

COUPL. CONT., AC3:37KW/400V, 2NO+2NC, 24 V DC, W.
VARISTOR, 3-POLE, SIZE S2, SCREW TERMINALS, AUX.
SWITCH PERM. MOUNTED SUITABLE FOR 2A PLC OUTPUTS

product brandname	SIRIUS
Product designation	3RT2 contactor

General technical data

Size of contactor	S2
Product extension	
function module for communication	No
Auxiliary switch	No
Insulation voltage	
rated value	690 V
Degree of pollution	3
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	IP00
Shock resistance	
at rectangular impulse	
— at DC	6.1g / 5 ms, 3.7g / 10 ms
with sine pulse	
— at DC	9.6g / 5 ms, 5.8g / 10 ms
Mechanical service life (switching cycles)	
of contactor typical	10 000 000
of the contactor with added electronics-compatible auxiliary switch block typical	5 000 000
of the contactor with added auxiliary switch block typical	10 000 000

Ambient conditions

Installation altitude at height above sea level maximum	2 000 m
Ambient temperature	
during operation	-25 ... +60 °C
during storage	-55 ... +80 °C

Main circuit

Number of poles for main current circuit	3
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	90 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	90 A
— up to 690 V at ambient temperature 60 °C rated value	80 A
• at AC-2 at 400 V rated value	80 A
• at AC-3	
— at 400 V rated value	80 A
— at 500 V rated value	80 A
— at 690 V rated value	58 A
Connectable conductor cross-section in main circuit at AC-1	
• at 60 °C minimum permissible	25 mm²
• at 40 °C minimum permissible	35 mm²
Operating current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	30 A
• at 690 V rated value	24 A
Operating current	
• at 1 current path at DC-1	
— at 24 V rated value	55 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	55 A
— at 110 V rated value	45 A
— at 220 V rated value	5 A
— at 440 V rated value	1 A
— at 600 V rated value	0.8 A
• with 3 current paths in series at DC-1	
— at 24 V rated value	55 A
— at 110 V rated value	55 A

— at 220 V rated value	45 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	35 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.1 A
— at 600 V rated value	0.06 A
• with 2 current paths in series at DC-3 at DC-5	
— at 110 V rated value	25 A
— at 220 V rated value	5 A
— at 24 V rated value	55 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 110 V rated value	55 A
— at 220 V rated value	25 A
— at 24 V rated value	55 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.35 A
Operating power	
• at AC-1	
— at 230 V rated value	34 kW
— at 230 V at 60 °C rated value	28 kW
— at 400 V rated value	59 kW
— at 400 V at 60 °C rated value	49 kW
— at 690 V rated value	102 kW
— at 690 V at 60 °C rated value	85 kW
• at AC-2 at 400 V rated value	37 kW
• at AC-3	
— at 230 V rated value	22 kW
— at 400 V rated value	37 kW
— at 500 V rated value	37 kW
— at 690 V rated value	45 kW
Operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	15.8 kW
• at 690 V rated value	21.8 kW
Thermal short-time current limited to 10 s	
	640 A

Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor	5.7 W
No-load switching frequency	
• at DC	1 500 1/h
Operating frequency	
• at AC-1 maximum	700 1/h
• at AC-2 maximum	350 1/h
• at AC-3 maximum	500 1/h
• at AC-4 maximum	150 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	0.8 ... 1.2
Design of the surge suppressor	with varistor
Closing power of magnet coil at DC	21.5 W
Holding power of magnet coil at DC	1 W
Closing delay	
• at DC	45 ... 60 ms
Opening delay	
• at DC	35 ... 55 ms
Arcing time	10 ... 20 ms
Residual current of the electronics for control with signal <0>	
• at AC at 230 V maximum permissible	20 mA
• at DC at 24 V maximum permissible	20 mA

Auxiliary circuit

Number of NC contacts	
• for auxiliary contacts	
— instantaneous contact	2
Number of NO contacts	
• for auxiliary contacts	
— instantaneous contact	2
Operating current at AC-12 maximum	10 A
Operating current at AC-15	
• at 230 V rated value	6 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 • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value	6 A 6 A 3 A 2 A 1 A 0.15 A
Operating current at DC-13 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value	6 A 2 A 2 A 1 A 0.9 A 0.3 A 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 • at 600 V rated value	65 A 62 A
Yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value • for three-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 575/600 V rated value	5 hp 15 hp 20 hp 25 hp 50 hp 60 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 — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required	gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 250 A gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 160 A fuse gL/gG: 10 A
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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
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Mounting type	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022
• Side-by-side mounting	Yes
Height	114 mm
Width	55 mm
Depth	174 mm
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	10 mm
— Backwards	0 mm
— upwards	50 mm
— at the side	6 mm
— downwards	50 mm
• for live parts	
— forwards	10 mm
— Backwards	0 mm
— upwards	50 mm
— downwards	50 mm
— at the side	6 mm

Connections/Terminals

Type of electrical connection	
• for main current circuit	screw-type terminals
• for auxiliary and control current circuit	screw-type terminals
Type of connectable conductor cross-sections	
• for main contacts	
— single or multi-stranded	2x (1 ... 35 mm ²), 1x (1 ... 50 mm ²)
— finely stranded with core end processing	2x (1 ... 25 mm ²), 1x (1 ... 35 mm ²)
• at AWG conductors for main contacts	2x (18 ... 2), 1x (18 ... 1)
Type of connectable conductor cross-sections	
• for auxiliary contacts	
— single or multi-stranded	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²)
— finely stranded with core end processing	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²)
• at AWG conductors for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14)

Safety related data

B10 value	
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• with high demand rate acc. to SN 31920	1 000 000
Proportion of dangerous failures	
• with low demand rate acc. to SN 31920	40 %
• with high demand rate acc. to SN 31920	73 %
Product function	
• Mirror contact acc. to IEC 60947-4-1	Yes
• positively driven operation acc. to IEC 60947-5-1	No
T1 value for proof test interval or service life acc. to IEC 61508	20 y
Protection against electrical shock	finger-safe when touched vertically from front acc. to IEC 60529

Certificates/approvals

General Product Approval	Declaration of Conformity	Test Certificates
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[spezielle Prüfbescheinigungen](#)

Test Certificates	Shipping Approval
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[Typprüfbescheinigung/Werkszeugnis](#)



Shipping Approval	other
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[Bestätigungen](#)

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=3RT2038-1KB44-3MA0>

Cax online generator

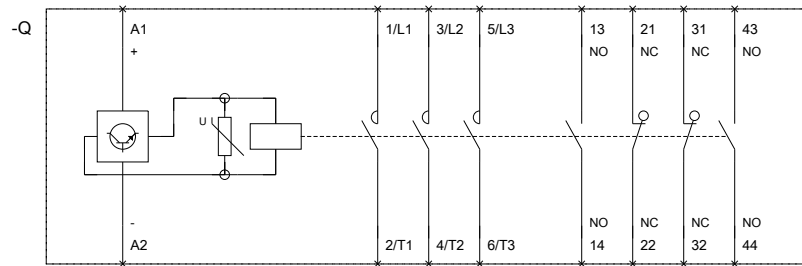
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2038-1KB44-3MA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2038-1KB44-3MA0>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2038-1KB44-3MA0&lang=en



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