

EU RO MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE

This Certificate is issued to

R. Stahl Schaltgeräte GmbH
Waldenburg, Germany

for

Computers and Programmable Logic Controllers

with type designation(s)

Remote I/O System Type IS1 and IS1+

The product is found to comply with

EU RO Mutual Recognition Technical Requirements for Computers and Programmable Logic Controllers

Intended service

Programmable Logic Controllers and I/O devices for control, monitoring, alarm, and safety functions subject to classification requirements.

System context

Application of the control, monitoring, alarm, and safety systems are subject for approval of the individual RO classing the vessel.

This Certificate is valid until **2021-10-30**.

Issued at **Høvik** on **2016-10-31**

DNV GL local station: **Augsburg**

for **DNV GL**

Approval Engineer: **Nils Jarem**

Odd Magne Nesvåg
Head of Section

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.

Product description

Remote I/O System Type IS1 and IS1+, Series 94**, consisting of the following units:

Type	Designation	Zone
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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
9440/22-01-*1	CPU & Power module for up to 8 I/O modules, with Display	1
(*1 = 11 or 21)		
9490/1*-12	Socket	1
9441/12-00-*0	CPU module	1
9444/12-11	Power supply module for up to 8 I/O modules	1
9492/12-1*-**	Socket	1
9441/15-00-*0	CPU module	2
9444/15-11	Power supply module for up to 8 I/O modules	2
9492/15-1*-**	Socket	2

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	
9468/32-08-1*	Analog Universal Module HART 8x AI/AO for HART transmitter/valves, 0/4...20mA, line monitoring	1
9468/33-08-1*	Analog Universal Module HART 8x AI/AO for HART transmitter/valves, 0/4...20mA, line monitoring	2
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
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
9475/32-04-**	Digital Output Module 4x DO, line monitoring	1
9475/32-08-**	Digital Output Module 8x DO, line monitoring	1
9475/33-04-**	Digital Output Module 4x DO, line monitoring	2
9475/33-08-**	Digital Output Module 8x DO, line monitoring	2
9482/32-08-1*	Temperature Input Module 8x Temperature Input, RTD's and thermocouples	1
9482/33-08-1*	Temperature Input Module 8x Temperature Input, RTD's and thermocouples	2

I/O modules for Non-IS field circuits

9461/15-08-12	Analog Input Module HART 8x AI for 2-wire HART transmitters, 0/4...20mA, line monitoring	2
9466/15-08-12	Analog Output Module HART 8x AO, for HART valves or 0/4...20mA, line monitoring	2
9470/25-16-12	Digital Input Module 16x DI, for volt-free contacts, 2 frequency input up to 20kHz, line monitoring	2
9471/15-16-12	Digital Input Module 16x DI, 24V DC, 2 frequency input up to 20kHz	2
9477/12-06-12	Relay Module 6x relay output, 250V AC or 30-220V DC, 0.12-2A, NO	1
9477/12-08-12	Relay Module 8x relay output, 60V DC, 2A, NO	1
9490/11-3*	Socket for Relay modules 9477/12	1
9477/15-08-12	Relay Module 8x relay output, 250V AC or 30-220V DC, 0.12-2A, NO	2

Accessories

9494/*1-**	BusRail for IS1 / IS1+ system	1
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Job Id: **262.4-000049-1**
Certificate No: **MRA000000U**

Type	Designation	Zone
Terminals	Terminals for I/O Modules listed in the instruction manual (spring / screw)	1 / 2
SUB D Terminal	RS 485-IS (94 900 02 22 0)	1
9721/13-11-*4	Converter FXopis/TX SC SM/MM Ex op is	2

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
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Manufactured by

R. STAHL Schaltgeräte GmbH
Am Bahnhof 30, 74638 Waldenburg
Germany.

Application/Limitation

This approval covers hardware only. This excludes firmware, application software, and hardware designed for specific applications subject to classification. Firmware, system software, and application software are subject to additional separate approval, according to UR E22 and the rules of the classing RO (FAT and on-board review / tests).

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.

Required protection according to the Recognised Organisation's Rules shall be provided upon installation on board.

A RF shielded cabinet is required to fulfil the EMC requirements.

Type Approval documentation



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Marking of product

Manufacturer's name: R. STAHL Schaltgeräte GmbH
Type No.: Refer to product description
Unique serial No.
Date of manufacture:
Power supply ratings:

Other Conditions

The units have been verified for compliance with EU Mutual Recognition Technical Requirements for Computers and programmable logic controllers (PLC) version 0.3, dated 2016-04-01.

Environmental test parameters
Temperature: -25°C and 70°C
Vibration: ±1mm / 0.7g
EMC: All locations including bridge and open deck
Enclosure: IP20

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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 annually and at renewal of this certificate.

END OF CERTIFICATE