# **SIEMENS**

Product data sheet 3RH2131-1VB40



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

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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

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	Α	10
Operating current / of the auxiliary contacts / at AC-15		
• at 230 V	Α	6
• at 400 V	Α	3
• at 500 V	Α	2
• at 690 V	Α	1
Operating current		
• of the auxiliary contacts / with 1 current path / at DC-12		
• at 24 V	Α	6
• at 110 V	Α	3
• at 220 V	Α	1
• with 2 current paths in series / at DC-12		
at 24 V / rated value	Α	10
• at 60 V / rated value	Α	10
at 110 V / rated value	Α	4
at 220 V / rated value	Α	2
• at 440 V / rated value	Α	1.3
at 600 V / rated value	А	0.65

• with 3 current paths in series / at DC-12		
• at 24 V / rated value	Α	10
• at 60 V / rated value	Α	10
• at 110 V / rated value	Α	10
• at 220 V / rated value	Α	3.6
• at 440 V / rated value	Α	2.5
• at 600 V / rated value	Α	1.8
Operating current		
• of the auxiliary contacts / with 1 current path / at DC-13		
• at 24 V	Α	6
• at 110 V	Α	1
• at 220 V	Α	0.3
• with 2 current paths in series / at DC-13		
• at 24 V / rated value	Α	10
• at 60 V / rated value	Α	3.5
• at 110 V / rated value	Α	1.3
• at 220 V / rated value	Α	0.9
• at 440 V / rated value	Α	0.2
• at 600 V / rated value	Α	0.1
• with 3 current paths in series / at DC-13		
• at 24 V / rated value	Α	10
• at 60 V / rated value	Α	4.7
• at 110 V / rated value	Α	3
• at 220 V / rated value	Α	1.2
• at 440 V / rated value	Α	0.5
• at 600 V / rated value	Α	0.26
Off-load operating frequency		
• at AC	1/h	10,000
• at DC	1/h	10,000
Frequency of operation		
• at AC-12 / maximum	1/h	1,000
• at AC-14 / maximum	1/h	1,000
• at AC-15 / maximum	1/h	1,000
• at DC-12 / maximum	1/h	1,000
• at DC-13 / maximum	1/h	1,000

Short-circuit:	
Design of the fuse link / for short-circuit protection of the auxiliary switch	
• required	Fuse gL/gG: 10 A, miniature circuit breaker C 6 A (short-circuit current lk < 400 A)

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

Connections:	
Design of the electrical connection	
for auxiliary and control current circuit	screw-type terminals
Type of the connectable conductor cross-section	
for auxiliary contacts	
• solid	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²
• finely stranded	
<ul> <li>with conductor end processing</li> </ul>	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
• for AWG conductors / for auxiliary contacts	2x (20 16), 2x (18 14), 2x 12

## Certificates/approvals:

### **General Product Approval**



ROSTEST



**Test Certificates** 

Manufacturer

### **Shipping Approval**



Cac

cqc





<u>Kegrs</u> <sub>LRS</sub>





**Shipping Approval** 







UL/CSA ratings:		
Contact rating designation / for auxiliary contacts / according to UL		A600 / Q600
Safety:related Parameter:		
B10 value / with high demand rate		
according to SN 31920		1,000,000
T1 value / for proof test interval or service life		
according to IEC 61508	а	10

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

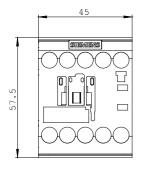
http://www.siemens.com/cax

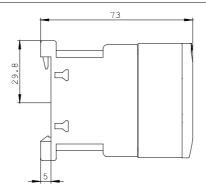
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

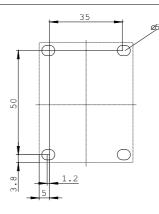
http://support.automation.siemens.com/WW/view/en/3RH2131-1VB40/all

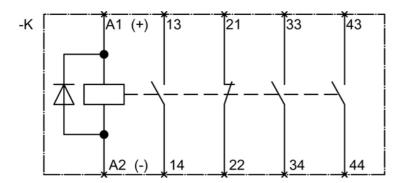
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)

 $\underline{\text{http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3RH2131-1VB40}$ 









last change: Oct 24, 2011