## Data sheet



Contactor AC3: 160kW / 400 V 3-pole Size S10 Coil AC 50/60Hz and DC 200...277 V x (0,8...1,1) auxiliary contacts: 2 NO + 2 NC permanently mounted (SUVA) Main: busbar connections coil and auxilliary: screw terminal

Figure similar

Product brand name	SIRIUS
Product designation	Power contactor
Product type designation	3RT1

General technical data	
Size of contactor	S10
Product extension	
<ul> <li>function module for communication</li> </ul>	No
Auxiliary switch	Yes
Insulation voltage	
rated value	1 000 V
Degree of pollution	3
Surge voltage resistance rated value	8 kV
maximum permissible voltage for safe isolation	
<ul> <li>between coil and main contacts acc. to EN</li> </ul>	690 V
60947-1	
Protection class IP	
• on the front	IP00

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
<ul> <li>of the contactor with added electronics- compatible auxiliary switch block typical</li> </ul>	5 000 000
<ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000
Ambient conditions	
Installation altitude at height above sea level	
• maximum	2 000 m
Ambient temperature	
<ul><li>during operation</li></ul>	-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	
<ul><li>at AC-3 rated value maximum</li></ul>	1 000 V
Operating current	
• at AC-1 at 400 V	
<ul> <li>at ambient temperature 40 °C rated value</li> </ul>	330 A
• at AC-1	
— up to 690 V at ambient temperature 40 $^{\circ}\text{C}$ rated value	330 A
— up to 690 V at ambient temperature 60 $^{\circ}\mathrm{C}$ rated value	300 A
— up to 1000 V at ambient temperature 40 $^{\circ}\text{C}$ rated value	150 A
— up to 1000 V at ambient temperature 60 °C rated value	150 A
• at AC-2 at 400 V 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	280 A
— at 1000 V rated value	95 A

Connectable conductor cross-section in main circuit at AC-1	
• at 60 °C minimum permissible	185 mm²
at 40 °C minimum permissible	185 mm²
Operating current for approx. 200000 operating	
cycles at AC-4	
• at 400 V rated value	125 A
• at 690 V rated value	115 A
Operating current	
• at 1 current path at DC-1	
— at 24 V rated value	300 A
— at 110 V rated value	33 A
— at 220 V rated value	3.8 A
— at 440 V rated value	0.9 A
— at 600 V rated value	0.6 A
• with 2 current paths in series at DC-1	
— at 24 V rated value	300 A
— at 110 V rated value	300 A
— at 220 V rated value	300 A
— at 440 V rated value	4 A
— at 600 V rated value	2 A
• with 3 current paths in series at DC-1	
— at 24 V rated value	300 A
— at 110 V rated value	300 A
— at 220 V rated value	300 A
— at 440 V rated value	11 A
— at 600 V rated value	5.2 A
Operating current	
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	300 A
— at 110 V rated value	3 A
— at 220 V rated value	0.6 A
— at 440 V rated value	0.18 A
— at 600 V rated value	0.125 A
• with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	300 A
— at 110 V rated value	300 A
— at 220 V rated value	2.5 A
— at 440 V rated value	0.65 A
— at 600 V rated value	0.37 A
• with 3 current paths in series at DC-3 at DC-5	
— at 24 V rated value	300 A

— at 110 V rated value	300 A
— at 220 V rated value	300 A
— at 440 V rated value	1.4 A
— at 600 V rated value	0.75 A
Operating power	
● at AC-1	
— at 230 V at 60 °C rated value	113 kW
— at 400 V rated value	197 kW
— at 400 V at 60 °C rated value	197 kW
— at 690 V rated value	330 kW
— at 690 V at 60 °C rated value	340 kW
— at 1000 V at 60 °C rated value	246 kW
• at AC-2 at 400 V rated value	160 kW
• at AC-3	
— at 230 V rated value	97 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	132 kW
Operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	71 kW
• at 690 V rated value	112 kW
Thermal short-time current limited to 10 s	2 400 A
Power loss [W] at AC-3 at 400 V for rated value of	22 W
the operating current per conductor	
No-load switching frequency	
• at DC	1 000 1/h
Operating frequency	
• at AC-1 maximum	750 1/h
• at AC-2 maximum	300 1/h
• at AC-3 maximum	700 1/h
• at AC-4 maximum	130 1/h
ontrol circuit/ Control	
Type of voltage of the control supply voltage	AC/DC
Control supply voltage at AC	
• at 50 Hz rated value	200 277 V
● at 60 Hz rated value	200 277 V
Control supply voltage at DC	
• rated value	200 277 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 of magnet coil at AC	
● at 50 Hz	530 V·A
Inductive power factor with closing power of the coil	
● at 50 Hz	0.8
Apparent holding power of magnet coil at AC	
● at 50 Hz	5 V·A
Inductive power factor with the holding power of the	
coil	
● at 50 Hz	0.5
Closing power of magnet coil at DC	580 W
Holding power of magnet coil at DC	3.4 W
Closing delay	
• at AC	60 75 ms
• at DC	60 75 ms
Opening delay	
• at AC	115 130 ms
• at DC	115 130 ms
Recovery time after power failure typical	2 s
Arcing time	10 15 ms
Control version of the switch operating mechanism	Fail-safe PLC input (F-PLC-IN)
Auxiliary circuit	
Number of NC contacts	
<ul> <li>for auxiliary contacts</li> </ul>	
<ul> <li>instantaneous contact</li> </ul>	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	
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	302 A
• at 600 V rated value	289 A
Yielded mechanical performance [hp]	
<ul> <li>for three-phase AC motor</li> </ul>	
— 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 / P600

Short-circuit protection	
Design of the fuse link	
• for short-circuit protection of the main circuit	
<ul> <li>— with type of coordination 1 required</li> </ul>	Fuse gG: 500 A
<ul> <li>— with type of assignment 2 required</li> </ul>	Fuse gG: 400 A
<ul> <li>for short-circuit protection of the auxiliary switch required</li> </ul>	fuse gG: 10 A

Installation/ mounting/ dimensions	
Mounting position	+/-180° rotation possible on vertical mounting surface; can be
	tilted forward and backward by +/- 22.5° on vertical mounting
	surface
Mounting type	screw fixing
<ul> <li>Side-by-side mounting</li> </ul>	Yes
Height	210 mm
Width	145 mm

Depth	202 mm
Connections/Terminals	
Type of electrical connection	
• for main current circuit	screw-type terminals
<ul> <li>for auxiliary and control current circuit</li> </ul>	screw-type terminals
Type of connectable conductor cross-sections	
<ul> <li>at AWG conductors for main contacts</li> </ul>	2/0 500 kcmil
Type of connectable conductor cross-sections	
<ul> <li>for auxiliary contacts</li> </ul>	
— solid	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), max. 2x (0.75 4 mm²)
<ul> <li>single or multi-stranded</li> </ul>	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²), max. 2x (0,75 4 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
<ul> <li>at AWG conductors for auxiliary contacts</li> </ul>	2x (20 16), 2x (18 14), 1x 12

Safety related data	
Safety device type acc. to IEC 61508-2	Type B
B10 value	
<ul> <li>with high demand rate acc. to SN 31920</li> </ul>	1 000 000
Safety Integrity Level (SIL) acc. to IEC 61508	2
SIL Claim Limit (subsystem) acc. to EN 62061	2
Performance level (PL) acc. to EN ISO 13849-1	C
Category acc. to EN ISO 13849-1	2
Stop category acc. to DIN EN 60204-1	0
Proportion of dangerous failures	
<ul> <li>with low demand rate acc. to SN 31920</li> </ul>	40 %
<ul> <li>with high demand rate acc. to SN 31920</li> </ul>	73 %
Product function	
<ul> <li>Mirror contact acc. to IEC 60947-4-1</li> </ul>	Yes
• positively driven operation acc. to IEC 60947-5-	No
1	
PFHD with high demand rate acc. to EN 62061	0.00000045 1/h
PFDavg with low demand rate acc. to IEC 61508	0.007
MTBF	75 y
Hardware fault tolerance acc. to IEC 61508	0
T1 value for proof test interval or service life acc. to IEC 61508	20 y
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









Type Examination Certificate



Test	Marine /	other
Certificates	Shipping	

**Special Test** Certificate



Confirmation

Miscellaneous

## Further information

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

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

Industry Mall (Online ordering system)

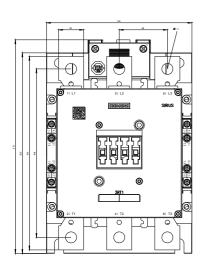
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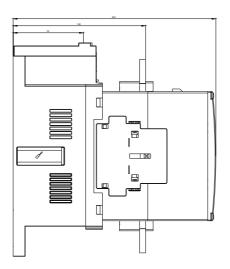
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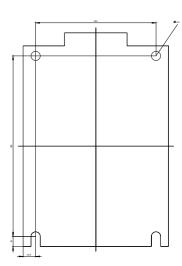
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1066-6SP36-3PA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) <a href="https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6SP36-3PA0">https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6SP36-3PA0</a>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT1066-6SP36-3PA0&lang=en







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