SIEMENS

Product data sheet

3RH2131-2BF40



CONTACTOR RELAY, 3NO+1NC, DC 110V, SZ S00, SPRING-LOADED 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		Yes
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

• of the contactor with added determinis-compatible subiliary switch block / typical 10.000.000 Control circuit:	 of the contactor with added auxiliary switch block / typical 		10,000,000
switch block / typical Image: switch block / typical Control circuit: DC Type of voitage / of the controlled supply voitage DC Control supply voitage / 1 DV ID • for DC / rated value V ID Deparating range factor control supply voitage rated value / of the solenoid / for DC W 4 Holding power / of the solenoid / for DC W 4 Pull-in power / of the solenoid / for DC W 4 Closing delay			
Type of voltage / of the controlled supply voltageDCControl supply voltage / 1V• for DC / rated valueV100perating range factor control supply voltage rated value / of the solenoid / for DC0.8 1.1Holding power / of the solenoid / for DCW4Pull-In power / of the solenoid / for DCW4Closing delayW4• at DCM30 100Operating delayW4• at DCM25 90Arcing timeS10 15Auxiliary circuit:1 sull switching per 100 million (17 V, 1 mA)Number of NC contacts / for auxiliary contacts / instantaneous switching1Operating current / of the auxiliary contacts / instantaneous switching10A3• at 20 VAA6• at 20 VAA6 <t< td=""><td></td><td></td><td></td></t<>			
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Closing delay • at DCms30 100Opening delay • at DCms30 100Arcing timems25 90Arcing times10 15Auxiliary circuit: Contact reliability / of the auxiliary contacts / instantaneous switching1 faulty switching per 100 million (17 V. 1 mA)Number of NC contacts / for auxiliary contacts / instantaneous switching1Operating current / of the auxiliary contacts / instantaneous switching3Operating current / of the auxiliary contacts / at AC-12 / maximumA6• at 230 VA6• at 800 VA3• at 800 VA1• of the auxiliary contacts / with 1 current path / at DC-12 • at 24 V • at 220 VA6• at 100 VA3• at 220 VA1• at 220 VA1• at 220 VA1• at 24 V • at 220 VA1• at 24 V / rated valueA10• at 24 V / rated valueA10• at 24 V / rated valueA10• at 60 V / rated valueA10• at 100 V / rated valueA10• at 100 V / rated valueA10 <td>Holding power / of the solenoid / for DC</td> <td>W</td> <td>4</td>	Holding power / of the solenoid / for DC	W	4
• at DCms30100Opening delay • at DCms2590Arcing times1015Auxiliary circuit:1 faulty switching per 100 million (17 V, 1 mA)Number of NC contacts / for auxiliary contacts / instantaneous switching1Number of NC contacts / for auxiliary contacts / instantaneous switching1Operating current / of the auxiliary contacts / instantaneous switching3Operating current / of the auxiliary contacts / at AC-12 / maximumA10Operating current / of the auxiliary contacts / at AC-15 • at 230 VA6• at 300 VAA31• at 300 VAA31• at 240 VAA61• of the auxiliary contacts / at AC-12 / • at 240 VAA6• at 240 VAA1• of the auxiliary contacts / at AC-13• at 240 VAA6• at 240 VAA6• at 240 VAA6• at 240 VAA6• at 240 VAA1• at 240 VAA6• at 240 VAA1• at 240 VAA1• at 240 VAA1• at 240 VAA6• at 240 VAA1• at 240 V/ rated valueAA10• at 240 V/ rated valueAA <td>Pull-in power / of the solenoid / for DC</td> <td>W</td> <td>4</td>	Pull-in power / of the solenoid / for DC	W	4
Opening delay • at DCrms25 90Arcing times10 15Auxiliary circuit:1 faulty switching per 100 million (17 V, 1 mA)Number of NC contacts / for auxiliary contacts / instantaneous switching1Number of NC contacts / for auxiliary contacts / instantaneous switching3Operating current / of the auxiliary contacts / instantaneous switching1Operating current / of the auxiliary contacts / instantaneous switching1Operating current / of the auxiliary contacts / at AC-12 / maximumA10Operating current / of the auxiliary contacts / at AC-15 • at 230 VA6• at 200 VAA32• at 690 VAA1Operating currentA1• at 24 VA6• at 24 VA6• at 220 VA1• at 220 VA1• at 220 VA1• at 24 VA6• at 220 VA1• at 220 VA1• at 24 V / rated valueA3• at 220 VA1• at 220 VA1• at 220 VA1• at 220 VA1	Closing delay		
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Contact reliability / of the auxiliary contacts / instantaneous switching 1 faulty switching per 100 million (17 V, 1 mA) Number of NC contacts / for auxiliary contacts / instantaneous switching 3 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 AA 6 • at 00 V AA 3 • at 690 V AA 1 Operating current - - • of the auxiliary contacts / with 1 current path / at DC-12 - A • at 220 V AA 6 - • at 24 V AA 1 - • at 100 V AA 3 - • at 220 V AA 6 - • at 24 V AA 6 - • at 220 V AA 1 - • at 24 V AA 6 - • at 24 V AA 1 - • at 220 V AA 1 - • with 2 cur	Arcing time	s	10 15
Number of NC contacts / for auxiliary contacts / instantaneous switching1Number of NO contacts / for auxiliary contacts / instantaneous switching3Operating current / of the auxiliary contacts / at AC-12 / maximumA10Operating current / of the auxiliary contacts / at AC-15A10• at 230 VA6• at 400 VA3• at 500 VA2• at 690 VA1Operating currentA1• of the auxiliary contacts / with 1 current path / at DC-12A6• at 220 VA6• at 110 VA3• at 220 VA1• at 220 VA1• at 24 V / rated valueA1• at 220 VA1• at 110 VA3• at 220 VA1• at 110 VA3• at 110 VA1• at 220 VA1	Auxiliary circuit:		
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switchingImage: contracts / at AC-12 / AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA			1
maximumImage: constant of the auxiliary contacts / at AC-15Image: constant of the auxiliary contacts / at AC-15• at 230 VA6• at 400 VA3• at 400 VA2• at 500 VA1• at 690 VA1Operating current		_	3
• at 230 VA6• at 400 VAA3• at 500 VAA2• at 690 VAA1Operating currentK7• of the auxiliary contacts / with 1 current path / at DC-12AA6• at 24 VAA6• at 110 VAA3• at 220 VAA1• at 24 V / rated valueAA1• at 24 V / rated valueAA1• at 10 V / rated valueAA1• at 10 V / rated valueAA10• at 10 V / rated valueAA4		A	10
• at 400 VA3• at 500 VA2• at 690 VA1Operating currentKC• of the auxiliary contacts / with 1 current path / at DC-12A6• at 24 VAA6• at 110 VAA3• at 220 VAA1• with 2 current paths in series / at DC-12A1• at 24 V / rated valueAA10• at 10 V / rated valueAA4	Operating current / of the auxiliary contacts / at AC-15	_	
• at 500 VA2• at 690 VA1Operating currentKC• of the auxiliary contacts / with 1 current path / at DC-12A6• at 24 VAA6• at 110 VAA3• at 220 VAA1• with 2 current paths in series / at DC-12A1• at 24 V / rated valueAA10• at 60 V / rated valueAA10• at 110 V / rated valueAA4	• at 230 V	А	6
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Operating currentHere• of the auxiliary contacts / with 1 current path / at DC-12A• at 24 VA• at 24 VA• at 110 VA• at 220 VA• at 24 V / rated valueA• at 24 V / rated valueA• at 60 V / rated valueA• at 110 V / rated valueA	• at 500 V	А	2
• of the auxiliary contacts / with 1 current path / at DC-12A6• at 24 VA3• at 110 VA3• at 220 VA1• with 2 current paths in series / at DC-12• at 24 V / rated valueA10• at 60 V / rated valueA10• at 110 V / rated valueA4	• at 690 V	А	1
• at 24 V A 6 • at 110 V A 3 • at 220 V A 1 • with 2 current paths in series / at DC-12 - - • at 24 V / rated value A 10 • at 60 V / rated value A 10 • at 110 V / rated value A 4	Operating current	_	
• at 110 V A 3 • at 220 V A 1 • with 2 current paths in series / at DC-12 - - • at 24 V / rated value A 10 • at 60 V / rated value A 10 • at 110 V / rated value A 4	• of the auxiliary contacts / with 1 current path / at DC-12		
• at 220 VA1• with 2 current paths in series / at DC-12A10• at 24 V / rated valueA10• at 60 V / rated valueA10• at 110 V / rated valueA4	• at 24 V	А	6
• with 2 current paths in series / at DC-12A10• at 24 V / rated valueA10• at 60 V / rated valueA10• at 110 V / rated valueA4	• at 110 V	А	3
• at 24 V / rated valueA10• at 60 V / rated valueA10• at 110 V / rated valueA4	• at 220 V	А	1
• at 60 V / rated valueA10• at 110 V / rated valueA4	• with 2 current paths in series / at DC-12		
• at 110 V / rated value A 4	• at 24 V / rated value	А	10
	• at 60 V / rated value	А	10
• at 220 V / rated value A 2	• at 110 V / rated value		
		A	4

• at 440 V / rated value	А	1.3
• at 600 V / rated value	А	0.65
• with 3 current paths in series / at DC-12		
• at 24 V / rated value	А	10
• at 60 V / rated value	А	10
• at 110 V / rated value	А	10
• at 220 V / rated value	А	3.6
• at 440 V / rated value	А	2.5
• at 600 V / rated value	А	1.8
Operating current		
• of the auxiliary contacts / with 1 current path / at DC-13		
• at 24 V	А	6
• at 110 V	А	1
• at 220 V	А	0.3
• with 2 current paths in series / at DC-13		
• at 24 V / rated value	А	10
• at 60 V / rated value	А	3.5
• at 110 V / rated value	А	1.3
• at 220 V / rated value	А	0.9
• at 440 V / rated value	А	0.2
• at 600 V / rated value	А	0.1
• with 3 current paths in series / at DC-13		
• at 24 V / rated value	А	10
• at 60 V / rated value	А	4.7
• at 110 V / rated value	А	3
• at 220 V / rated value	А	1.2
• at 440 V / rated value	А	0.5
• at 600 V / rated value	А	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
		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 Ik < 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	70	
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	spring-loaded terminals		
Type of the connectable conductor cross-section			
for auxiliary contacts			
• solid	2x (0.5 4 mm²)		
finely stranded			
with conductor end processing	2x (0.5 2.5 mm²)		
without conductor final cutting	2x (0.5 2.5 mm²)		
 for AWG conductors / for auxiliary contacts 	2x (20 12)		

Certificates/approvals:

proval			Test Certificates	5
SP CSA	ROSTEST		Manufacturer	
LA DNV DNV	GL	Llovd's Kegister	PRS	RINA
other				
	CSA CSA CSA CSA CSA CSA CSA CSA CSA CSA	ROSTEST Image: Construction of the state of	ROSTEST Image: Constant of the state of the	ROSTEST Manufacturer Image: Constraint of the state of

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:

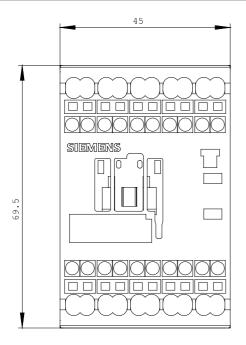
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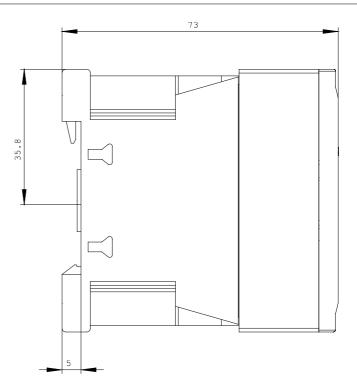
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

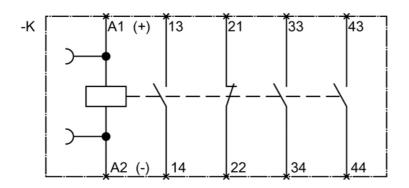
http://support.automation.siemens.com/WW/view/en/3RH2131-2BF40/all

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

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RH2131-2BF40







last change:

Oct 24, 2011