



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.

| | |
|---------------------------|--|
| Manufacturer | ComatReleco AG |
| Address | Bernstraße 4, Worb, 3076, Switzerland |
| Type | Relays - Magnetic |
| Description | Electromagnetic relays – pluggable: C7-series: 2-pole plug-in type with dust cover and base C9-series: 2-pole plug-in type with dust cover and base C9-series: 4-pole plug-in type with dust cover and base Sockets: S7-series: Sockets for C7-series relays S9-series: Sockets for C9- and R9x-series relays For detailed product description, pls. refer to appendix. |
| Trade Name | C7-series, C9-series, S7-series, S9-series |
| Application | Marine, offshore and industrial applications for use in environmental categories ENV1 and ENV2 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 - December 2021. |
| Specified Standard | Manufacturer's specification IACS E10 Rev. 8 / 2021 |

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Type Approval Certificate

Ratings

No. of poles: 2 & 4
Switching current: 5...10 A
Switching voltage: 250 VAC
Coil voltage: 12...230 VAC / 12...110 VDC

For detailed ratings, pls. refer to appendix.

Other Conditions

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re- approved prior to it being supplied to vessels to which the amended standards apply.

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:

This certificate supersedes certificate number LR2195369TA-02 issued on 26 January 2022 which is hereby cancelled.

The Design Appraisal Document HPC1462057-22/MK and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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Appendix

DESCRIPTION

Electromagnetic relays with sockets (pluggable)

RATINGS

Relays:

| Type | No. of poles | Coil voltage (V) | Max. switching current (A) | Max. switching voltage (V) |
|---|--------------|-----------------------------------|----------------------------|----------------------------|
| C7-series: Industrial Relays – pluggable (x = 1,2) | | | | |
| C7-G20/AC...V | 2 | 12, 24, 48, 115, 230 VAC 50/60 Hz | 10 | 250 |
| C7- G20X/AC...V | | | | |
| C7- G20/DC...V | | 12, 24, 48, 110 VDC | | |
| C7- G20X/DC...V | | | | |
| C7- G20DX/DC...V | | | | |
| C7- G20FX/DC...V | | | | |
| C7-H23X/AC...V | 2 | 230 VAC 50/60 Hz | 10 | 250 |
| C7-H23X/DC...V | | 24 VDC | | |
| C7-T2x/AC...V | 2 | 12, 24, 115, 230 VAC 50/60 Hz | 6 | 250 |
| C7-T2xX/AC...V | | | | |
| C7-T2x/DC...V | | 12, 48, 60, 110, 220 VDC | | |
| C7- T2xX/DC...V | | | | |
| C7- T2xDX/DC...V | | | | |
| C7- T2xFX/DC...V | | | | |
| C7- T2xX/UC...V | | | | |
| C7-W10/AC...V | 1 | 48, 115, 230 VAC 50/60 Hz | 10 | 250 |
| C7-W10X/AC...V | | | | |
| C7-W10/DC...V | | 12, 48, 60, 110 VDC | | |
| C7-W10X/DC...V | | | | |
| C7-W10FX/DC...V | | | | |
| C7-W10BX/UC...V | | | | |
| C7-X10/AC...V | 1 | 24, 115, 230 VAC 50/60 Hz | 10 | 250 |
| C7- X10X/AC...V | | | | |
| C7- X10/DC...V | | 12, 24, 48, 110 VDC | | |
| C7- X10X/DC...V | | | | |
| C7- X10FX/DC...V | | | | |
| C7- X10BX/UC...V | | | | |
| C9-series: Industrial Relays – pluggable (x = 1,2) | | | | |
| C9-A4x/AC...V | 2 | 12, 24, 48,60, 230 VAC 50/60 Hz | 5 | 250 |
| C9-A4xX/AC...V | | | | |
| C9-A4x/DC...V | | 12, 24, 48, 60, 110, 220 VDC | | |
| C9- A4xX/DC...V | | | | |
| C9- A4xDX/DC...V | | | | |
| C9- A4xFX/DC...V | | | | |
| C9- A4xBX/UC...V | | | | |



RATINGS (continued)

| Type | No. of poles | Coil voltage (V) | Max. switching current (A) | Max. switching voltage (V) |
|---|--------------|----------------------------------|----------------------------|----------------------------|
| C9-series: Industrial Relays – pluggable (x = 1,2) | | | | |
| C9-E21X/AC...V | 2 | 12, 24, 48, 60, 230 VAC 50/60 Hz | 5 | 250 |
| C9-E21FX/DC...V | | 12, 24, 48, 60, 110, 220 VDC | | |
| C9-E21BX/UC...V | | 24 VDC or AC | | |
| C9-R21/AC...V | 2 | 24, 48, 115, 230 VAC 50/60 Hz | 5 | 120 |
| C9-R21/DC...V | | 12, 24, 48, 60 VDC | | |

AgNi C7-G20, C7-X10
AgNi + 0.2 μ Au C7-T21, C9-A41, C9-E21, C9-R21
AgNi + 5 μ Au C9-A42, C7-T22
Tungsten = Pre-contact / AgNi = Main contact C7-W10

Sockets:

| Type designation | No. of pins | Suitable for relay type | Mounting | Max. switching current (A) | Max. switching voltage (V) |
|------------------|-------------|-------------------------|----------|----------------------------|----------------------------|
| S7-C | 8 | C7x | TS35 | 10 A / 16 A (1 pole) | 250 V |
| S7-IO | | | | 10 A | |
| S9-M | 14 | C9x | TS35 | 6 A | 250 V |
| S9-PI | | | TH35 | | |
| S9-PIR | | R9x | | | |