DNV·GL

EU RO MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE

Certificate No:
MRA000000V

This Certificate is issued to

R. Stahl Schaltgeräte GmbH
Waldenburg, **Germany**

for
Computers and Programmable Logic Controllers

with type designation(s)
I.S. Isolators ISpac

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**

Approval Engineer: **Nils Jarem**

for **DNV GL**

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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

ISpac 91** and ISpac System 919* as follow:

ISpac Isolators

I.S. Power Supply	9143/10-***-***-*0
Frequency Transmitter	9146/*0-1*-1*
Vibration Transducer Supply Unit	9147/*0-99-10
Transmitter Supply Unit	9160/**-**-**
Transmitter Supply Unit with Limit values	9162/13-11-**
Isolating Repeater HART Input	9163/**-**-**
mA Isolating Repeater	9164/13-20-**
Isolating Repeater	9165/**-11-**
Isolation Repeater Loop Powered	9167/**-11-00
Switching Repeater	9170/**-**-**
I.S. Relay Module	9172/**-11-*0
Digital Output	9175/*0-1*-1*
Digital Output Loop Powered	9176/*0-1*-00
Resistance Isolator	9180/**-77-11
Temperature Transmitter	9182/*0-5*-**
Fieldbus Isolating Repeater	9185/1*-**-10
Fibre Optic Isolating Repeater	9186/12-*1-1*
Fibre Optic Isolating Repeater	9186/*5-12-11

ISpac System

Termination Module	9191/20-00-50
HART-Multiplexer	9192/32-10-10
Supply Module	9193/*0-11-1*
pac-Bus	9194/31-**
pac-Carrier	9195/***-***-****
Connection board	9196/**H-***-***

Manufactured by

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

Application/Limitation

Fieldbus Isolating Repeater must be installed in RF shielded cabinet.

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

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.

Type Approval documentation

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 0.2, dated 2015-01-31.

Environmental test parameters
Temperature: -25°C and 70°C
Vibration: ±1.6mm / 4.0g
                       ±1mm / 0.7g for pac-Carrier 9195.
EMC: All locations including bridge and open deck
Enclosure: IP20

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