

CONTACTOR, AC-3 45 KW/400 V, AC 230 V 50/60 HZ, 3-POLE,
SIZE S3, CAGE CLAMP MULTIUNIT PACKING PACKING = 4
ITEMS

product brandname	SIRIUS
Product designation	power contactor

General technical data

Size of contactor	S3
Insulation voltage • rated value	1 000 V
Degree of pollution	3
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation • between coil and main contacts acc. to EN 60947-1	690 V
Protection class IP • on the front • of the terminal	IP00 IP00
Shock resistance • at rectangular impulse — at AC • with sine pulse — at AC	6,8g / 5 ms, 4g / 10 ms 10,6g / 5 ms, 6,2g / 10 ms
Mechanical service life (switching cycles) • of contactor typical • of the contactor with added electronics-compatible auxiliary switch block typical • of the contactor with added auxiliary switch block typical	10 000 000 5 000 000 10 000 000

Ambient conditions

Installation altitude at height above sea level maximum	2 000 m
Ambient temperature • during operation • during storage	-25 ... +60 °C -55 ... +80 °C

Main circuit

Number of poles for main current circuit	3
Number of NO contacts for main contacts	3
Number of NC contacts for main contacts	0

Operating current	
• at AC-1 at 400 V — at ambient temperature 40 °C rated value	120 A
• at AC-1 — up to 690 V at ambient temperature 40 °C rated value	120 A
— up to 690 V at ambient temperature 60 °C rated value	100 A
— up to 1000 V at ambient temperature 40 °C rated value	70 A
— up to 1000 V at ambient temperature 60 °C rated value	60 A
• at AC-3 — at 400 V rated value	95 A
— at 690 V rated value	58 A
— at 1000 V rated value	30 A
Connectable conductor cross-section in main circuit at AC-1	
• at 60 °C minimum permissible	35 mm ²
• at 40 °C minimum permissible	50 mm ²
Operating current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	42 A
• at 690 V rated value	27 A
Operating current	
• at 1 current path at DC-1 — at 24 V rated value	100 A
— at 110 V rated value	9 A
• with 2 current paths in series at DC-1 — at 24 V rated value	100 A
— at 110 V rated value	100 A
• with 3 current paths in series at DC-1 — at 24 V rated value	100 A
— at 110 V rated value	100 A
Operating current	
• at 1 current path at DC-3 at DC-5 — at 24 V rated value	40 A
— at 110 V rated value	2.5 A
• with 2 current paths in series at DC-3 at DC-5 — at 110 V rated value	100 A
— at 24 V rated value	100 A
• with 3 current paths in series at DC-3 at DC-5	

— at 110 V rated value	100 A
— at 24 V rated value	100 A
Operating power	
• at AC-1	
— at 230 V at 60 °C rated value	38 kW
— at 400 V rated value	66 kW
— at 690 V rated value	114 kW
— at 690 V at 60 °C rated value	114 kW
— at 1000 V at 60 °C rated value	98 W
• at AC-2 at 400 V rated value	45 kW
• at AC-3	
— at 230 V rated value	22 kW
— at 400 V rated value	45 kW
— at 500 V rated value	55 kW
— at 690 V rated value	55 kW
— at 1000 V rated value	37 W
Operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	22 kW
• at 690 V rated value	25.4 kW
Thermal short-time current limited to 10 s	760 A
Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor	10.8 W
No-load switching frequency	
• at AC	5 000 1/h
Operating frequency	
• at AC-1 maximum	900 1/h
• at AC-2 maximum	350 1/h
• at AC-3 maximum	850 1/h
• at AC-4 maximum	250 1/h
Control circuit/ Control	
Type of voltage of the control supply voltage	AC
Control supply voltage at AC	
• at 50 Hz rated value	230 V
• at 60 Hz rated value	230 V
Control supply voltage frequency 1 rated value	50 Hz
Control supply voltage frequency 2 rated value	60 Hz
Operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 ... 1.1
• at 60 Hz	0.85 ... 1.1
Apparent pick-up power of magnet coil at AC	298 V·A

Inductive power factor with closing power of the coil	0.7
Apparent holding power of magnet coil at AC	27 V·A
Inductive power factor with the holding power of the coil	0.29
Closing delay • at AC	17 ... 90 ms
Opening delay • at AC	10 ... 25 ms
Arcing time	10 ... 15 ms

Auxiliary circuit

Number of NC contacts • for auxiliary contacts — instantaneous contact	0
Number of NO contacts • for auxiliary contacts — instantaneous contact	0
Operating current at AC-12 maximum	10 A
Operating current at AC-15 • at 230 V rated value • at 400 V rated value	6 A 3 A
Operating current at DC-12 • at 60 V rated value • at 110 V rated value • at 220 V rated value	6 A 3 A 1 A
Operating current at DC-13 • at 24 V rated value • at 60 V rated value • at 110 V rated value • at 220 V rated value	10 A 2 A 1 A 0.3 A
Contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)

UL/CSA ratings

Contact rating of auxiliary contacts according to UL	A600 / Q600
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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	fuse gL/gG: 250 A fuse gL/gG: 160 A fuse gL/gG: 10 A
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Installation/ mounting/ dimensions

Mounting type	screw and snap-on mounting onto 35 mm and 75 mm standard mounting rail
• Side-by-side mounting	Yes
Height	146 mm
Width	70 mm
Depth	139 mm
Required spacing	
• for grounded parts — at the side	6 mm

Connections/Terminals

Type of electrical connection	
• for main current circuit	screw-type terminals
• for auxiliary and control current circuit	spring-loaded terminals
Type of connectable conductor cross-sections	
• for main contacts	
— solid	2x (2.5 ... 16 mm ²)
— stranded	2x (10 ... 50 mm ²)
— single or multi-stranded	2x (2,5 ... 16 mm ²)
— finely stranded with core end processing	2x (2.5 ... 35 mm ²)
— finely stranded without core end processing	2x (10 ... 35 mm ²)
• at AWG conductors for main contacts	2x (10 ... 1/0)
Type of connectable conductor cross-sections	
• for auxiliary contacts	
— solid	2x (0.25 ... 2.5 mm ²)
— finely stranded with core end processing	2x (0.25 ... 1.5 mm ²)
— finely stranded without core end processing	2x (0.25 ... 2.5 mm ²)
• at AWG conductors for auxiliary contacts	2x (24 ... 14)

Certificates/approvals

General Product Approval			Declaration of Conformity	Test Certificates	Shipping Approval
				spezielle Prüfbescheinigungen n	
CSA	UL		EG-Konf.		ABS

Shipping Approval				other	
				Umweltbestätigung	Bestätigungen
GL	LRS	RINA	RMRS		

other
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Further information

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

<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1046-3AL20-Z W97>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1046-3AL20-Z W97>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1046-3AL20-Z W97>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1046-3AL20-Z W97&lang=en

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