# **SIEMENS**

Data sheet 3RT2026-1KB40

power contactor, AC-3 25 A, 11 kW / 400 V 1 NO + 1 NC, 24 V DC with integrated varistor 3-pole, Size S0, screw terminal suitable for PLC outputs



Product brand name	SIRIUS
Product designation	Coupling relay
Product type designation	3RT2

General technical data	
Size of contactor	S0
Product extension	
<ul> <li>function module for communication</li> </ul>	No
Auxiliary switch	No
Surge voltage resistance	
of main circuit rated value	6 kV
<ul> <li>of auxiliary circuit rated value</li> </ul>	6 kV
maximum permissible voltage for safe isolation	
<ul> <li>between coil and main contacts acc. to EN</li> </ul>	400 V
60947-1	
Protection class IP	
• on the front	IP20
• of the terminal	IP20
Shock resistance at rectangular impulse	
• at DC	10g / 5 ms, 7,5g / 10 ms

Shock resistance with sine pulse	
• at DC	15g / 5 ms, 10g / 10 ms
Mechanical service life (switching cycles)	
of contactor typical	10 000 000
<ul> <li>of the contactor with added electronics- compatible auxiliary switch block typical</li> </ul>	5 000 000
of the contactor with added auxiliary switch block typical	10 000 000
Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750	К
Reference code acc. to DIN EN 81346-2	Q
Ambient conditions	
Installation altitude at height above sea level	
• maximum	2 000 m
Ambient temperature	
<ul><li>during operation</li></ul>	-25 +60 °C
during operation	Railway application: -40 70 °C with 10 mm clearance. See catalog for other rated conditions
during storage	-55 +80 °C
Main circuit	
Number of poles for main current circuit	3
Number of NO contacts for main contacts	3
Operating voltage	
<ul> <li>at AC-3 rated value maximum</li> </ul>	690 V
Operating current	
• at AC-1 at 400 V	
— at ambient temperature 40 °C rated value	40 A
• at AC-1	
<ul> <li>up to 690 V at ambient temperature 40 °C rated value</li> </ul>	40 A
— up to 690 V at ambient temperature 60 °C rated value	35 A
• at AC-2 at 400 V rated value	25 A
• at AC-3	
— at 400 V rated value	25 A
— at 500 V rated value	18 A
— at 690 V rated value	13 A
• at AC-4 at 400 V rated value	15.5 A
Connectable conductor cross-section in main circuit at AC-1	
al AC-1	

• at 40 °C minimum permissible

10 mm<sup>2</sup>

Operating current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	9 A
• at 690 V rated value	9 A
Operating current	
• at 1 current path at DC-1	
— at 24 V rated value	35 A
— at 110 V rated value	4.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.4 A
— at 600 V rated value	0.25 A
• with 2 current paths in series at DC-1	
— at 24 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	5 A
— at 440 V rated value	1 A
— at 600 V rated value	0.8 A
<ul> <li>with 3 current paths in series at DC-1</li> </ul>	
— at 24 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	35 A
— at 440 V rated value	2.9 A
— at 600 V rated value	1.4 A
Operating current	
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	20 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.09 A
— at 600 V rated value	0.06 A
• with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	35 A
— at 110 V rated value	15 A
— at 220 V rated value	3 A
— at 440 V rated value	0.27 A
— at 600 V rated value	0.16 A
• with 3 current paths in series at DC-3 at DC-5	
— at 24 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	10 A
— at 440 V rated value	0.6 A

— at 600 V rated value	0.6 A
Operating power	
• at AC-1	
— at 230 V rated value	13.3 kW
— at 230 V at 60 °C rated value	13.3 kW
— at 400 V rated value	23 kW
— at 400 V at 60 °C rated value	23 kW
— at 690 V rated value	40 kW
— at 690 V at 60 °C rated value	40 kW
• at AC-2 at 400 V rated value	11 kW
• at AC-3	
— at 230 V rated value	5.5 kW
— at 400 V rated value	11 kW
— at 500 V rated value	11 kW
— at 690 V rated value	11 kW
Operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	4.4 kW
• at 690 V rated value	7.7 kW
Thermal short-time current limited to 10 s	200 A
Power loss [W] at AC-3 at 400 V for rated value of	1.6 W
the operating current per conductor	
No-load switching frequency	
• at DC	1 500 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 magnet coil at DC	0.7
• initial value	1.25
Full-scale value  Design of the surge suppressor	
Design of the surge suppressor  Closing power of magnet coil at DC	with varistor 4.5 W
Holding power of magnet coil at DC	4.5 W
Closing delay	7.0 W
• at DC	50 170 ms

Opening delay	
• at DC	15 17.5 ms
Arcing time	10 10 ms
Control version of the switch operating mechanism	Standard A1 - A2

Auxiliary circuit	
Number of NC contacts for auxiliary contacts	
• instantaneous contact	1
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
• 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 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	21 A
• at 600 V rated value	22 A
Yielded mechanical performance [hp]	
<ul> <li>for single-phase AC motor</li> </ul>	
— at 110/120 V rated value	2 hp
— at 230 V rated value	3 hp
• for three-phase AC motor	

<ul> <li>at 200/208 V rated value</li> </ul>	5 hp
— at 220/230 V rated value	7.5 hp
— at 460/480 V rated value	15 hp
— at 575/600 V rated value	20 hp
Contact rating of auxiliary contacts according to UL	A600 / Q600

Short-circuit protection	
Design of the fuse link	
• for short-circuit protection of the main circuit	
— with type of coordination 1 required	gG: 100A (690V,100kA), aM: 50A (690V,100kA), BS88: 100A (415V,80kA)
— with type of assignment 2 required	gG: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)
<ul> <li>for short-circuit protection of the auxiliary switch required</li> </ul>	fuse 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 60715
<ul> <li>Side-by-side mounting</li> </ul>	Yes
Height	85 mm
Width	45 mm
Depth	107 mm
Required spacing	
<ul><li>for grounded parts</li></ul>	
— at the side	6 mm
• for live parts	
— at the side	6 mm

Connections/Terminals	
Connections/Terminals	
Type of electrical connection	
<ul> <li>for main current circuit</li> </ul>	screw-type terminals
<ul> <li>for auxiliary and control current circuit</li> </ul>	screw-type terminals
Type of connectable conductor cross-sections	
• for main contacts	
— solid	2x (1 2.5 mm²), 2x (2.5 10 mm²)
<ul> <li>single or multi-stranded</li> </ul>	2x (1 2,5 mm²), 2x (2,5 10 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
<ul> <li>at AWG conductors for main contacts</li> </ul>	2x (16 12), 2x (14 8)
Connectable conductor cross-section for main	
contacts	
• solid	1 10 mm²

• stranded	1 10 mm²
<ul> <li>finely stranded with core end processing</li> </ul>	1 10 mm²
Connectable conductor cross-section for auxiliary	
contacts	
<ul> <li>single or multi-stranded</li> </ul>	0.5 2.5 mm²
<ul> <li>finely stranded with core end processing</li> </ul>	0.5 2.5 mm²
Type of connectable conductor cross-sections	
<ul> <li>for auxiliary contacts</li> </ul>	
<ul> <li>single or multi-stranded</li> </ul>	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
<ul> <li>at AWG conductors for auxiliary contacts</li> </ul>	2x (20 16), 2x (18 14)
AWG number as coded connectable conductor cross	
section	
• for main contacts	16 8
• for auxiliary contacts	20 14

Safety related data	
B10 value	
<ul> <li>with high demand rate acc. to SN 31920</li> </ul>	1 000 000
Proportion of dangerous failures	
<ul> <li>with low demand rate acc. to SN 31920</li> </ul>	40 %
<ul> <li>with high demand rate acc. to SN 31920</li> </ul>	73 %
Failure rate [FIT]	
<ul> <li>with low demand rate acc. to SN 31920</li> </ul>	100 FIT
Product function	
<ul> <li>Mirror contact acc. to IEC 60947-4-1</li> </ul>	Yes
T1 value for proof test interval or service life acc. to	20 y
IEC 61508	
Protection against electrical shock	finger-safe

# Certificates/approvals

#### **General Product Approval**







KC





**EMC** 

Functional
Safety/Safety
of Machinery

Declaration	0
Conformity	

**Test Certificates** 

Marine / **Shipping** 

Type Examination



Type Test Certificates/Test Report

**Special Test** Certificate

Miscellaneous



## Marine / Shipping





GL









Marine / Shipping other

Confirmation





## Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2026-1KB40

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2026-1KB40

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

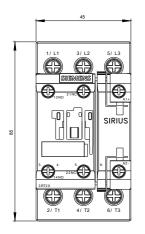
https://support.industry.siemens.com/cs/ww/en/ps/3RT2026-1KB40

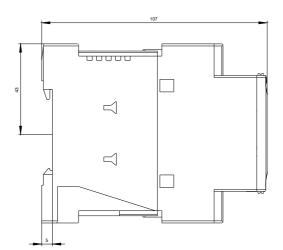
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2026-1KB40&lang=en

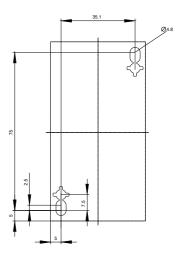
Characteristic: Tripping characteristics, I2t, Let-through current

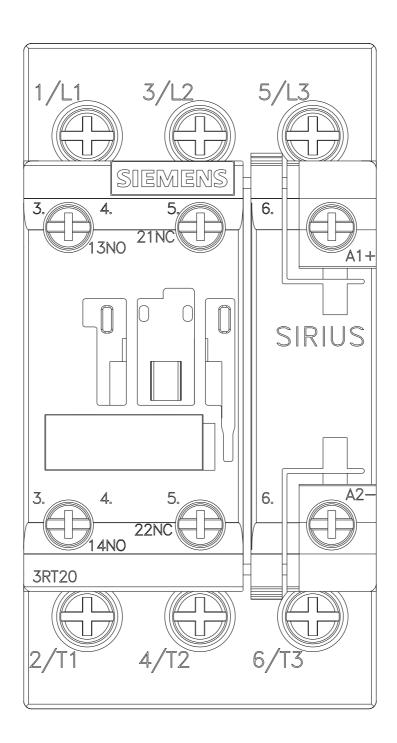
https://support.industry.siemens.com/cs/ww/en/ps/3RT2026-1KB40/char

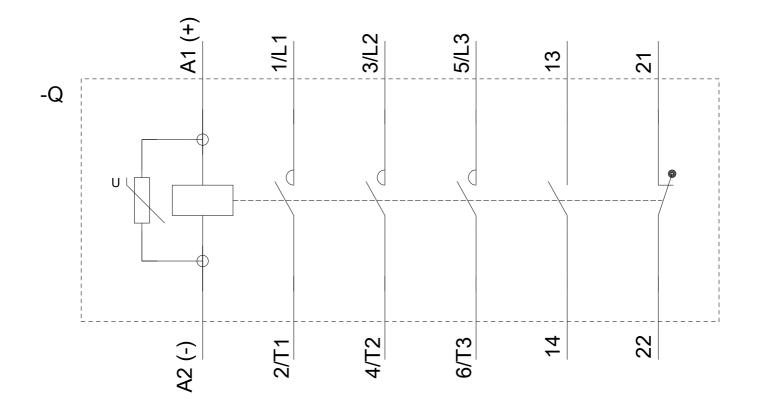
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2026-1KB40&objecttype=14&gridview=view1











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