



CONTACTOR, AC-3, 18.5KW/400V, 1NO+1NC,  
AC 110V 50HZ, 120V 60HZ 3-POLE,  
SZ S0 SCREW TERMINAL

### General technical data:

product brand name		SIRIUS
Size of the contactor		S0
Product extension		
• auxiliary switch		Yes
• function module for communication		No
Protection class IP / on the front		IP20
Protection against electrical shock		finger-safe
Degree of pollution		3
Installation altitude / at a height over sea level / maximum	m	2,000
Ambient temperature		
• during storage	°C	-55 ... +80
• during operating	°C	-25 ... +60
Shock resistance		
• at rectangular impulse		
• at AC		8,3g / 5 ms, 5,3g / 10 ms
• at sine pulse		
• at AC		13,5g / 5 ms, 8,3g / 10 ms
Impulse voltage resistance / rated value	kV	6
Insulation voltage / rated value	V	690

<b>Maximum permissible voltage for protective separation / between coil and main contacts / in accordance with EN 60947-1</b>	V	400
<b>Mechanical operating cycles as operating time</b>		
• of the contactor / typical		10,000,000
• of the contactor with added auxiliary switch block / typical		10,000,000
• of the contactor with added electronics-compatible auxiliary switch block / typical		5,000,000
<b>Main circuit:</b>		
<b>Number of NC contacts / for main contacts</b>		0
<b>Number of NO contacts / for main contacts</b>		3
<b>Connectable conductor cross-section / in main circuit</b>		
• at AC-1		
• at 40 °C / minimum permissible	mm <sup>2</sup>	10
• at 60 °C / minimum permissible	mm <sup>2</sup>	10
<b>Operating current</b>		
• at AC-1 / up to 690 V		
• at 40 °C ambient temperature / rated value	A	50
• at 60 °C ambient temperature / rated value	A	42
• at AC-2 / at 400 V / rated value	A	38
• at AC-3		
• at 400 V / rated value	A	38
• at 500 V / rated value	A	32
• at 690 V / rated value	A	21
• at AC-4 / at 400 V / rated value	A	22
<b>Operational current / for ≥ 200000 operating cycles / at AC-4</b>		
• at 400 V / rated value	A	12
• at 690 V / rated value	A	12
<b>Operating current</b>		
• with 1 current path / at DC-1		
• at 24 V / rated value	A	35
• at 110 V / rated value	A	4.5
• at 220 V / rated value	A	1
• at 440 V / rated value	A	0.4
• at 600 V / rated value	A	0.25
• with 2 current paths in series / at DC-1		
• at 24 V / rated value	A	35
• at 110 V / rated value	A	35
• at 220 V / rated value	A	5
• at 440 V / rated value	A	1
• at 600 V / rated value	A	0.8

<ul style="list-style-type: none"> <li>• with 3 current paths in series / at DC-1 <ul style="list-style-type: none"> <li>• at 24 V / rated value</li> <li>• at 110 V / rated value</li> <li>• at 220 V / rated value</li> <li>• at 440 V / rated value</li> <li>• at 600 V / rated value</li> </ul> </li> </ul>	A	35
	A	35
	A	35
	A	2.9
	A	1.4
<b>Operating current</b>		
<ul style="list-style-type: none"> <li>• with 1 current path / at DC-3 / at DC-5 <ul style="list-style-type: none"> <li>• at 24 V / rated value</li> <li>• at 110 V / rated value</li> <li>• at 220 V / rated value</li> <li>• at 440 V / rated value</li> <li>• at 600 V / rated value</li> </ul> </li> <li>• with 2 current paths in series / at DC-3 / at DC-5 <ul style="list-style-type: none"> <li>• at 24 V / rated value</li> <li>• at 110 V / rated value</li> <li>• at 220 V / rated value</li> <li>• at 440 V / rated value</li> <li>• at 600 V / rated value</li> </ul> </li> <li>• with 3 current paths in series / at DC-3 / at DC-5 <ul style="list-style-type: none"> <li>• at 24 V / rated value</li> <li>• at 110 V / rated value</li> <li>• at 220 V / rated value</li> <li>• at 440 V / rated value</li> <li>• at 600 V / rated value</li> </ul> </li> </ul>	A	20
	A	2.5
	A	1
	A	0.09
	A	0.06
	A	35
	A	15
	A	3
	A	0.27
	A	0.16
	A	35
	A	35
	A	10
	A	0.6
	A	0.6
<b>Operating performance</b>		
• at AC-1 / at 230 V / rated value	kW	16
• at AC-1 / at 400 V / rated value	kW	28
• at AC-1 / at 690 V / rated value	kW	48
• at AC-2		
• at 400 V / rated value	kW	18.5
• at AC-3		
• at 230 V / rated value	kW	11
• at 400 V / rated value	kW	18.5
• at 690 V / rated value	kW	18.5
• at AC-4		
• at 400 V / rated value	kW	11
<b>Operating performance / for <math>\geq 200000</math> operating cycles / at AC-4</b>		
• at 400 V / rated value	kW	6
• at 690 V / rated value	kW	10.3

<b>Thermal short-time current / restricted to 10 s</b>	A	304
<b>Active power loss / at AC-3 / at 400 V / with rated Operating current value / per conductor</b>	W	3.8
<b>Off-load operating frequency</b> • at AC	1/h	5,000
<b>Frequency of operation</b> • with AC-1 / maximum • with AC-2 / maximum • with AC-3 / maximum • with AC-4 / maximum	1/h 1/h 1/h 1/h	1,000 750 750 250

#### Control circuit/ Control:

<b>Voltage type / of control feed voltage</b>		AC
<b>Control supply voltage</b> • at 50 Hz / at AC / rated value • at 60 Hz / at AC / rated value	V V	110 120
<b>Operating range factor control supply voltage rated value / of the magnet coil</b> • at 50 Hz / for AC • at 60 Hz / for AC		0.8 ... 1.1 0.85 ... 1.1
<b>Apparent pull-in power / of the solenoid / for AC</b>	V·A	87
<b>Apparent holding power / of the solenoid / for AC</b>	V·A	9.8
<b>Inductive power factor</b> • with the pull-in power of the coil • with the pull-in power of the coil		0.82 0.25
<b>Closing delay</b> • at AC	ms	8 ... 40
<b>Opening delay</b> • at AC	ms	4 ... 16
<b>Arcing time</b>	ms	10 ... 10
<b>Residual current / of electronics / for control with signal &lt;0&gt;</b> • at 230 V / with AC / maximum permissible • at 24 V / with DC / maximum permissible	mA mA	7 16

#### Auxiliary circuit:

<b>Contact reliability / of the auxiliary contacts</b>		1 faulty switching per 100 million (17 V, 1 mA)
<b>Number of NC contacts / for auxiliary contacts / instantaneous switching</b>		1
<b>Number of NO contacts / for auxiliary contacts / instantaneous switching</b>		1
<b>Operating current</b> • at AC-12 / maximum	A	10

<ul style="list-style-type: none"> <li>• at AC-15</li> <li>• at 230 V / rated value</li> <li>• at 400 V / rated value</li> <li>• at 500 V / rated value</li> <li>• at 690 V / rated value</li> </ul>	A	10
	A	3
	A	2
	A	1
<b>Operating current / at DC-12</b>		
• at 24 V / rated value	A	10
• at 48 V / rated value	A	6
• at 60 V / rated value	A	6
• at 110 V / rated value	A	3
• at 125 V / rated value	A	2
• at 220 V / rated value	A	1
• at 440 V / rated value	A	0.3
• at 600 V / rated value	A	0.15
<b>Operating current / at DC-13</b>		
• at 24 V / rated value	A	10
• at 48 V / rated value	A	2
• at 60 V / rated value	A	2
• at 110 V / rated value	A	1
• at 125 V / rated value	A	0.9
• at 220 V / rated value	A	0.3
• at 440 V / rated value	A	0.14
• at 600 V / rated value	A	0.1
<b>UL/CSA ratings:</b>		
<b>yielded mechanical performance [hp]</b>		
• for single-phase squirrel cage motors		
• at 110/120 V / rated value	hp	3
• at 230 V / rated value	hp	5
• for three-phase squirrel cage motors		
• at 200/208 V / rated value	hp	10
• at 220/230 V / rated value	hp	10
• at 460/480 V / rated value	hp	25
• at 575/600 V / rated value	hp	25
<b>Full-load current (FLA) / for 3-phase motor</b>		
• at 480 V / rated value	A	34
• at 600 V / rated value	A	27
<b>Contact rating designation / for auxiliary contacts / according to UL</b>		A600 / Q600
<b>Short-circuit:</b>		
<b>Design of the fuse link</b>		

- for short-circuit protection of the auxiliary switch / required
- for short-circuit protection of the main circuit
  - with type of assignment 1 / required
- at type of coordination 2 / required

fuse gL/gG: 10 A

gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE:  
100 A

gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE:  
35A

#### Installation/ mounting/ dimensions:

<b>mounting position</b>		+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
<b>Mounting type</b>		screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022
<b>Mounting type / series installation</b>		Yes
<b>Width</b>	mm	45
<b>Height</b>	mm	85
<b>Depth</b>	mm	97
<b>Distance, to be maintained, to the ranks assembly / sideways</b>	mm	0

#### Connections/ terminals:

##### Design of the electrical connection

- for main current circuit
- for auxiliary and control current circuit
- for main contacts / finely stranded / with conductor end  
processing
- for AWG conductors / for main contacts
- for auxiliary contacts / finely stranded / with conductor end  
processing
- for AWG conductors / for auxiliary contacts

screw-type terminals

screw-type terminals

2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm²

2x (16 ... 12), 2x (14 ... 8)

2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)

2x (20 ... 16), 2x (18 ... 14)

#### Safety related data:

<b>B10 value / with high demand rate</b>		
• according to SN 31920		1,000,000
<b>T1 value / for proof test interval or service life</b>		
• according to IEC 61508	a	20
<b>Proportion of dangerous failures</b>		
• with low demand rate / according to SN 31920	%	40
• with high demand rate / according to SN 31920	%	73
<b>Failure rate [FIT] / with low demand rate</b>		
• according to SN 31920	FIT	100
<b>Product function</b>		
• mirror contact to IEC 60947-4-1		Yes
• positively driven operation to IEC 60947-5-1		No

## Certificates/ approvals:

### General Product Approval



CCC



CSA



UL



C-TICK

### Functional Safety / Safety of Machinery

[Type Examination](#)

### Declaration of Conformity



EG-Konf.

### Test Certificates

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

## Shipping Approval



ABS



BUREAU  
VERITAS



DNV



GL



LRS



PRS

### Shipping Approval

### other



RINA



RMRS

[Confirmation](#)



VDE

[Environmental Confirmations](#)

## Further information:

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

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

### Industry Mall (Online ordering system)

<http://mall.industry.siemens.com/>

### Cax online generator

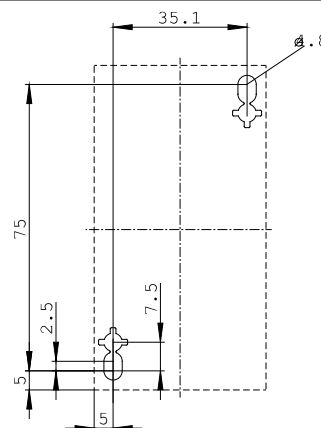
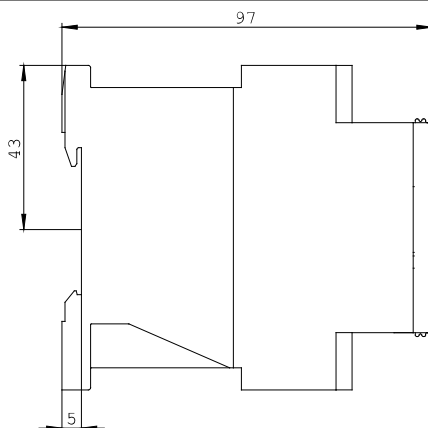
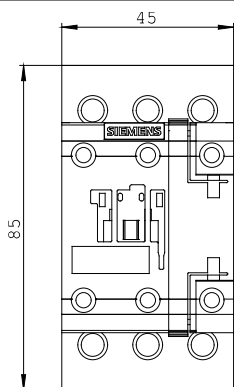
<http://www.siemens.com/cax>

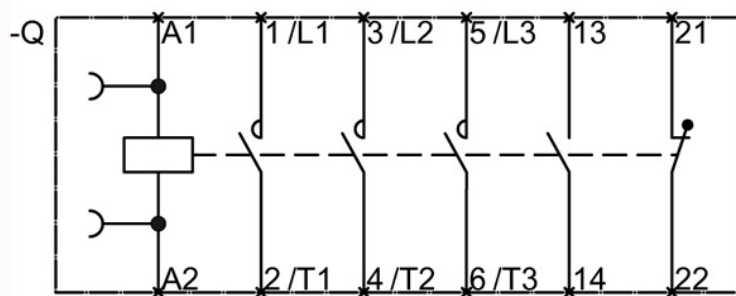
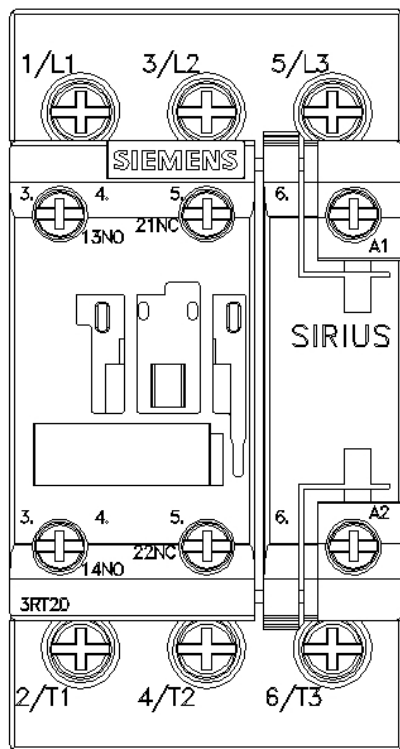
### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WW/view/en/3RT2028-1AK60/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RT2028-1AK60](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RT2028-1AK60)





last change:

Aug 4, 2014