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Data sheet 3RH2131-2KB40



COUPLING CONTACTOR RELAY, 3NO+1NC, DC 24V, 0.7...1.25*US, W/ INTEGRATED SUPPRESSOR DIODE, SZ S00, SPRING-LOADED TERMINAL

product brand name	SIRIUS
Product designation	Coupling relay for switching auxiliary circuits

General technical data:	
Size of contactor	S00
Product expansion	
• Auxiliary switch	No
Insulation voltage	
• with degree of pollution 3 Rated value	690 V
Surge voltage resistance Rated value	6 kV
Protection class IP	
• on the front	IP20
Degree of pollution	3
Mechanical service life (switching cycles)	
• of the contactor typical	30 000 000
Equipment marking	
• acc. to DIN EN 61346-2	K
• acc. to DIN EN 81346-2	K

Ambient conditions:	
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 °C with 10 mm clearance. See catalog for other rated conditions
• during storage	-55 ... +80 °C

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Main circuit:	
No-load switching frequency	
• at AC	10 000 1/h
• at DC	10 000 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 s

Auxiliary circuit:	
Number of NC contacts	
• for auxiliary contacts	1
— instantaneous contact	1
Number of NO contacts	
• for auxiliary contacts	3
— instantaneous contact	3
Identification number and letter for switching elements	31 E
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 with 1 current path at DC-12	
• at 24 V Rated value	10 A
• at 110 V Rated value	3 A
• at 220 V Rated value	1 A
• at 440 V Rated value	0.3 A
• at 600 V Rated value	0.15 A
Operating current with 2 current paths in series at DC-12	
• at 24 V Rated value	10 A
• at 60 V Rated value	10 A
• at 110 V Rated value	4 A

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• at 220 V Rated value	2 A
• at 440 V Rated value	1.3 A
• at 600 V Rated value	0.65 A
Operating current with 3 current paths in series at DC-12	
• at 24 V Rated value	10 A
• at 60 V Rated value	10 A
• at 110 V Rated value	10 A
• at 220 V Rated value	3.6 A
• at 440 V Rated value	2.5 A
• at 600 V Rated value	1.8 A
Operating frequency at DC-12 maximum	1 000 1/h
Operating current with 1 current path at DC-13	
• at 24 V Rated value	10 A
• at 110 V Rated value	1 A
• at 220 V Rated value	0.3 A
• at 440 V Rated value	0.14 A
• at 600 V Rated value	0.1 A
Operating current with 2 current paths in series at DC-13	
• at 24 V Rated value	10 A
• at 60 V Rated value	3.5 A
• at 110 V Rated value	1.3 A
• at 220 V Rated value	0.9 A
• at 440 V Rated value	0.2 A
• at 600 V Rated value	0.1 A
Operating current with 3 current paths in series at DC-13	
• at 24 V Rated value	10 A
• at 60 V Rated value	4.7 A
• at 110 V Rated value	3 A
• at 220 V Rated value	1.2 A
• at 440 V Rated value	0.5 A
• at 600 V Rated value	0.26 A
Operating frequency at DC-13 maximum	1 000 1/h
Design of the miniature circuit breaker	
• for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 6 A; 0.4 kA
Contact reliability of the auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)

UL/CSA ratings:	
Contact rating of the auxiliary contacts acc. to UL	A600 / Q600

Short-circuit:

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Design of the fuse link	
• 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
Height	70 mm
Width	45 mm
Depth	73 mm
Required spacing	
• for grounded parts	
— at the side	6 mm
• for live parts	
— at the side	6 mm
Connections/ Terminals:	
Type of electrical connection	
• for auxiliary and control current circuit	spring-loaded terminals
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; With 0.3 x Ie
Proportion of dangerous failures	
• with low demand rate acc. to SN 31920	40 %
• with high demand rate acc. to SN 31920	73 %
Product function	
• positively driven operation acc. to IEC 60947-5-1	Yes
T1 value for proof test interval or service life acc. to IEC 61508	20 y
Certificates/ approvals:	

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General Product Approval			Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates
CSA		UL	Baumusterbescheinigung	EG-Konf.	spezielle Prüfbescheinigungen

Shipping Approval					
ABS	BUREAU VERITAS	DNV	GL	LRS	PRS

Shipping Approval		other	
RINA	RMRS	Umweltbestätigung	VDE

Further information

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

Industry Mall (Online ordering system)
http://www.siemens.com/industrymall

Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH21312KB40

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RH21312KB40

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH21312KB40&lang=en

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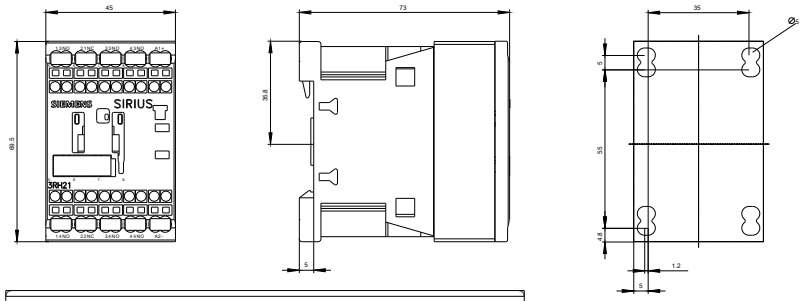

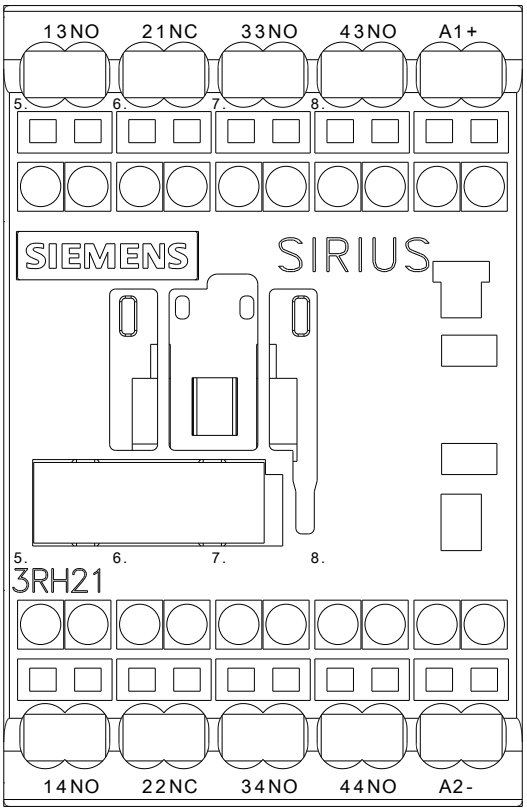

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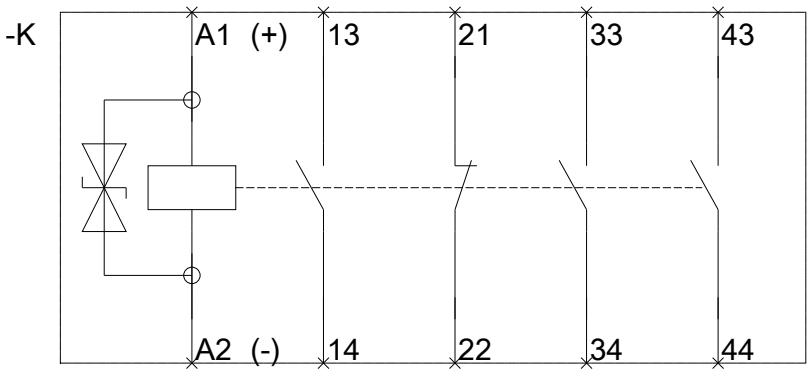

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