

power contactor, AC-3 40 A, 18.5 kW / 400 V 2 NO + 2 NC, AC / DC 84-155 V, with varistor, 3-pole, Size S2, screw terminal



• at DC	6.1g / 5 ms, 3.7g / 10 ms
Shock resistance with sine pulse	
• at AC	9.6g / 5 ms, 5.8g / 10 ms
• 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
Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750	K
Reference code acc. to DIN EN 81346-2	Q

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
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	60 A
• at AC-1	
— up to 690 V at ambient temperature 40 °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
• at AC-4 at 400 V rated value	35 A
• at AC-5a up to 690 V rated value	52.8 A
• at AC-5b up to 400 V rated value	33.2 A
• at AC-6a	

— up to 230 V for current peak value n=20 rated value	36.5 A
— up to 400 V for current peak value n=20 rated value	36.5 A
— up to 500 V for current peak value n=20 rated value	36.5 A
— up to 690 V for current peak value n=20 rated value	24 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	24.2 A
— up to 400 V for current peak value n=30 rated value	24.2 A
— up to 500 V for current peak value n=30 rated value	24.2 A
— up to 690 V for current peak value n=30 rated value	24 A
Minimum cross-section in main circuit	
• at maximum AC-1 rated value	16 mm ²
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
• 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 — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-3 at DC-5 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 3 current paths in series at DC-3 at DC-5 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value	35 A 2.5 A 1 A 0.1 A 0.06 A 55 A 25 A 5 A 0.27 A 0.16 A 55 A 55 A 25 A 0.6 A 0.35 A
Operating power	
• at AC-1 — at 230 V rated value — at 230 V at 60 °C rated value — at 400 V rated value — at 400 V at 60 °C rated value — at 690 V rated value — at 690 V at 60 °C rated value • at AC-2 at 400 V rated value • at AC-3 — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value	23 kW 21 kW 39 kW 36 kW 68 kW 62 kW 18.5 kW 11 kW 18.5 kW 22 kW 22 kW
Operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value • at 690 V rated value	11.6 kW 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 the operating current per conductor	2.2 W
No-load switching frequency	
• at AC • at DC	1 500 1/h 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	83 ... 155 V
• at 60 Hz rated value	83 ... 155 V
Control supply voltage at DC	
• rated value	83 ... 155 V
Operating range factor control supply voltage rated value of magnet coil at DC	
• initial value	0.8
• Full-scale value	1.1
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 110 V	2.5 A
Duration of inrush current peak	
• at 110 V	3 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>	

- at AC at 230 V maximum permissible
- at DC at 24 V maximum permissible

20 mA

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	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	6 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]	
• for single-phase AC motor	
— 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 / 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	gG: 160 A (690 V, 100 kA), aM: 80 A (690 V, 100 kA), BS88: 125 A (415 V, 80 kA) gG: 80 A (690V,100kA), aM: 50A (690V,100kA), BS88: 63A (415V,80kA) gG: 10 A (500 V, 1 kA)

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
Side-by-side mounting	Yes
Height	114 mm
Width	55 mm
Depth	174 mm
Required spacing	
- with side-by-side mounting - forwards - upwards - downwards - at the side - for grounded parts - forwards - upwards - at the side - downwards - for live parts - forwards - upwards - downwards - at the side	10 mm 10 mm 10 mm 0 mm 10 mm 10 mm 6 mm 10 mm 10 mm 10 mm 6 mm

Connections/ Terminals

Type of electrical connection	
- for main current circuit - for auxiliary and control current circuit	screw-type terminals screw-type terminals

• at contactor for auxiliary contacts • of magnet coil	Screw-type terminals Screw-type terminals
Type of connectable conductor cross-sections • for main contacts — single or multi-stranded — finely stranded with core end processing • at AWG conductors for main contacts	2x (1 ... 35 mm ²), 1x (1 ... 50 mm ²) 2x (1 ... 25 mm ²), 1x (1 ... 35 mm ²) 2x (18 ... 2), 1x (18 ... 1)
Connectable conductor cross-section for main contacts • finely stranded with core end processing	1 ... 35 mm ²
Connectable conductor cross-section for auxiliary contacts • single or multi-stranded • finely stranded with core end processing	0.5 ... 2.5 mm ² 0.5 ... 2.5 mm ²
Type of connectable conductor cross-sections • for auxiliary contacts — single or multi-stranded — finely stranded with core end processing • at AWG conductors for auxiliary contacts	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14)
AWG number as coded connectable conductor cross section • for main contacts • for auxiliary contacts	18 ... 1 20 ... 14

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 • with high demand rate acc. to SN 31920	40 % 73 %
Failure rate [FIT] • with low demand rate acc. to SN 31920	100 FIT
Product function • Mirror contact acc. to IEC 60947-4-1 • positively driven operation acc. to IEC 60947-5-1	Yes 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	EMC	Functional Safety/Safety of Machinery
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CCC



CSA



UL



RCM

[Type Examination Certificate](#)

Declaration of Conformity	Test Certificates	Marine / Shipping
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EG-Konf.

[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



ABS



BUREAU VERITAS

Marine / Shipping	other
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LRS



PRS



RINA



RMRS



DNVGL.COM/AF

[Confirmation](#)

Further information

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

www.siemens.com/sirius/catalogs

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2035-1NF34>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2035-1NF34>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2035-1NF34>

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

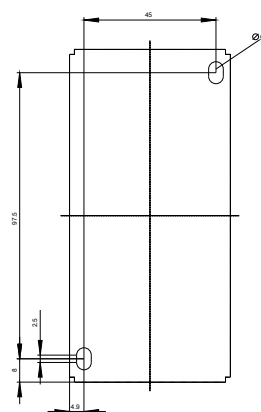
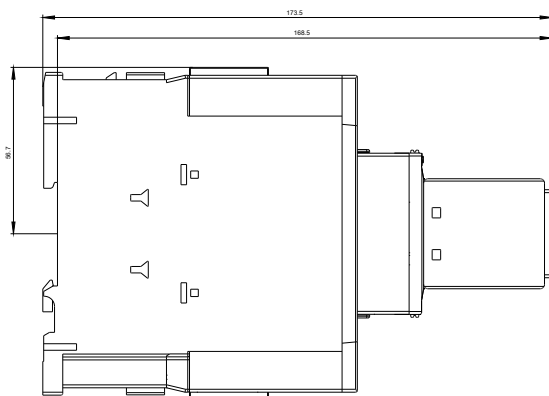
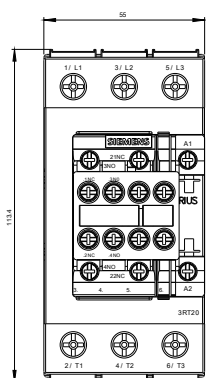
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2035-1NF34&lang=en

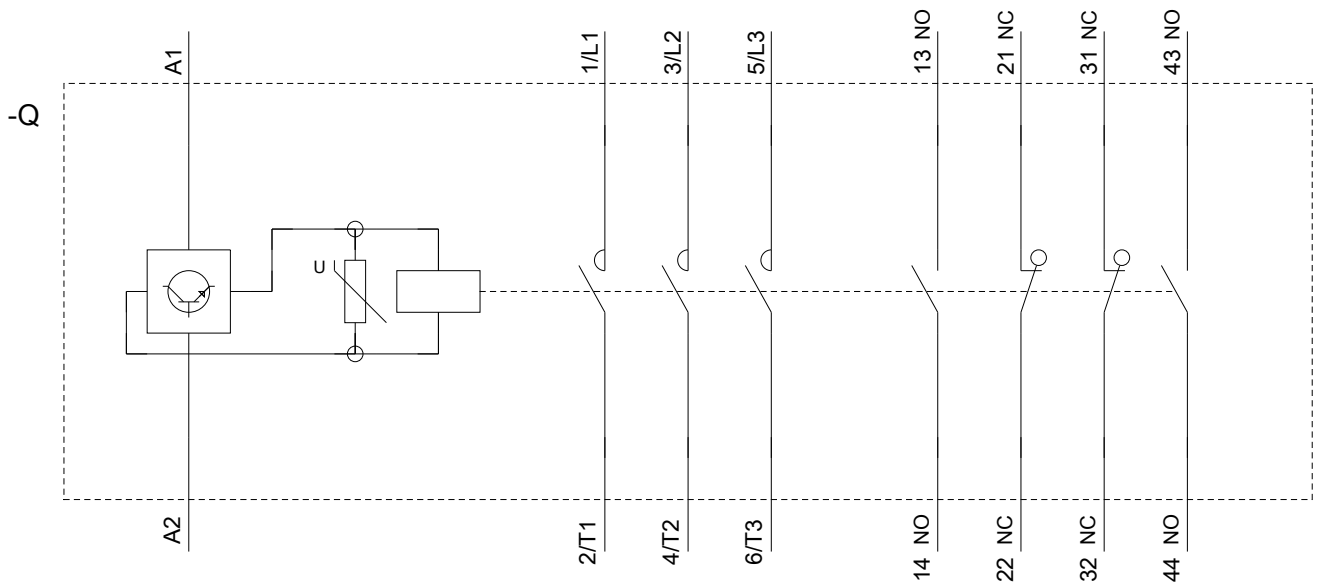
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2035-1NF34/char>

Further characteristics (e.g. electrical endurance, switching frequency)

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2035-1NF34&objecttype=14&gridview=view1>





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