



## 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.

<b>Manufacturer</b>	<b>R. Stahl Schaltgeräte GmbH</b>
<b>Address</b>	Am Bahnhof 30, Waldenburg, 74638, Germany
<b>Type</b>	Control Systems
<b>Description</b>	Intrinsically Safe Remote I/O System IS1 / IS1+ refer to the Appendix for details
<b>Trade Name</b>	94** Serie, 9185, 9787, 9721
<b>Application</b>	Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2 and ENV3 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 - 2002.
<b>Specified Standard</b>	Manufacturer's specification EN 50178: 1997 EN 61010-1: 2010 IACS requirements E10 (1991/ Rev.8: Feb 2021)
<b>Ratings</b>	Power supply: 24VDC 9440/22-01-*1 <sup>(1)</sup> (*1= 11: Power Supply 24 VDC or 21: Power Supply 115/230 VAC)

**Jochen Koerner**

Senior Specialist to Lloyd's Register EMEA  
A member of the Lloyd's Register group

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.



## Type Approval Certificate

**Additional Tests** Low Temperature Test: -25 °C/ 2 hrs

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.

**Previous Version:** LR2328935TA superseded by this issue.

The Design Appraisal Document HPC2162071-23/JK and its supplementary Type Approval Terms and Conditions form part of this Certificate.

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.



## Appendix

### TYPES

#### for Zone 1<sup>(1)</sup> or Zone 2<sup>(2)</sup>:

##### CPU & Power Modules:

9440/15-01-*1 <sup>(2)</sup>	CPU & Power module for up to 16 I/O modules, with Display
9440/22-01-*1 <sup>(1)</sup>	CPU & Power module for up to 8 I/O modules, with Display (*1 = 11 or 21)
9490/1*-12	Socket
9442/32-10-00 <sup>(1)</sup>	CPU module
9445/32-12 <sup>(1)</sup>	Power module for up to 16 I/O modules + Power supply set
9496/32-03-00 <sup>(1)</sup>	Socket 3 Slots
9496/32-04-00 <sup>(1)</sup>	Socket 4 slots
9442/35-10-00 <sup>(2)</sup>	CPU module
9445/35-12 <sup>(2)</sup>	Power module for up to 16 I/O modules + Power supply set
9496/35-03-00 <sup>(2)</sup>	Socket 3 Slots
9496/35-04-00 <sup>(2)</sup>	Socket 4 slots

##### I/O modules with IS field circuits (Ex ib or ia):

9462/12-0*-11 <sup>(1)</sup>	Analog Input Module 6/8x AI for HART transmitters, 0/4...20mA, line monitoring, FS
9468/32-08-1* <sup>(1)</sup>	Analog Universal Module HART 8x AI/AO for HART transmitter/valves, 0/4...20mA, line monitoring
9468/33-08-1* <sup>(2)</sup>	Analog Universal Module HART 8x AI/AO for HART transmitter/valves, 0/4...20mA, line monitoring
9470/32-16-1* <sup>(1)</sup>	Digital Input Output Module 16x DI/DO, for volt-free contacts and low energy valves, 2 frequency input up to 20kHz, line monitoring
9470/33-16-1* <sup>(2)</sup>	Digital Input Output Module 16x DI/DO, for volt-free contacts and low energy valves, 2 frequency input up to 20kHz, line monitoring
9475/32-04-**- <sup>(1)</sup>	Digital Output Module 4x DO, line monitoring
9475/32-08-**- <sup>(1)</sup>	Digital Output Module 8x DO, line monitoring
9475/33-04-**- <sup>(2)</sup>	Digital Output Module 4x DO, line monitoring
9475/33-08-**- <sup>(2)</sup>	Digital Output Module 8x DO, line monitoring

**TYPES (continued)**

**I/O modules with IS field circuits (Ex ib or ia):**

9482/32-08-1* <sup>(1)</sup>	Temperature Input Module 8x, RTD's and thermocouples
9482/33-08-1* <sup>(2)</sup>	Temperature Input Module 8x, RTD's and thermocouples

**I/O modules for Non-IS field circuits:**

9469/35-08-1* <sup>(2)</sup>	Universal Module HART 8x AI/AO or 4x AI/AO + 4 DI/DO for transmitters, control valves, PNP proximity switches, solenoids
9471/35-16-1* <sup>(2)</sup>	Digital Input Output Module NAMUR 16x DI or DO, for NAMUR proximity switches, solenoid valves, frequency Signals
9472/35-16-1* <sup>(2)</sup>	Digital Input Output Module 24 V 16x DI or DO, for PNP/NAMUR proximity switches, solenoid valves, frequency Signals
9477/12-06-12 <sup>(1)</sup>	Relay Module 6x relay output, 250V AC or 30-220V DC, 0.12-2A, NO
9477/12-08-12 <sup>(1)</sup>	Relay Module 8x relay output, 60V DC, 2A, NO
9490/11-3* <sup>(1)</sup>	Socket for Relay modules, 9477/12
9477/15-08-12 <sup>(2)</sup>	Relay Module 8x relay output, 250V AC or 30-220V DC, 0.12-2A, NO

**I/O modules with reduced environment conditions:**

9478/22-08-51 <sup>(1)</sup>	8x valves, Digital output module with valve for compressed air Ambient temperature: 0°C ... 60°C
------------------------------	-----------------------------------------------------------------------------------------------------

**Accessories:**

9494/**_** <sup>(1)</sup>	BusRail for IS1 / IS1+ system
9491/T1-08-0* <sup>(2)</sup>	IS1+ Remote I/O Termination Board
9491/T1-16-0* <sup>(2)</sup>	IS1+ Remote I/O Termination Board
9491/Z1-VB-05	Connection cable for IS1+ Remote I/O Termination Board
9491/Z1-VB-10	Connection cable for IS1+ Remote I/O Termination Board

**Terminals for I/O Modules (spring / screw)<sup>(1/2)</sup>**

SUB D Terminal <sup>(1)</sup>	RS485-IS (162693 & 201805)
SUB D Terminal <sup>(2)</sup>	RS485 (105715)
9721/13-11-*4 <sup>(2)</sup>	Media Converter FXopis/TX SC SM/MM Ex op is
9721/13-42-** <sup>(2)</sup>	Unmanaged Switch FX op is SC / TX RJ45

---

**Accessories (continued):**

9787/15-11-11 <sup>(2)</sup>	USB RS485 Converter
9185 <sup>(1/2)</sup>	Fieldbus Isolating Repeater

**Enclosure:**

A housing is required to fulfil the EMC requirements

**EMC Emission and Immunity:**

- 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