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Data sheet 3RT2015-2KB41



COUPLING RELAY, AC-3, 3KW/400V, 1NO, DC 24V, 0.7...1.25*US, W. INTEGR. SUPPRESSORDIODE, SZ S00, SPRING-LOADED TERMINAL

product brand name	SIRIUS
Product designation	Coupling relay

General technical data:	
Size of contactor	S00
Product expansion	
• function module for communication	No
• Auxiliary switch	No
Insulation voltage	
• Rated value	690 V
Surge voltage resistance Rated value	6 kV
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	400 V
Protection class IP	
• on the front	IP20
• of the terminal	IP20
Degree of pollution	3
Shock resistance	
• **at rectangular impulse**	
— **at DC**	6,7g / 5 ms, 4,2g / 10 ms
• **with sine pulse**	
— **at DC**	10,5g / 5 ms, 6,6g / 10 ms
Mechanical service life (switching cycles)	
• of the contactor typical	30 000 000

Ambient conditions:

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Installation altitude at height above sea level maximum	2 000 m
Ambient temperature	
• during operation	-25 ... +60 °C
• during operation Note	Railway application: -40 ... 70 ℃ with 10 mm clearance. See catalog for other rated conditions
• during storage	-55 ... +80 °C
Main circuit:	
Number of NO contacts for main contacts	3
Number of NC contacts for main contacts	0
Operating voltage	
• at AC-3 Rated value maximum	690 V
Operating current	
• at AC-1 at 400 V	
— at ambient temperature 40 °C Rated value	18 A
• at AC-1 up to 690 V	
— at ambient temperature 40 °C Rated value	18 A
— at ambient temperature 60 °C Rated value	16 A
• at AC-2 at 400 V Rated value	7 A
• at AC-3	
— at 400 V Rated value	7 A
— at 500 V Rated value	6 A
— at 690 V Rated value	4.9 A
Connectable conductor cross-section in main circuit at AC-1	
• at 60 °C minimum permissible	2.5 mm²
• at 40 °C minimum permissible	2.5 mm²
Operating current for ≥ 200000 operating cycles at AC-4	
• at 400 V Rated value	2.6 A
• at 690 V Rated value	1.8 A
Operating current	
• with 1 current path at DC-1	
— at 24 V Rated value	15 A
— at 110 V Rated value	1.5 A
— at 220 V Rated value	0.6 A
— at 440 V Rated value	0.42 A
— at 600 V Rated value	0.42 A
• with 2 current paths in series at DC-1	
— at 24 V Rated value	15 A
— at 110 V Rated value	8.4 A
— at 220 V Rated value	1.2 A

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— at 440 V Rated value	0.6 A
— at 600 V Rated value	0.5 A
• with 3 current paths in series at DC-1	
— at 24 V Rated value	15 A
— at 110 V Rated value	15 A
— at 220 V Rated value	15 A
— at 440 V Rated value	0.9 A
— at 600 V Rated value	0.7 A
Operating current	
• with 1 current path at DC-3 at DC-5	
— at 24 V Rated value	15 A
— at 110 V Rated value	0.1 A
• with 2 current paths in series at DC-3 at DC-5	
— at 110 V Rated value	0.25 A
— at 24 V Rated value	15 A
• with 3 current paths in series at DC-3 at DC-5	
— at 110 V Rated value	15 A
— at 220 V Rated value	1.2 A
— at 24 V Rated value	15 A
— at 440 V Rated value	0.14 A
— at 600 V Rated value	0.14 A
Operating power	
• at AC-1	
— at 230 V Rated value	6.3 kW
— at 230 V at 60 °C Rated value	6 kW
— at 400 V Rated value	11 kW
— at 400 V at 60 °C Rated value	10.5 kW
— at 690 V Rated value	19 kW
— at 690 V at 60 °C Rated value	18 kW
• at AC-2 at 400 V Rated value	3 kW
• at AC-3	
— at 230 V Rated value	1.5 kW
— at 400 V Rated value	3 kW
— at 690 V Rated value	4 kW
Operating power for ≥ 200000 operating cycles at AC-4	
• at 400 V Rated value	1.15 kW
• at 690 V Rated value	1.15 kW
Thermal short-time current restricted to 10 s	56 A
Active power loss at AC-3 at 400 V for rated value of the operating current per conductor	0.4 W
No-load switching frequency	

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• at DC	10 000 1/h
Operating frequency	
• at AC-1 maximum	1 000 1/h
• at AC-2 maximum	750 1/h
• at AC-3 maximum	750 1/h
• at AC-4 maximum	250 1/h
Control circuit/ Control:	
Type of voltage of the control supply voltage	DC
Control supply voltage at DC	
• Rated value	24 V
Operating range factor control supply voltage rated value of the magnet coil at DC	0.7 ... 1.25
Design of the surge suppressor	with suppressor diode
Closing power of the magnet coil at DC	2.8 W
Holding power of the magnet coil for DC	2.8 W
Closing delay	
• at DC	30 ... 100 ms
Arcing time	10 ... 15 ms
Residual current of the electronics for control with signal <0>	
• at AC at 230 V maximum permissible	3 mA
• at DC at 24 V maximum permissible	10 mA
Auxiliary circuit:	
Number of NC contacts	
• for auxiliary contacts	
— instantaneous contact	0
Number of NO contacts	
• for auxiliary contacts	
— instantaneous contact	1
Operating current at AC-12 maximum	10 A
Operating current at AC-15	
• at 230 V Rated value	10 A
• at 400 V Rated value	3 A
• at 500 V Rated value	2 A
• at 690 V Rated value	1 A
Operating current at DC-12	
• at 24 V Rated value	10 A
• at 48 V Rated value	6 A
• at 60 V Rated value	6 A
• at 110 V Rated value	3 A
• at 125 V Rated value	2 A
• at 220 V Rated value	1 A

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• at 600 V Rated value	0.15 A
Operating current at DC-13	
• at 24 V Rated value	10 A
• at 48 V Rated value	2 A
• at 60 V Rated value	2 A
• at 110 V Rated value	1 A
• at 125 V Rated value	0.9 A
• at 220 V Rated value	0.3 A
• at 600 V Rated value	0.1 A
Contact reliability of the auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)

UL/CSA ratings:

Full-load current (FLA) for three-phase AC motor	
• at 480 V Rated value	4.8 A
• at 600 V Rated value	6.1 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V Rated value	0.25 hp
— at 230 V Rated value	0.75 hp
• for three-phase AC motor	
— at 200/208 V Rated value	1.5 hp
— at 220/230 V Rated value	2 hp
— at 460/480 V Rated value	3 hp
— at 575/600 V Rated value	5 hp
Contact rating of the auxiliary contacts acc. to UL	A600 / Q600

Short-circuit:

Design of the fuse link	
• for short-circuit protection of the main circuit	
— with type of assignment 1 required	gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 35 A
— with type of assignment 2 required	gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 20 A
• for short-circuit protection of the auxiliary switch required	fuse gL/gG: 10 A

Installation/ mounting/ dimensions:

mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
Mounting type	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022
• Side-by-side mounting	Yes
Height	70 mm
Width	45 mm
Depth	73 mm

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Required spacing	
• with side-by-side mounting	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm
• for grounded parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— at the side	6 mm
— downwards	0 mm
• for live parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	6 mm

Connections/ Terminals:

Type of electrical connection	
• for main current circuit	spring-loaded terminals
• for auxiliary and control current circuit	spring-loaded terminals
Type of connectable conductor cross-section	
• for main contacts	
— single or multi-stranded	2x (0,5 ... 4 mm²)
— finely stranded with core end processing	2x (0.5 ... 2.5 mm²)
— finely stranded without core end processing	2x (0.5 ... 2.5 mm²)
• for AWG conductors for main contacts	2x (20 ... 12)
Type of connectable conductor cross-section	
• for auxiliary contacts	
— single or multi-stranded	2x (0,5 ... 4 mm²)
— finely stranded with core end processing	2x (0.5 ... 2.5 mm²)
— finely stranded without core end processing	2x (0.5 ... 2.5 mm²)
• for AWG conductors for auxiliary contacts	2x (20 ... 12)

Safety related data:

B10 value with high demand rate acc. to SN 31920	1 000 000
Proportion of dangerous failures	
• with low demand rate acc. to SN 31920	40 %

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• with high demand rate acc. to SN 31920	73 %
Product function	
• Mirror contact acc. to IEC 60947-4-1	No
T1 value for proof test interval or service life acc. to IEC 61508	20 y

Certificates/ approvals:

General Product Approval				Functional Safety/Safety of Machinery	Declaration of Conformity
CCC	CSA	EAC	UL	Baumusterbescheinigung	EG-Konf.

Test Certificates			Shipping Approval		
Typprüfbescheinigung/Werkszeugnis	spezielle Prüfbescheinigungen	sonstig	ABS	BUREAU VERITAS	DNV

Shipping Approval					other
GL	LRS	PRS	RINA	RMRS	Bestätigungen

other	
Umweltbestätigung	VDE

Further information

Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

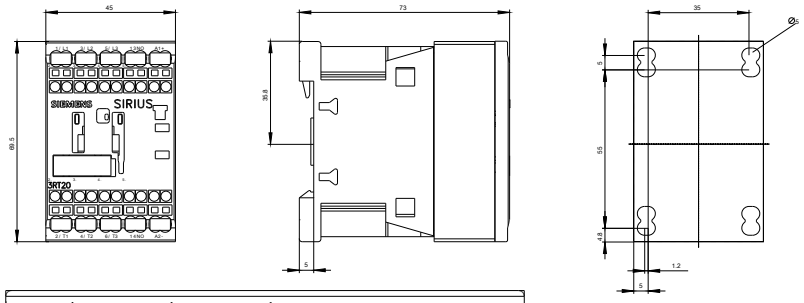
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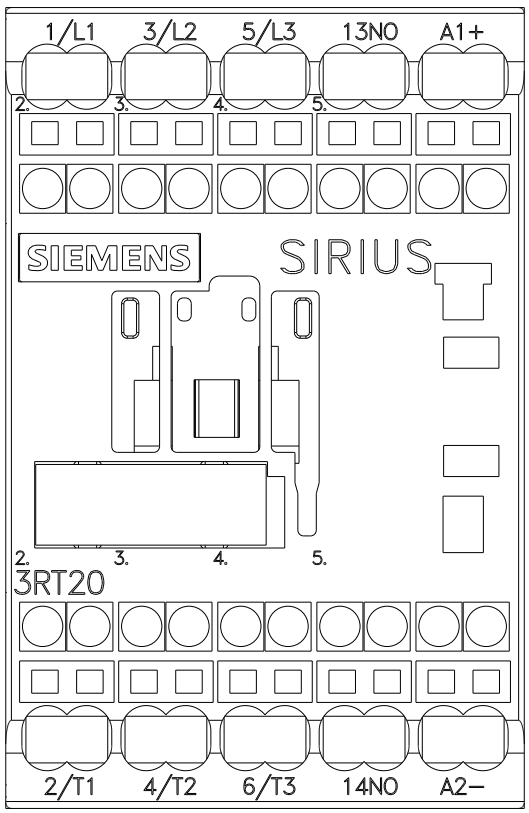
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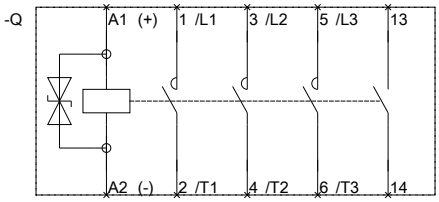
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last modified: 29.06.2015

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