

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Monitoring Relay

with type designation(s)
3RR2

Issued to

Siemens AG GWA
Amberg, Germany

is found to comply with
DNV GL rules for classification – Ships and offshore units

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until **2021-08-17**.

Issued at **Hamburg** on **2016-08-18**

DNV GL local station: **Augsburg**

Approval Engineer: **Harald Amberger**

for **DNV GL**

Duy Nam Le
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

3RR21, 3RR22 Monitoring Relays for Mounting onto 3RT2 Contactors 3RR24 Monitoring Relays for Mounting onto 3RT2 Contactors for IO-Link Ratings	
Operational voltage U _e	690V
Insulation voltage U _i	690V
Impulse withstands voltage U _{imp}	6kV
Type / Size	3RR2141, 3RRR2241, 3RR2441 / S00 3RR2142, 3RRR2242, 3RR2442 / S0 3RR2143, 3RRR2243, 3RR2443 / S2
Measuring range	1.6 ... 16A / S00 4.0 ... 40A / S0 8.0 ... 80A / S2
Control supply voltage	24V AC/DC 24 ... 240V AC/DC 24V DC only 3RR24..
Features, Basic version 3RR21..	Analogically adjustable Closed-circuit principle 1 CO contact 2-phase current monitoring Apparent current monitoring Start-up delay 0 ... 60 s
Features, Standard version 3RR22..	Digitally adjustable LC display Open or closed-circuit principle 1 CO contact 1 semiconductor output 3-phase current monitoring Active current or apparent current monitoring Phase sequence monitoring Residual / Blocking current monitoring Reclosing delay time 0 ... 300 min Start-up delay 0 ... 99 s Separate settings for warning and alarm thresholds
Features, Version 3RR24.. I/O-Link	Digitally adjustable LC display Open or closed-circuit principle 1 CO contact 1 semiconductor output (in SIO mode) 3-phase current monitoring Active current or apparent current monitoring Phase sequence monitoring Residual / Blocking current monitoring Operating- hours / cycles counter Reclosing delay time 0 ... 300 min Start-up delay 0 ... 999,9 s Separate settings for warning and alarm thresholds
Method of control	Manual / Automatic
Further ratings according manufacturer documentation	

Job Id: **262.1-020884-1**
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Ratings auxiliary contacts	
Operational voltage Ue	Changeover: 400V except for IO-ink devices: 250V Solid state output: 240V
Insulation voltage Ui	Changeover: 400V except for IO-ink devices: 300V Solid state output: 300V
Impulse withstands voltage Uimp	4kV
Operational current Ie	Changeover: AC-15:400V / 3A DC-13:24V / 1A, 125V / 0,22A, 250V / 0,11A Solid state output: AC-14:240V / 0,02A DC-13:240V / 0,02A
Frequency	50 / 60Hz, dc
Utilization category	AC-15, AC-14 DC-13
Further ratings according manufacturer documentation	

Accessories; Basic types	
3RU2916-	Terminal support for stand-alone installation, Size S00
3RU2926-	Terminal support for stand-alone installation, Size S0
3RU2936-	Terminal support for stand-alone installation, Size S2
3RR2940	Sealable covers
3TK2820-0AA00	Sealing foil

Ratings and mounting locations according manufacturer documentation.

Application/Limitation

Location Classes:

Temperature: D, Humidity: B, Vibration: A, Enclosure: IP20, EMC: A

For installation inside switchboards/ enclosures onboard ships and offshore units.

With Uimp=6kV; Overvoltage category II applies for applications in IT systems > 600 V.

Type Approval documentation

Tests carried out

IEC 60947-4-1, IEC 60947-5-1, IEC 61812-1, cold, dry heat, damp heat, vibration, flame retardancy, EMC

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Marking of product

Manufacturers label containing data and manufacturers type number.

Name and place of manufacturer

Siemens AG, GWA
Werner-von-Siemens-Str. 48
92220 Amberg
Germany

Siemens s.r.o., odštěpný závod
Nízkonapěťová spínací technika
Volanovská 516
541 01 Trutnov
Czech Republic

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable).
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out).
- Review of type approval documentation.
- Review of possible change in design, materials and performance.
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Assessment to be performed at least every second year.

END OF CERTIFICATE