



vacuum contactor AC-3e/AC-3 500 A, 250 kW / 400 V, 3-pole, U_c : 220-240 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	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
• at AC in hot operating state per pole	32 W
• without load current share typical	10 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
Weight	10.628 kg
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	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-3e	
— 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 mm²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	215 A
• at 690 V rated value	215 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
• at AC-3e	
— 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 kVA
• up to 400 V for current peak value n=20 rated value	300 kVA
• up to 500 V for current peak value n=20 rated value	380 kVA
• up to 690 V for current peak value n=20 rated value	520 kVA
• up to 1000 V for current peak value n=20 rated value	760 kVA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	110 kVA
• up to 400 V for current peak value n=30 rated value	200 kVA
• up to 500 V for current peak value n=30 rated value	250 kVA
• up to 690 V for current peak value n=30 rated value	350 kVA
• up to 1000 V for current peak value n=30 rated value	500 kVA
no-load switching frequency	
• at AC	2 000 1/h
• at DC	2 000 1/h
operating frequency	
• at AC-1 maximum	700 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	220 ... 240 V
• at 60 Hz rated value	220 ... 240 V
control supply voltage at DC rated value	220 ... 240 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	700 VA
— at 60 Hz	700 VA
• at maximum rated control supply voltage at AC	
— at 60 Hz	830 VA
— at 50 Hz	830 VA
apparent pick-up power of magnet coil at AC	
• at 50 Hz	830 VA
• at 60 Hz	830 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	8.5 VA
• at maximum rated control supply voltage at DC	10 VA
apparent holding power	
• at minimum rated control supply voltage at AC	
— at 50 Hz	7.6 VA
— at 60 Hz	7.6 VA
• at maximum rated control supply voltage at AC	

— at 50 Hz	9.2 VA
— at 60 Hz	9.2 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	920 W
holding power of magnet coil at DC	10 W
closing delay	
• at AC	45 ... 100 ms
• at DC	45 ... 100 ms
opening delay	
• at AC	60 ... 100 ms
• at DC	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	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	477 A
• at 600 V rated value	472 A
yielded mechanical performance [hp]	
• for 3-phase AC motor	
— at 200/208 V rated value	150 hp
— at 220/230 V rated value	200 hp
— at 460/480 V rated value	400 hp
— at 575/600 V rated value	500 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 10 A; 0.4 kA
design of the fuse link	
• for short-circuit protection of the main circuit	
— with type of coordination 1 required	gG: 800 A (690 V, 100 kA)
— with type of assignment 2 required	gG: 800 A (690 V, 50 kA), aM: 630 A (690 V, 50 kA), BS88: 800 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 side-by-side mounting	Yes
fastening method	screw fixing
height	217 mm
width	160 mm
depth	225 mm
required spacing	
• with side-by-side mounting	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
• for grounded parts	
— forwards	20 mm
— upwards	10 mm
— at the side	10 mm
— downwards	10 mm
• for live parts	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm
Connections/ Terminals	
type of electrical connection	
• for main current circuit	Connection bar
• for auxiliary and control circuit	screw-type terminals
• at contactor for auxiliary contacts	Screw-type terminals
• of magnet coil	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	
• for AWG cables for main contacts	2/0 ... 500 kcmil
connectable conductor cross-section for main contacts	
• stranded	70 ... 240 mm²
connectable conductor cross-section for auxiliary contacts	
• solid or stranded	0.5 ... 4 mm²
• finely stranded with core end processing	0.5 ... 2.5 mm²
type of connectable conductor cross-sections	
• for auxiliary contacts	
— solid	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²)
— solid or stranded	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²)
— finely stranded with core end processing	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
• for AWG cables for auxiliary contacts	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 according to IEC 60947-4-1	Yes
• positively driven operation according to IEC 60947-5-1	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	EMV



Functional Safety	Test Certificates	Marine / Shipping
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[Type Examination Certificate](#)

[Type Test Certificates/Test Report](#)

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Marine / Shipping	other	Railway
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[Confirmation](#)

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Environment

[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=3RT1276-6AP36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1276-6AP36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1276-6AP36>

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

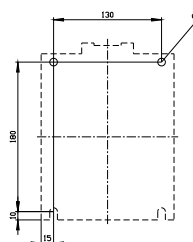
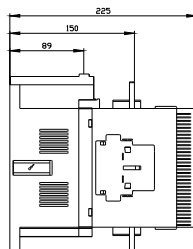
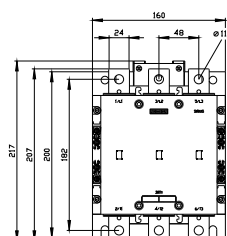
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1276-6AP36&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1276-6AP36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1276-6AP36&objecttype=14&gridview=view1>



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