



Vacuum contactor, AC-3 500 A, 250 kW / 400 V AC (50-60 Hz) / DC operation 110-127 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, Size S12
Busbar connections Drive: conventional

product brand name	SIRIUS
product designation	Vacuum contactor
product type designation	3RT12
General technical data	
size of contactor	S12
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	96 W
• per pole	32 W
power loss [W] for rated value of the current without load current share typical	10 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
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
• ambient temperature during operation	-25 ... +60 °C
• ambient temperature 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	1 000 V
operational current	
at AC-1 at 400 V at ambient temperature 40 °C rated value	610 A
- at AC-1 — up to 690 V at ambient temperature 40 °C rated value	610 A
— up to 690 V at ambient temperature 60 °C rated value	550 A
— up to 1000 V at ambient temperature 40 °C rated value	610 A
— up to 1000 V at ambient temperature 60 °C rated value	550 A
- at AC-3 — at 400 V rated value	500 A
— at 500 V rated value	500 A
— at 690 V rated value	500 A
— at 1000 V rated value	500 A
at AC-4 at 400 V rated value	430 A
- at AC-6a — up to 230 V for current peak value n=20 rated value	439 A
— up to 400 V for current peak value n=20 rated value	439 A
— up to 500 V for current peak value n=20 rated value	439 A
— up to 690 V for current peak value n=20 rated value	439 A
— up to 1000 V for current peak value n=20 rated value	439 A
- at AC-6a — up to 230 V for current peak value n=30 rated value	293 A
— up to 400 V for current peak value n=30 rated value	293 A
— up to 500 V for current peak value n=30 rated value	293 A
— up to 690 V for current peak value n=30 rated value	293 A
— up to 1000 V for current peak value n=30 rated value	293 A
minimum cross-section in main circuit at maximum AC-1 rated value	370 mm ²
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	215 A
at 690 V rated value	151 A
operating power	
- at AC-3 — at 230 V rated value	160 kW
— at 400 V rated value	250 kW
— at 500 V rated value	355 kW
— at 690 V rated value	500 kW
— at 1000 V rated value	710 kW
operating power for approx. 200000 operating cycles at AC-4	
at 400 V rated value	122 kW
at 690 V rated value	212 kW
operating apparent power at AC-6a	
up to 230 V for current peak value n=20 rated value	170 000 kV·A
up to 400 V for current peak value n=20 rated value	300 000 V·A
up to 500 V for current peak value n=20 rated value	380 000 V·A
up to 690 V for current peak value n=20 rated value	520 000 V·A

up to 1000 V for current peak value n=20 rated value	760 000 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	110 000 V·A 200 000 V·A 250 000 V·A 350 000 V·A 500 000 V·A
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	700 1/h 250 1/h 750 1/h 250 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	830 V·A
inductive power factor with closing power of the coil at 50 Hz	0.9
apparent holding power of magnet coil at AC at 50 Hz	9.2 V·A
inductive power factor with the holding power of the coil at 50 Hz	0.9
closing power of magnet coil at DC	920 W
holding power of magnet coil at DC	10 W
closing delay - at AC - at DC	45 ... 100 ms 45 ... 100 ms
opening delay - at AC - at DC	60 ... 100 ms 60 ... 100 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	6 A

• at 400 V rated value • at 500 V rated value • at 690 V rated value	3 A 2 A 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	477 A 472 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	150 hp 200 hp 400 hp 500 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: 800 A (690 V, 100 kA) gG: 800 A (690 V, 50 kA), aM: 630 A (690 V, 50 kA), BS88: 800 A (415 V, 50 kA) gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	
mounting position	+/-22,5° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface; standing, on horizontal mounting surface
fastening method • side-by-side mounting	screw fixing Yes
height	210 mm
width	145 mm
depth	206 mm
required spacing • with side-by-side mounting — forwards — upwards — downwards — at the side • for grounded parts — forwards — upwards — at the side — downwards	20 mm 10 mm 10 mm 0 mm 20 mm 10 mm 10 mm 10 mm

- for live parts
 - forwards 20 mm
 - upwards 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 • positively driven operation acc. to IEC 60947-5-1	Yes 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	Declaration of Conformity
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[Miscellaneous](#)

Declaration of Conformity	Test Certificates	Marine / Shipping	other
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[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



[Confirmation](#)

other	Railway
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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=3RT1276-6AF36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1276-6AF36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1276-6AF36>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1276-6AF36&lang=en

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1276-6AF36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1276-6AF36&objecttype=14&gridview=view1>



