



Power contactor, AC-3 300 A, 160 kW / 400 V AC (50-60 Hz) / DC operation 110-127 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, Size S10 Busbar connections Drive: conventional screw terminal

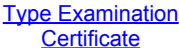
product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT1
General technical data	
size of contactor	S10
product extension	
• function module for communication	No
• auxiliary switch	Yes
power loss [W] for rated value of the current at AC in hot operating state	66 W
• per pole	22 W
power loss [W] for rated value of the current without load current share typical	7.4 W
surge voltage resistance	
• of main circuit rated value	8 kV
• of auxiliary circuit rated value	6 kV
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	690 V
shock resistance at rectangular impulse	
• at AC	8,5g / 5 ms, 4,2g / 10 ms
• at DC	8,5g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at AC	13,4g / 5 ms, 6,5g / 10 ms
• at DC	13,4g / 5 ms, 6,5g / 10 ms
mechanical service life (switching cycles)	
• of contactor typical	10 000 000
• of the contactor with added electronically optimized auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	10 000 000
reference code acc. to IEC 81346-2	Q
Substance Prohibition (Date)	01.05.2012 00:00:00
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
relative humidity minimum	10 %
relative humidity at 55 °C acc. to IEC 60068-2-30	95 %

maximum	
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	1 000 V
operational current	
at AC-1 at 400 V at ambient temperature 40 °C rated value	330 A
- at AC-1 - up to 690 V at ambient temperature 40 °C rated value	330 A
- up to 690 V at ambient temperature 60 °C rated value	300 A
- up to 1000 V at ambient temperature 40 °C rated value	150 A
- up to 1000 V at ambient temperature 60 °C rated value	150 A
- at AC-3 - at 400 V rated value	300 A
- at 500 V rated value	300 A
- at 690 V rated value	280 A
- at 1000 V rated value	95 A
at AC-4 at 400 V rated value	280 A
at AC-5a up to 690 V rated value	290 A
at AC-5b up to 400 V rated value	249 A
- at AC-6a - up to 230 V for current peak value n=20 rated value	292 A
- up to 400 V for current peak value n=20 rated value	292 A
- up to 500 V for current peak value n=20 rated value	292 A
- up to 690 V for current peak value n=20 rated value	280 A
- up to 1000 V for current peak value n=20 rated value	95 A
- at AC-6a - up to 230 V for current peak value n=30 rated value	195 A
- up to 400 V for current peak value n=30 rated value	195 A
- up to 500 V for current peak value n=30 rated value	195 A
- up to 690 V for current peak value n=30 rated value	195 A
- up to 1000 V for current peak value n=30 rated value	95 A
minimum cross-section in main circuit at maximum AC-1 rated value	185 mm ²
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	125 A
at 690 V rated value	115 A
operational current	
- at 1 current path at DC-1 - at 24 V rated value	300 A
- at 110 V rated value	33 A
- at 220 V rated value	3.8 A
- at 440 V rated value	0.9 A
- at 600 V rated value	0.6 A
- with 2 current paths in series at DC-1 - at 24 V rated value	300 A

— 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-1 — 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	300 A 300 A 4 A 2 A 300 A 300 A 300 A 11 A 5.2 A
operational 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	300 A 3 A 0.6 A 0.18 A 0.125 A 300 A 300 A 2.5 A 0.65 A 0.37 A 300 A 300 A 300 A 1.4 A 0.75 A
operating power • at AC-3 — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value — at 1000 V rated value	90 kW 160 kW 200 kW 250 kW 132 kW
operating power for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value	71 kW 112 kW
operating apparent power at AC-6a • up to 230 V for current peak value n=20 rated value • up to 400 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value • up to 1000 V for current peak value n=20 rated value	110 000 kV·A 200 000 V·A 250 000 V·A 330 000 V·A 160 000 V·A
operating apparent power at AC-6a • up to 230 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • up to 1000 V for current peak value n=30 rated value	70 000 V·A 130 000 V·A 160 000 V·A 230 000 V·A 160 000 V·A
short-time withstand current in cold operating state up to 40 °C • limited to 1 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 10 s switching at zero current maximum	5 524 A; Use minimum cross-section acc. to AC-1 rated value 4 579 A; Use minimum cross-section acc. to AC-1 rated value 3 153 A; Use minimum cross-section acc. to AC-1 rated value

• limited to 30 s switching at zero current maximum • limited to 60 s switching at zero current maximum	1 883 A; Use minimum cross-section acc. to AC-1 rated value 1 445 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC • at DC	2 000 1/h 2 000 1/h
operating frequency	
• at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-4 maximum	750 1/h 250 1/h 500 1/h 130 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 • at 60 Hz rated value	110 ... 127 V 110 ... 127 V
control supply voltage at DC	
• rated value	110 ... 127 V
operating range factor control supply voltage rated value of magnet coil at DC	
• initial value • full-scale value	0.8 1.1
operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz • at 60 Hz	0.8 ... 1.1 0.8 ... 1.1
design of the surge suppressor	with varistor
apparent pick-up power of magnet coil at AC	
• at 50 Hz • at 60 Hz	590 V·A 590 V·A
inductive power factor with closing power of the coil	
• at 50 Hz • at 60 Hz	0.9 0.9
apparent holding power of magnet coil at AC	
• at 50 Hz • at 60 Hz	6.7 V·A 6.7 V·A
inductive power factor with the holding power of the coil	
• at 50 Hz • at 60 Hz	0.9 0.9
closing power of magnet coil at DC	650 W
holding power of magnet coil at DC	7.4 W
closing delay	
• at AC • at DC	30 ... 95 ms 30 ... 95 ms
opening delay	
• at AC • at DC	40 ... 80 ms 40 ... 80 ms
arcing time	10 ... 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous contact	2
number of NO contacts for auxiliary contacts instantaneous contact	2
operational current at AC-12 maximum	10 A
operational current at AC-15	
• at 230 V rated value • at 400 V rated value • at 500 V rated value	6 A 3 A 2 A

• at 690 V rated value	1 A
operational current at DC-12	
• 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	10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
operational 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	10 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 3-phase AC motor	
• at 480 V rated value • at 600 V rated value	302 A 289 A
yielded mechanical performance [hp]	
• for 3-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	100 hp 125 hp 250 hp 300 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: 500 A (690 V, 100 kA) gG: 400 A (690 V, 100 kA), aM: 315 A (690 V, 50 kA), BS88: 400 A (415 V, 50 kA) gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
fastening method	screw fixing
• side-by-side mounting	Yes
height	210 mm
width	145 mm
depth	202 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	20 mm 10 mm 10 mm 0 mm 20 mm 10 mm 10 mm 10 mm 20 mm 10 mm

— downwards	10 mm
— at the side	10 mm
Connections/ Terminals	
width of connection bar	25 mm
thickness of connection bar	6 mm
diameter of holes	11 mm
number of holes	1
type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil	Connection bar screw-type terminals Screw-type terminals Screw-type terminals
type of connectable conductor cross-sections • at AWG cables for main contacts	2/0 ... 500 kcmil
connectable conductor cross-section for main contacts • stranded	70 ... 240 mm ²
connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing	0.5 ... 4 mm ² 0.5 ... 2.5 mm ²
type of connectable conductor cross-sections • for auxiliary contacts — solid — solid or stranded — finely stranded with core end processing • at AWG cables for auxiliary contacts	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²), max. 2x (0.75 ... 4 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²), max. 2x (0.75 ... 4 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14), 1x 12
AWG number as coded connectable conductor cross section • for auxiliary contacts	18 ... 14
Safety related data	
product function mirror contact acc. to IEC 60947-4-1	Yes
B10 value with high demand rate acc. to SN 31920	1 000 000
product function positively driven operation acc. to IEC 60947-5-1	No
protection class IP on the front acc. to IEC 60529	IP00; IP20 with box terminal/cover
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front with box terminal/cover
suitability for use • safety-related switching OFF	Yes
Certificates/ approvals	
General Product Approval	
EMC	
   KC  	
Functional Safety/Safety of Machinery	Test Certificates      
Marine / Shipping	
Marine / Shipping other Railway	

Further information

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

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1066-6AF36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1066-6AF36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6AF36>

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

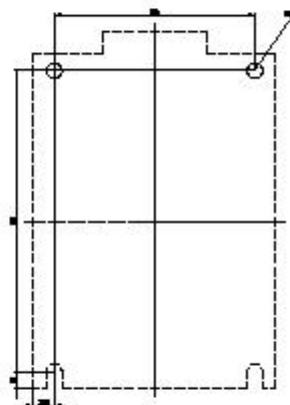
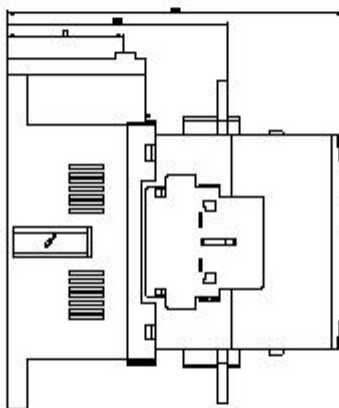
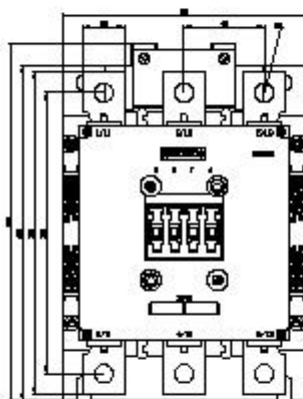
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1066-6AF36&lang=en

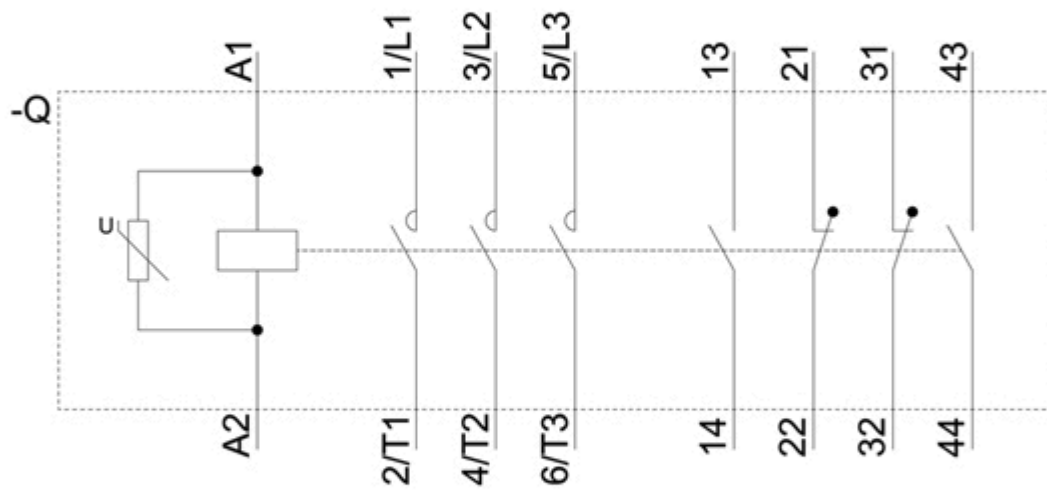
Characteristic: Tripping characteristics, I^2t , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6AF36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1066-6AF36&objecttype=14&gridview=view1>





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