

REV. COMB., AC3, 18.5KW/ 400V AC110V,  
50/60HZ, 3-POLE,  
SZ S0 SCREW TERMINAL ELECTR. AND MECH.  
INTERLOCK 2NO INTEGR.

### General technical data:

Product brand name		SIRIUS
product designation		star-delta (wye-delta) contactor assembly 3RA24
Product function		reversing contactor
Size of the contactor		S0
Protection class IP / on the front		IP20
Degree of pollution		3
Insulation voltage / with degree of pollution 3 / rated value	V	690
Installation altitude / at a height over sea level / maximum	m	2,000
Ambient temperature		
• during transport	°C	-55 ... 80
• during storage	°C	-55 ... 80
• during operating	°C	-25 ... 60
Resistance against shock		12.5g / 5 ms and 7.8g / 10 ms
Impulse voltage resistance / rated value	kV	6
Active power loss / per conductor / typical	W	1.6
Item designation		
• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750		K
• according to DIN EN 61346-2		Q

<b>Manufacturer article number</b>		
• 1 / of the contactor included in the scope of supply		<a href="#">3RT2028-1AG20</a>
• 2 / of the contactor included in the scope of supply		<a href="#">3RT2028-1AG20</a>
• of the RS applied assembly kit		<a href="#">3RA2923-2AA1</a>
<b>Mechanical operating cycles as operating time</b>		
• of the main contacts / typical		10,000,000
• of the auxiliary contacts / typical		10,000,000
• of the contactor / typical		10,000,000
• of the contactor with added auxiliary switch block / typical		10,000,000

#### Communication:

<b>Product function</b>		
• bus-communication		No
• control circuit interface with IO link		No
<b>Protocol / will be supported / AS interface protocol</b>		No

#### Main circuit:

<b>Number of poles / for main current circuit</b>		3
<b>Number of NC contacts / for main contacts</b>		0
<b>Number of NO contacts / for main contacts</b>		3
<b>Operating voltage / at AC-3 / rated value / maximum</b>	V	690
<b>Operating current</b>		
• at AC-1 / at 400 V		
• at 40 °C ambient temperature / rated value	A	50
• at 60 °C ambient temperature / rated value	A	45
• at AC-2 / at 400 V / rated value	A	38
• at AC-3 / at 400 V / rated value	A	38
• at AC-4 / at 400 V / rated value	A	18.5
• with 1 current path / at DC-1		
• at 24 V / rated value	A	35
• at 110 V / rated value	A	4.5
• with 2 current paths in series / at DC-1		
• at 24 V / rated value	A	35
• at 110 V / rated value	A	35
• with 3 current paths in series / at DC-1		
• at 24 V / rated value	A	35
• at 110 V / rated value	A	35
• with 1 current path / at DC-3 / at DC-5		
• at 24 V / rated value	A	20
• at 110 V / rated value	A	2.5

<ul style="list-style-type: none"> <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> </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> </ul> </li> </ul>	A	35
	A	15
	A	35
	A	35
<b>Service power</b>		
<ul style="list-style-type: none"> <li>• at AC-2 / at 400 V / rated value</li> </ul>	kW	18.5
<ul style="list-style-type: none"> <li>• at AC-3 <ul style="list-style-type: none"> <li>• at 400 V / rated value</li> <li>• at 500 V / rated value</li> <li>• at 690 V / rated value</li> </ul> </li> <li>• at AC-4 / at 400 V / rated value</li> </ul>	kW	18.5
	kW	22
	kW	18.5
	kW	9.5
<b>Off-load operating frequency</b>	1/h	15
<b>Frequency of operation</b>		
<ul style="list-style-type: none"> <li>• at AC-1 / according to IEC 60947-6-2 / maximum</li> </ul>	1/h	1,000
<ul style="list-style-type: none"> <li>• at AC-2 / according to IEC 60947-6-2 / maximum</li> </ul>	1/h	1,000
<ul style="list-style-type: none"> <li>• at AC-3 / according to IEC 60947-6-2 / maximum</li> </ul>	1/h	1,000
<ul style="list-style-type: none"> <li>• at AC-4 / according to IEC 60947-6-2 / maximum</li> </ul>	1/h	300

<b>Control circuit:</b>		
<b>Design of activation</b>		conventional
<b>Type of voltage / of the controlled supply voltage</b>		AC
<b>Control supply voltage frequency</b>		
<ul style="list-style-type: none"> <li>• 1 / rated value</li> </ul>	Hz	50
<ul style="list-style-type: none"> <li>• 2 / rated value</li> </ul>	Hz	60
<b>Control supply voltage / 1</b>		
<ul style="list-style-type: none"> <li>• at 50 Hz / for AC / rated value</li> </ul>	V	110
<ul style="list-style-type: none"> <li>• at 60 Hz / for AC / rated value</li> </ul>	V	110
<b>Operating range factor control supply voltage rated value / of the solenoid</b>		
<ul style="list-style-type: none"> <li>• at 50 Hz / for AC</li> </ul>		0.8 ... 1.1
<ul style="list-style-type: none"> <li>• at 60 Hz / for AC</li> </ul>		0.8 ... 1.1
<b>Apparent pull-in power / of the solenoid / for AC</b>	V·A	77
<b>Apparent holding power / of the solenoid / for AC</b>	V·A	9.8
<b>Inductive power factor</b>		
<ul style="list-style-type: none"> <li>• with the pull-in power of the coil</li> </ul>		0.82
<ul style="list-style-type: none"> <li>• with the pull-in power of the coil</li> </ul>		0.27
<b>Auxiliary circuit:</b>		
<b>Product extension / auxiliary switch</b>		Yes

<b>Contact reliability / of the auxiliary contacts</b>		< 1 error per 100 million operating cycles
<b>Number of NC contacts / for auxiliary contacts</b>		
• per direction of rotation		0
• instantaneous switching		0
• lagging switching		0
<b>Number of NO contacts / for auxiliary contacts</b>		
• per direction of rotation		0
• instantaneous switching		0
• leading switching		0
<b>Operating current / of the auxiliary contacts</b>		
• at AC-12 / maximum	A	10
• at AC-15		
• at 230 V	A	6
• at 400 V	A	3
• at DC-12		
• at 48 V	A	6
• at 60 V	A	6
• at 110 V	A	3
• at 220 V	A	1
• at DC-13		
• at 24 V	A	10
• at 48 V	A	2
• at 60 V	A	2
• at 110 V	A	1
• at 220 V	A	0.3

#### Short-circuit:

##### Design of the fuse link

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

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

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

fuse gL/gG: 10 A

#### Installation/mounting/dimensions:

<b>Built in orientation</b>		any
<b>Type of mounting</b>		screw and snap-on mounting onto 35 mm standard mounting rail
<b>Width</b>	mm	90
<b>Height</b>	mm	101
<b>Depth</b>	mm	97

<b>Distance, to be maintained, to the ranks assembly</b>	• forwards	mm	6
	• backwards	mm	0
	• upwards	mm	6
	• downwards	mm	6
	• sideways	mm	6
<b>Distance, to be maintained, to earthed part</b>	• forwards	mm	6
	• backwards	mm	0
	• upwards	mm	6
	• downwards	mm	6
	• sideways	mm	6
<b>Distance, to be maintained, conductive elements</b>	• forwards	mm	6
	• backwards	mm	0
	• upwards	mm	6
	• downwards	mm	6
	• sideways	mm	6

#### Connections:

<b>Design of the electrical connection</b>	• for main current circuit	screw-type terminals
	• for auxiliary and control current circuit	screw-type terminals
<b>Type of the connectable conductor cross-section</b>	• for main contacts	
	• solid	2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 10 mm <sup>2</sup> )
	• stranded	2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 10 mm <sup>2</sup> )
	• finely stranded	
	• with conductor end processing	2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup>
	• for AWG conductors / for main contacts	2x (16 ... 12), 2x (14 ... 8)
	• for auxiliary contacts	
	• solid	2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )
	• finely stranded	
	• with conductor end processing	2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )
	• for AWG conductors / for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14)

#### Certificates/approvals:

<b>Verification of suitability</b>	CE / UL / CSA / CCC
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## General Product Approval



[ROSTEST](#)



## Test Certificates

[Manufacturer](#)

## Shipping Approval



GL



LRS



PRS



RINA

## Shipping Approval

other

[other](#)



RMRS

## UL/CSA ratings

### yielded mechanical performance (hp)

- for single-phase squirrel cage motors
  - at 110/120 V / rated value
  - at 230 V / rated value
- for three-phase squirrel cage motors
  - at 220/230 V / rated value
  - at 460/480 V / rated value
  - at 575/600 V / rated value

hp	3
hp	5
hp	10
hp	25
hp	25

### Operating current (FLA) / for three-phase squirrel cage motors

- at 480 V / rated value
- at 600 V / rated value

A	34
A	27

### Contact rating designation / for auxiliary contacts / according to UL

A600 / Q600

## Safety:

### B10 value / with high demand rate

- according to SN 31920

1,000,000

### Failure rate (FIT value) / with low demand rate

- according to SN 31920

FIT 100

### Proportion of dangerous failures

- with low demand rate / according to SN 31920
- with high demand rate / according to SN 31920

%	40
%	75

### T1 value / for proof test interval or service life

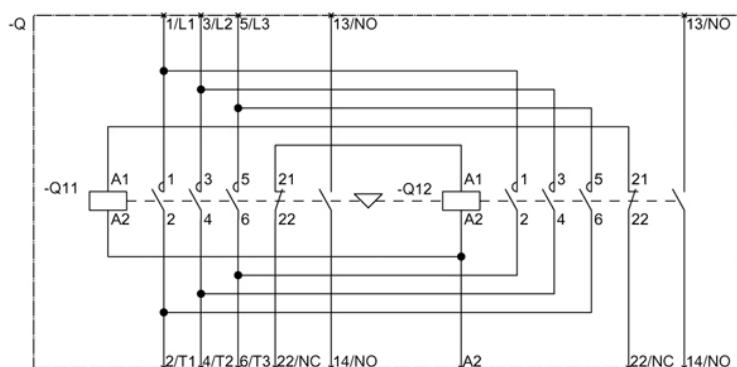
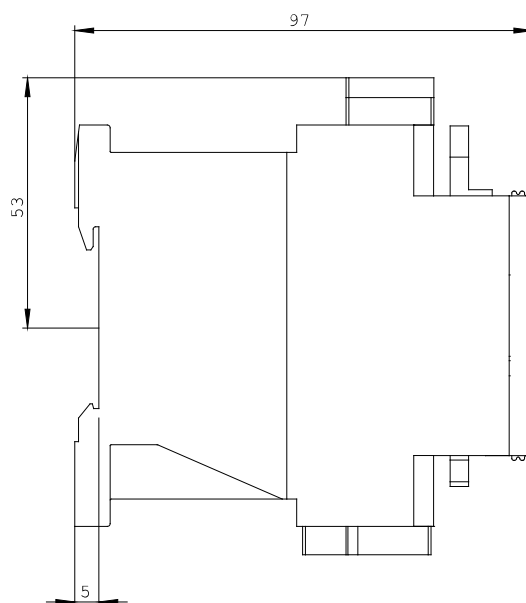
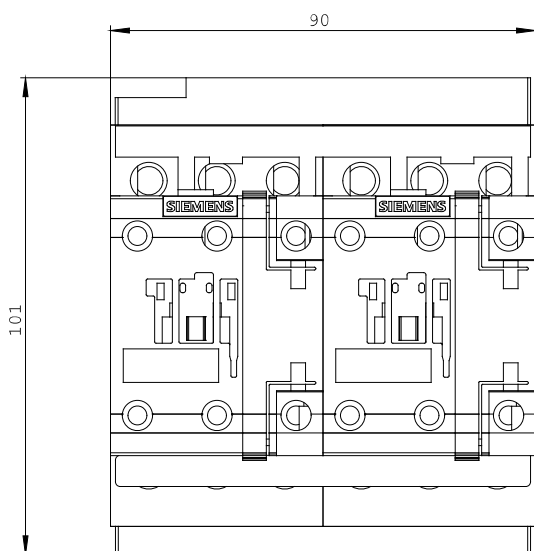
- according to IEC 61508

a 20

### Protection against electrical shock

finger-safe

## Further information:



last change:

Oct 24, 2011