

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	<p>Electromagnetic relays - pluggable C2-A2x Series: 2-pole standard relays C3-A3x Series: 3-pole standard relays C4-A4x Series: 4-pole standard relays C5-A20 Series: 2-pole power relays C5-A3x Series: 3-pole power relays C5-M10 Series: 1-pole double make power relays C12-A2x Series: 2-pole interface relays</p> <p>(x refers to contact material)</p> <p>Sockets: S2-B, S2-BGR C11A, C12B, S3-B, S3-M, S3-M0, S3-M1 S4-J CS-155, S5-M CS-112, S12</p> <p>For detailed description, pls. refer to appendix.</p>

Type Approval Certificate

Trade Name	C2, C3, C4, C5, C12, C11A, C12B, CS-112, CS-155, S2-B, S2-BGR, S3-B, S3-M, S3-M0, S3-M1, S4-J, S5-M, S12
Application	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 - June 2015.
Specified Standard	Manufacturer's specification IACS E10 Rev. 8 / 2021
Ratings	For detailed ratings, pls. refer to appendix.
Additional Tests	Low Temperature test: -40 °C / 16 hours
Other Conditions	Relays were not tested for electrical battery supply. 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 LR2195606TA issued on 25 May 2021 which is hereby cancelled.

The Design Appraisal Document HTS/ETS 42153-22/MK/TW and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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Appendix

DESCRIPTION

Plug-in relays with change-over contacts and sockets

RATINGS

Type	No. of poles	Coil voltage (V)	Max. switching current (A)	Max. switching voltage (V)
C2-A2x Series: 2-pole plug-in type standard relays (incl. C2-A20, C2-A28, C2-A29)				
C2-A2x/AC...V	2	12, 24, 48, 115, 230 VAC 50/60 Hz	10	250
C2-A2xX/AC...V				
C2-A2x/DC...V		12, 24, 48, 110, 220 VDC		
C2-A2xX/DC...V				
C2-A2xDX/DC...V				
C2-A2xFX/DC...V				
C3-A3x Series: 3-pole plug-in type standard relays (incl. C3-A30, C3-A38, C3-A39)				
C3-A3x/AC...V	3	12, 24, 48, 60, 115, 230 AC 50/60 Hz	10	250
C3-A3xX/AC...V				
C3-A3x/DC...V		12, 24, 48, 60, 110, 220 VDC		
C3-A3xX/DC...V				
C3-A3xDX/DC...V				
C3-A3xFX/DC...V				
C4-A4x Series: 4-pole plug-in type standard relays (incl. C4-A40, C4-A48)				
C4-A4x/AC...V	4	12, 24, 48, 115, 230, 400 VAC 50/60 Hz	10	250
C4-A4xX/AC...V				
C4-A4x/DC...V		12, 24, 48, 60, 110, 220 VDC		
C4-A4xX/DC...V				
C4-A4xDX/DC...V				
C4-A4xFX/DC...V				
C5-A20 Series: 2-pole plug-in type power relays				
C5-A20/AC...V	2	12, 24, 48, 115, 230, 400 VAC 50/60 Hz	16	400
C5-A20X/AC...V				
C5-A20/DC...V		12, 24, 48, 60, 110, 220 VDC		
C5-A20X/DC...V				
C5-A20DX/DC...V				
C5-A20FX/DC...V				

RATINGS (continued)

Type	No. of poles	Coil voltage (V)	Max. switching current (A)	Max. switching voltage (V)
C5-A3x Series: 3-pole plug-in type power relays (incl. C5-A30, C5-A35)				
C5-A3x/AC...V	3	12, 24, 48, 115, 230, 400 VAC	16	400
C5-A3xX/AC...V		50/60 Hz		
C5-A3x/DC...V		12, 24, 48, 60, 110, 220 VDC		
C5-A3xX/DC...V				
C5-A3xDX/DC...V				
C5-A3xFX/DC...V				
C5-M10 Series: 1-pole double make power relays				
C5- M10/AC...V	1	12, 24, 48, 115, 230, 400 VAC	16	400
C5- M10X/AC...V		50/60 Hz		
C5- M10/DC...V		12, 24, 48, 60, 110, 220 VDC		
C5-M10X/DC...V				
C5-M10DX/DC...V				
C5-M10FX/DC...V				
C12-A2x Series: 2-pole plug-in type interface relays (incl. C12-A21, C12-A22)				
C12-A2x/AC...V	2	12, 24, 48, 115, 230 VAC	5	250
C12-A2xX/AC...V		50/60 Hz		
C12-A2x/DC...V		12, 24, 48, 110 VDC		
C12-A2xX/DC...V				
C12-A2xFX/DC...V				
C12-A2xBX/UC...V				

Sockets:

S2-B, S2-BGR	8-pin socket for C2 relays
C11A, C12B, S3-B	11-pin sockets for C3 relays
S3-M, S3-M0, S3-M1	11-pin sockets for C3 relays
S4-J	14-pin sockets for C4 relays
CS-155, S5-M	11-pin sockets for C5 relays
CS-112, S12	8-pin sockets for C12 relays