate issued by a Notified or Recognised Certification Body.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above mentioned products are to be supplied by **R. Stahl Schaltgeräte GmbH** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **R. Stahl Schaltgeräte GmbH** has to make the necessary arrangements to have its works recognized by Bureau Veritas in compliance with the requirements of NR320 for HBV products:

R. Stahl Schaltgeräte GmbH
Am Bahnhof 30
74638 Waldenburg
GERMANY

6. MARKING OF PRODUCT:

- Maker's name or trademark

- Equipment type or model identification

- Date of manufacture and/or serial number

- Ex marking, as relevant

- The title and version of each software element included in the installed software system shall be marked on the equipment.

7. OTHERS:

7.1 - It is the responsibility of **R. Stahl Schaltgeräte GmbH** to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate N° 28444/A1 BV issued on 11 Feb 2016 by the Society.

*** END OF CERTIFICATE ***