# **SIEMENS**

Data sheet 3RT2035-3NB30

> CONTACTOR, AC3:18.5KW/400V, 1NO+1NC, 20-33V AC/DC, WITH VARISTOR, 3-POLE, SIZE S2, SPRING-TYPE TERMINAL



Figure similar

product brandname	SIRIUS
Product designation	Power contactor
Product type designation	3RT2

General technical data	
Size of contactor	S2
Product extension	
<ul> <li>function module for communication</li> </ul>	No
Auxiliary switch	Yes
Insulation voltage	
• rated value	690 V
Degree of pollution	3
Surge voltage resistance rated value	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
• on the front	IP20

<ul><li>of the terminal</li></ul>	IP00
Shock resistance at rectangular impulse	
• at AC	7.7g / 5 ms, 4.5g / 10 ms
• at DC	7.7g / 5 ms, 4.5g / 10 ms
Shock resistance with sine pulse	
• at AC	12g / 5 ms, 7g / 10 ms
• at DC	12g / 5 ms, 7g / 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
<ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000
Ambient conditions	
Ambient temperature	
<ul><li>during operation</li></ul>	-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
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	60 A
• at AC-1	
— up to 690 V at ambient temperature 40 $^{\circ}\mathrm{C}$ rated value	60 A
— up to 690 V at ambient temperature 60 °C rated value	55 A
• at AC-2 at 400 V rated value	40 A
• at AC-3	
— at 400 V rated value	40 A
— at 500 V rated value	40 A
— at 690 V rated value	24 A
Connectable conductor cross-section in main circuit at AC-1	
• at 60 °C minimum permissible	16 mm²
• at 40 °C minimum permissible	16 mm²
Operating current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	22 A

● at 690 V rated value	18.5 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
<ul> <li>with 2 current paths in series at DC-1</li> </ul>	
— 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
<ul> <li>with 3 current paths in series at DC-1</li> </ul>	
— 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
<ul> <li>with 2 current paths in series at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	55 A
— at 110 V rated value	25 A
— at 220 V rated value	5 A
— at 440 V rated value	0.27 A
— at 600 V rated value	0.16 A
<ul> <li>with 3 current paths in series at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	55 A
— at 110 V rated value	55 A
— at 220 V rated value	25 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	23 kW
— at 230 V at 60 °C rated value	21 kW
— at 400 V rated value	39 kW
— at 400 V at 60 °C rated value	36 kW
— at 690 V rated value	68 kW
— at 690 V at 60 °C rated value	62 kW
• at AC-2 at 400 V rated value	18.5 kW
● at AC-3	
— at 230 V rated value	11 kW
— at 400 V rated value	18.5 kW
— at 500 V rated value	22 kW
— at 690 V rated value	22 kW
Operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	11.6 kW
• at 690 V rated value	16.8 kW
Thermal short-time current limited to 10 s	400 A
Power loss [W] at AC-3 at 400 V for rated value of	2.2 W
the operating current per conductor	
No-load switching frequency	
• at AC	1 500 1/h
• at DC	1 500 1/h
Operating frequency	
• at AC-1 maximum	1 200 1/h
• at AC-2 maximum	750 1/h
• at AC-3 maximum	1 000 1/h
• at AC-4 maximum	300 1/h
Control circuit/ Control	
Type of voltage of the control supply voltage	AC/DC
Control supply voltage at AC	
● at 50 Hz rated value	20 33 V
• at 60 Hz rated value	20 33 V
Control supply voltage at DC	
rated value	20 33 V
Operating range factor control supply voltage rated value of magnet coil at AC	
● at 50 Hz	0.8 1.1
● at 60 Hz	0.8 1.1
Design of the surge suppressor	with varistor
Inrush current peak	
● at 24 V	2.8 A
Duration of inrush current peak	

● at 24 V	15 µs
Apparent pick-up power of magnet coil at AC	
● at 50 Hz	40 V·A
● at 60 Hz	40 V·A
Apparent holding power of magnet coil at AC	
● at 50 Hz	2 V·A
● at 60 Hz	2 V·A
Closing power of magnet coil at DC	23 W
Holding power of magnet coil at DC	1 W
Closing delay	
• at AC	45 70 ms
● at DC	45 60 ms
Opening delay	
• at AC	35 55 ms
• at DC	35 55 ms
Arcing time	10 20 ms
Residual current of the electronics for control with signal <0>	
<ul> <li>at AC at 230 V maximum permissible</li> </ul>	20 mA
• at DC at 24 V maximum permissible	20 mA
Auxiliary circuit	
Number of NC contacts	
for auxiliary contacts	
— instantaneous contact	1
Number of NO contacts	
for auxiliary contacts	
<ul> <li>instantaneous contact</li> </ul>	1
Operating current at AC-12 maximum	10 A
Operating current at AC-15	
· · · · · ·	10 A 10 A 3 A

Number of NC contacts	
<ul> <li>for auxiliary contacts</li> </ul>	
<ul> <li>instantaneous contact</li> </ul>	1
Number of NO contacts	
<ul> <li>for auxiliary contacts</li> </ul>	
<ul> <li>instantaneous contact</li> </ul>	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	40 A
• at 600 V rated value	41 A
Yielded mechanical performance [hp]	
<ul> <li>for single-phase AC motor</li> </ul>	
— at 110/120 V rated value	3 hp
— at 230 V rated value	7.5 hp
• for three-phase AC motor	
— at 200/208 V rated value	10 hp
— at 220/230 V rated value	15 hp
— at 460/480 V rated value	30 hp
— at 575/600 V rated value	40 hp
Contact rating of auxiliary contacts according to UL	A600 / P600

## 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

gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 160 A gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 80 A

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	114 mm
Width	55 mm
Depth	130 mm
Required spacing	
<ul><li>with side-by-side mounting</li></ul>	

— 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
<ul> <li>for auxiliary and control current circuit</li> </ul>	spring-loaded terminals
Type of connectable conductor cross-sections	
• for main contacts	
<ul> <li>— single or multi-stranded</li> </ul>	2x (1 35 mm²), 1x (1 50 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (1 25 mm²), 1x (1 35 mm²)
<ul> <li>at AWG conductors for main contacts</li> </ul>	2x (18 2), 1x (18 1)
Type of connectable conductor cross-sections	
<ul><li>for auxiliary contacts</li></ul>	
<ul> <li>— single or multi-stranded</li> </ul>	2x (0,5 2,5 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 1.5 mm²)
<ul> <li>finely stranded without core end</li> </ul>	2x (0.5 2.5 mm²)
processing	
<ul> <li>at AWG conductors for auxiliary contacts</li> </ul>	2x (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 %
• with high demand rate acc. to SN 31920	73 %
Product function	
<ul> <li>Mirror contact acc. to IEC 60947-4-1</li> </ul>	Yes

<ul> <li>positively driven operation acc. to IEC 60947-5-</li> </ul>	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**

Functional Safety/Safety of Machinery







Miscellaneous



Type Examination
Certificate

Declaration o	f
Conformity	

Test Certificates

**Shipping Approval** 



Type Test
Certificates/Test
Report

Special Test Certificate







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## **Shipping Approval**



LRS









#### other

Confirmation

Environmental Confirmations

### 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=3RT2035-3NB30

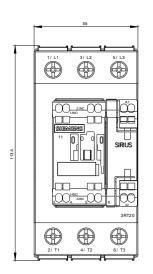
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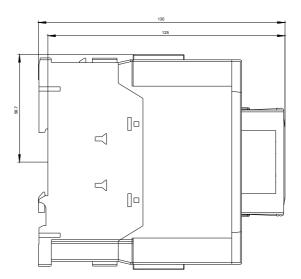
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2035-3NB30

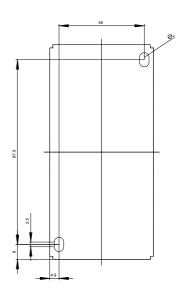
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

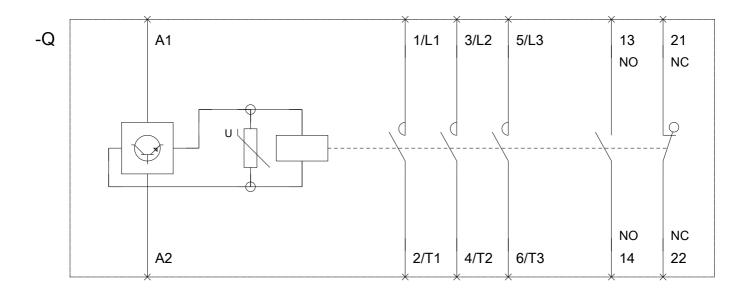
https://support.industry.siemens.com/cs/ww/en/ps/3RT2035-3NB30

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2035-3NB30&lang=en









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