



vacuum contactor AC-3e/AC-3 300 A, 160 kW / 400 V, 3-pole, U_c: 23-26 V AC(50-60 Hz) / DC drive: conventional auxiliary contacts 2 NO + 2 NC main circuit: busbar control and auxiliary circuit: screw terminal

product brand name	SIRIUS
product designation	Vacuum contactor
product type designation	3RT12
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	42 W
• at AC in hot operating state per pole	14 W
• without load current share typical	8.2 W
type of calculation of power loss depending on pole	quadratic
insulation voltage	
• of main circuit with degree of pollution 3 rated value	1 000 V
• of auxiliary circuit with degree of pollution 3 rated value	500 V
surge voltage resistance	
• of main circuit rated value	8 kV
• of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according 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 (operating 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 according to IEC 81346-2	Q
Substance Prohibition (Date)	05/01/2012
SVHC substance name	Lead - 7439-92-1
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 according to IEC 60068-2-30 maximum	95 %
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
• at AC-3e 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	330 A
— up to 1000 V at ambient temperature 60 °C rated value	300 A
• at AC-3	
— at 400 V rated value	300 A
— at 500 V rated value	300 A
— at 690 V rated value	300 A
— at 1000 V rated value	300 A
• at AC-3e	
— at 400 V rated value	300 A
— at 500 V rated value	300 A
— at 690 V rated value	300 A
— at 1000 V rated value	300 A
• at AC-4 at 400 V rated value	280 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	300 A
— up to 400 V for current peak value n=20 rated value	300 A
— up to 500 V for current peak value n=20 rated value	300 A
— up to 690 V for current peak value n=20 rated value	300 A
— up to 1000 V for current peak value n=20 rated value	300 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	209 A
— up to 400 V for current peak value n=30 rated value	209 A
— up to 500 V for current peak value n=30 rated value	209 A
— up to 690 V for current peak value n=30 rated value	209 A
— up to 1000 V for current peak value n=30 rated value	209 A
minimum cross-section in main circuit at maximum AC-1 rated value	185 mm²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	140 A
• at 690 V rated value	140 A
operating power	
• at AC-3	
— at 230 V rated value	90 kW
— at 400 V rated value	160 kW
— at 500 V rated value	200 kW
— at 690 V rated value	250 kW
— at 1000 V rated value	400 kW
• at AC-3e	
— at 230 V rated value	90 kW
— at 400 V rated value	160 kW
— at 500 V rated value	200 kW
— at 690 V rated value	250 kW
— at 1000 V rated value	400 kW

operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	79 kW
• at 690 V rated value	138 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	120 000 kVA
• up to 400 V for current peak value n=20 rated value	200 000 VA
• up to 500 V for current peak value n=20 rated value	260 000 VA
• up to 690 V for current peak value n=20 rated value	350 000 VA
• up to 1000 V for current peak value n=20 rated value	520 000 VA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	80 000 VA
• up to 400 V for current peak value n=30 rated value	140 000 VA
• up to 500 V for current peak value n=30 rated value	180 000 VA
• up to 690 V for current peak value n=30 rated value	250 000 VA
• up to 1000 V for current peak value n=30 rated value	360 000 VA
no-load switching frequency	
• at AC	2 000 1/h
• at DC	2 000 1/h
operating frequency	
• at AC-1 maximum	750 1/h
• at AC-2 maximum	250 1/h
• at AC-3 maximum	750 1/h
• at AC-3e maximum	750 1/h
• at AC-4 maximum	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	23 ... 26 V
• at 60 Hz rated value	23 ... 26 V
control supply voltage at DC rated value	
•	23 ... 26 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
apparent pick-up power	
• at minimum rated control supply voltage at AC	
— at 50 Hz	530 VA
— at 60 Hz	530 VA
• at maximum rated control supply voltage at AC	
— at 60 Hz	630 VA
— at 50 Hz	630 VA
apparent pick-up power of magnet coil at AC	
• at 50 Hz	590 VA
• at 60 Hz	590 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.9
• at 60 Hz	0.9
apparent holding power	
• at minimum rated control supply voltage at DC	6.8 VA
• at maximum rated control supply voltage at DC	8.2 VA
apparent holding power	
• at minimum rated control supply voltage at AC	
— at 50 Hz	6.1 VA
— at 60 Hz	6.1 VA
• at maximum rated control supply voltage at AC	

— at 50 Hz	7.4 VA
— at 60 Hz	7.4 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.9
• at 60 Hz	0.9
closing power of magnet coil at DC	700 W
holding power of magnet coil at DC	8.2 W
closing delay	
• at AC	30 ... 95 ms
• at DC	30 ... 95 ms
opening delay	
• at AC	40 ... 80 ms
• at DC	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	6 A
• at 400 V rated value	3 A
• at 500 V rated value	2 A
• at 690 V rated value	1 A
operational 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
operational 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 3-phase AC motor	
• at 480 V rated value	302 A
• at 600 V rated value	289 A
yielded mechanical performance [hp]	
• for 3-phase AC motor	
— at 200/208 V rated value	100 hp
— at 220/230 V rated value	125 hp
— at 460/480 V rated value	250 hp
— at 575/600 V rated value	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	gG: 500 A (690 V, 100 kA)
— with type of assignment 2 required	gG: 500 A (690 V, 100 kA), aM: 400 A (690 V, 50 kA), BS88: 450 A (415 V, 50 kA)
• for short-circuit protection of the auxiliary switch required	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
fastening method	screw fixing
height	210 mm
width	145 mm
depth	206 mm
required spacing	
<ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side • for grounded parts <ul style="list-style-type: none"> — forwards — upwards — at the side — downwards • for live parts <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side 	20 mm 10 mm 10 mm 0 mm 20 mm 10 mm 10 mm 10 mm 20 mm 10 mm 10 mm 10 mm
Connections/ Terminals	
type of electrical connection	
<ul style="list-style-type: none"> • 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
width of connection bar	25 mm
thickness of connection bar	6 mm
diameter of holes	11 mm
number of holes	1
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for AWG cables for main contacts 	2/0 ... 500 kcmil
connectable conductor cross-section for main contacts	
<ul style="list-style-type: none"> • stranded 	70 ... 240 mm ²
connectable conductor cross-section for auxiliary contacts	
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — solid — solid or stranded — finely stranded with core end processing • for 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	
<ul style="list-style-type: none"> • for auxiliary contacts 	18 ... 14
Safety related data	
product function	
<ul style="list-style-type: none"> • mirror contact according to IEC 60947-4-1 • positively driven operation according to IEC 60947-5-1 	Yes No
Electrical Safety	
protection class IP on the front according to IEC 60529	IP00; IP20 with box terminal/cover
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with box terminal/cover
Approvals Certificates	
General Product Approval	



[Confirmation](#)



[KC](#)

General Product Approval	EMV	Functional Safety	Test Certificates		Marine / Shipping
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[Type Examination Certificate](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping	other
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[Confirmation](#)

[Miscellaneous](#)

other	Railway	Environment
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[Confirmation](#)

[Special Test Certificate](#)

[Environmental Conformations](#)

Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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=3RT1266-6AB36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1266-6AB36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1266-6AB36>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1266-6AB36&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1266-6AB36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1266-6AB36&objecttype=14&gridview=view1>



