

Vacuum contactor, AC-3 500 A, 250 kW / 400 V AC (50-60 Hz) / DC operation 575-600 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, Size S12 Busbar connections Drive: conventional



Figure similar

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
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
Protection class IP	
• on the front	IP00; IP20 on the front with cover / box terminal
• of the terminal	IP00

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 electronics-compatible auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	10 000 000
Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750	K
Reference code acc. to DIN EN 81346-2	Q

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

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
Operating 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-2 at 400 V rated value	500 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
Connectable conductor cross-section in main circuit at AC-1	
• at 60 °C minimum permissible	370 mm ²
• at 40 °C minimum permissible	370 mm ²
Operating 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-1	
— at 230 V at 60 °C rated value	208 kW
— at 400 V rated value	362 kW
— at 400 V at 60 °C rated value	550 kW
— at 690 V rated value	624 kW
— at 690 V at 60 °C rated value	624 kW
— at 1000 V at 60 °C rated value	905 kW
• at AC-2 at 400 V rated value	250 kW
• 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
Thermal short-time current limited to 10 s	4 000 A
Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor	32 W
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-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 - at 60 Hz rated value	575 ... 600 V 575 ... 600 V
Control supply voltage at DC rated value	575 ... 600 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
Operating current at AC-12 maximum	10 A
Operating 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
Operating 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
Operating 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 three-phase AC motor	
• at 480 V rated value	477 A
• at 600 V rated value	472 A
Yielded mechanical performance [hp]	
• for three-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 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; standing, on horizontal mounting surface
Mounting type • 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 • for live parts — 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 • for main current circuit • for auxiliary and control current circuit	Connection bar screw-type terminals
Type of connectable conductor cross-sections • at AWG conductors 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 • single or multi-stranded • finely stranded with core end processing	0.5 ... 4 mm² 0.5 ... 2.5 mm²
Type of connectable conductor cross-sections • for auxiliary contacts — solid — single or multi-stranded — finely stranded with core end processing	 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²) 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²) 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)

• at AWG conductors 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 acc. to IEC 60947-4-1	Yes
• positively driven operation acc. to IEC 60947-5-1	No
Protection against electrical shock	finger-safe when touched vertically from front acc. to IEC 60529

Certificates/approvals

General Product Approval	Functional Safety/Safety of Machinery	Declaration of Conformity
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[Type Examination Certificate](#)



Test Certificates	Marine / Shipping	other
Special Test Certificate	Type Test Certificates/Test Report	Miscellaneous
	 ABS	 RMRS
		Confirmation

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=3RT1276-6AT36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1276-6AT36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1276-6AT36>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1276-6AT36&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1276-6AT36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1276-6AT36&objecttype=14&gridview=view1>



