



COUPLING CONTACTOR RELAY, 3NO+1NC,  
DC 24V, 0.85..1.85\*US,  
W/ INTEGRATED DIODE, SIZE S00,  
SCREW TERMINAL

### General technical data:

Product brand name		SIRIUS
Size of the contactor		S00
Identification number and letter for switching elements		31 E
Product extension / auxiliary switch		No
Protection class IP / on the front		IP20
Protection against electrical shock		finger-safe
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 storage	°C	-55 ... 80
Ambient temperature / during operating	°C	-25 ... 60
Shock resistance		
• at rectangular impulse		
• at DC		10g / 5 ms, 5g / 10 ms
• at sine pulse		
• at DC		15g / 5 ms, 8g / 10 ms
Impulse voltage resistance / rated value	kV	6
Mechanical operating cycles as operating time		
• of the contactor / typical		30,000,000

Control circuit:		
Design of the surge suppressor		with diode
Type of voltage / of the controlled supply voltage		DC
Control supply voltage / 1 • for DC / rated value	V	24
Operating range factor control supply voltage rated value / of the solenoid • for DC		0.85 ... 1.85
Holding power / of the solenoid / for DC	W	1.6
Pull-in power / of the solenoid / for DC	W	1.6
Closing delay • at DC	ms	30 ... 100
Opening delay • at DC	ms	25 ... 90
Arcing time	s	10 ... 15

Auxiliary circuit:		
Contact reliability / of the auxiliary contacts		1 faulty switching per 100 million (17 V, 1 mA)
Number of NC contacts / for auxiliary contacts / instantaneous switching		1
Number of NO contacts / for auxiliary contacts / instantaneous switching		3
Operating current / of the auxiliary contacts / at AC-12 / maximum	A	10
Operating current / of the auxiliary contacts / at AC-15 • at 230 V • at 400 V • at 500 V • at 690 V	A A A A	6 3 2 1
Operating current • of the auxiliary contacts / with 1 current path / at DC-12 • at 24 V • at 110 V • at 220 V • with 2 current paths in series / at DC-12 • at 24 V / rated value • at 60 V / rated value • at 110 V / rated value • at 220 V / rated value • at 440 V / rated value • at 600 V / rated value	A A A A A A A A A A A	6 3 1  10 10 4 2 1.3 0.65

<ul style="list-style-type: none"> <li>• with 3 current paths in series / at DC-12 <ul style="list-style-type: none"> <li>• at 24 V / rated value</li> <li>• at 60 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	10
	A	10
	A	10
	A	3.6
	A	2.5
	A	1.8
<b>Operating current</b>		
<ul style="list-style-type: none"> <li>• of the auxiliary contacts / with 1 current path / at DC-13 <ul style="list-style-type: none"> <li>• at 24 V</li> <li>• at 110 V</li> <li>• at 220 V</li> </ul> </li> <li>• with 2 current paths in series / at DC-13 <ul style="list-style-type: none"> <li>• at 24 V / rated value</li> <li>• at 60 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-13 <ul style="list-style-type: none"> <li>• at 24 V / rated value</li> <li>• at 60 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	6
	A	1
	A	0.3
	A	10
	A	3.5
	A	1.3
	A	0.9
	A	0.2
	A	0.1
	A	10
	A	4.7
	A	3
	A	1.2
	A	0.5
	A	0.26
<b>Off-load operating frequency</b>		
<ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>	1/h	10,000
	1/h	10,000
<b>Frequency of operation</b>		
<ul style="list-style-type: none"> <li>• at AC-12 / maximum</li> <li>• at AC-14 / maximum</li> <li>• at AC-15 / maximum</li> <li>• at DC-12 / maximum</li> <li>• at DC-13 / maximum</li> </ul>	1/h	1,000
	1/h	1,000
	1/h	1,000
	1/h	1,000
	1/h	1,000
	1/h	1,000
<b>Short-circuit:</b>		
<b>Design of the fuse link / for short-circuit protection of the auxiliary switch</b>		
<ul style="list-style-type: none"> <li>• required</li> </ul>		Fuse gL/gG: 10 A, miniature circuit breaker C 6 A (short-circuit current I <sub>k</sub> < 400 A)

**Installation/mounting/dimensions:**

<b>Built in orientation</b>		vertical
<b>Type of mounting</b>		screw and snap-on mounting onto 35 mm standard mounting rail
<b>Width</b>	mm	45
<b>Height</b>	mm	57.5
<b>Depth</b>	mm	73
<b>Distance, to be maintained, to the ranks assembly / sideways</b>	mm	0

**Connections:**

<b>Design of the electrical connection</b> • for auxiliary and control current circuit		screw-type terminals
<b>Type of the connectable conductor cross-section</b> • for auxiliary contacts • solid • finely stranded • with conductor end processing • for AWG conductors / for auxiliary contacts		2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ), 2x 4 mm <sup>2</sup>  2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )  2x (20 ... 16), 2x (18 ... 14), 2x 12

**Certificates/approvals:****General Product Approval**

CQC



CSA

[ROSTEST](#)

UL

**Test Certificates**[Manufacturer](#)**Shipping Approval**

ABS



DNV



GL



LRS



PRS



RINA

**Shipping Approval other**

RMRS



VDE

**UL/CSA ratings:**

<b>Contact rating designation / for auxiliary contacts / according to UL</b>		A600 / Q600
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**Safety-related Parameter:**

<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	10

<b>Proportion of dangerous failures</b>  • with low demand rate / according to SN 31920  • with high demand rate / according to SN 31920	%	40
	%	73
<b>Failure rate (FIT value) / with low demand rate</b>  • according to SN 31920	FIT	100
<b>Product function / positively driven operation to IEC 60947-5-1</b>		Yes

#### Further information:

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

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

##### Industry Mall (Online ordering system)

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

##### Cax online generator:

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

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

<http://support.automation.siemens.com/WW/view/en/3RH2131-1VB40/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RH2131-1VB40](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RH2131-1VB40)



