

3RT2016-1BB42 CONTACTOR,AC3:4KW 1NC DC24V

Technical / CAx data

☒ Technical Data ☐ CAx data



CONTACTOR, AC-3, 4KW/400V, 1NC, DC 24V, 3-POLE, SZ
S00 SCREW TERMINAL

General technical data:		
product brand name		SIRIUS
Size of the contactor		S00
Product extension / auxiliary switch		Yes
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
Ambient temperature / during operating	°C	-25...+60
Shock resistance		
• at rectangular impulse		
• at DC		6,7g / 5 ms, 4,2g / 10 ms
• at sine pulse		
• at DC		10,5g / 5 ms, 6,6g / 10 ms
Impulse voltage resistance / rated value	kV	6
Insulation voltage / rated value	V	690
Mechanical operating cycles as operating time		
• of the contactor / typical		30,000,000
• 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

Main circuit:		
Number of NC contacts / for main contacts		0
Number of NO contacts / for main contacts		3

Operating current

- at AC-1 / at 400 V
 - at 40 °C ambient temperature / rated value
 - at 60 °C ambient temperature / rated value
- at AC-2 / at 400 V / rated value
- at AC-3 / at 400 V / rated value
- at AC-4 / at 400 V / rated value

A	22
A	20
A	9
A	9
A	8.5

Operating current

- with 1 current path / at DC-1
 - at 24 V / rated value
 - at 110 V / rated value
- with 2 current paths in series / at DC-1
 - at 24 V / rated value
 - at 110 V / rated value
- with 3 current paths in series / at DC-1
 - at 24 V / rated value
 - at 110 V / rated value
- with 1 current path / at DC-3 / at DC-5
 - at 24 V / rated value
 - at 110 V / rated value
- with 2 current paths in series / at DC-3 / at DC-5
 - at 24 V / rated value
 - at 110 V / rated value
- with 3 current paths in series / at DC-3 / at DC-5
 - at 24 V / rated value
 - at 110 V / rated value

A	20
A	2.1
A	20
A	12
A	20
A	20
A	20
A	0.1
A	20
A	0.35
A	20
A	20

Service power

- at AC-2 / at 400 V / rated value
- at AC-3 / at 400 V / rated value
- at AC-4 / at 400 V / rated value

kW	4
kW	4
kW	4

Active power loss / per conductor / typical

W	0.7
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Off-load operating frequency

- at AC
- at DC

1/h	10,000
1/h	10,000

Frequency of operation / at AC-1 / according to IEC 60947-6-2

1/h	1,000
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Frequency of operation / at AC-2 / according to IEC 60947-6-2

1/h	750
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Frequency of operation / at AC-3 / according to IEC 60947-6-2

1/h	750
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Frequency of operation / at AC-4 / according to IEC 60947-6-2

1/h	250
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Control circuit:

Type of voltage / of the controlled supply voltage

DC

Control supply voltage / 1

- for DC / rated value

V	24
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operating range factor control supply voltage rated value / of the magnet coil

- for DC

0.8...1.1

Pull-in power / of the solenoid / for DC

W	4
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Holding power / of the solenoid / for DC

W	4
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Closing delay

at DC	ms	30...100
Opening delay		
at DC	ms	7...13
Arcing time	ms	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		0
Operating current / of the auxiliary contacts		
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	6
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 auxiliary switch / required		fuse gL/gG: 10 A
for short-circuit protection of the main circuit		
with type of assignment 1 / required		gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 35 A
at type of coordination 2 / required		gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 20A

Installation/mounting/dimensions:

Built in orientation		vertical
Type of mounting		screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022
Type of fixing/fixation / series installation		Yes
Width	mm	45
Height	mm	57.5
Depth	mm	73
Distance, to be maintained, to the ranks assembly / sideways	mm	0
Distance, to be maintained, to earthed part / sideways	mm	6

Connections:

Design of the electrical connection		
for main current circuit		screw-type terminals
for auxiliary and control current circuit		screw-type terminals
Type of the connectable conductor cross-section		
for main contacts		
solid		2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm²

- finely stranded
 - with conductor end processing
- for AWG conductors / for main contacts
- for auxiliary contacts
 - solid
- finely stranded
 - with conductor end processing
- for AWG conductors / for auxiliary contacts

2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
 2x (20 ... 16), 2x (18 ... 14), 2x 12

2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm²

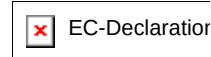
2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
 2x (20 ... 16), 2x (18 ... 14), 2x 12

Certificates/approvals:

General Product Approval



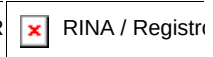
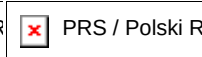
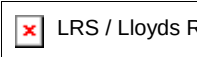
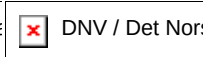
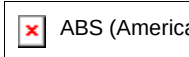
Declaration of Conformity



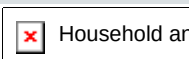
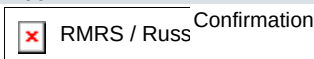
Test Certificates

Special Test Certificate Type Test Certificates/Test Report

Shipping Approval



Shipping Approval other



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 200/208 V / rated value
 - at 220/230 V / rated value
 - at 460/480 V / rated value
 - at 575/600 V / rated value

hp 0.33
 hp 1

 hp 2
 hp 3
 hp 5
 hp 7.5

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

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

A 7.6
 A 9
 A600 / Q600

Contact rating designation / for auxiliary contacts / according to UL

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

a 20

Proportion of dangerous failures

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

% 40
 % 73

Failure rate (FIT value) / with low demand rate

- according to SN 31920

FIT 100

Product function

- mirror contact to IEC 60947-4-1

Yes

- positively driven operation to IEC 60947-5-1

No

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:

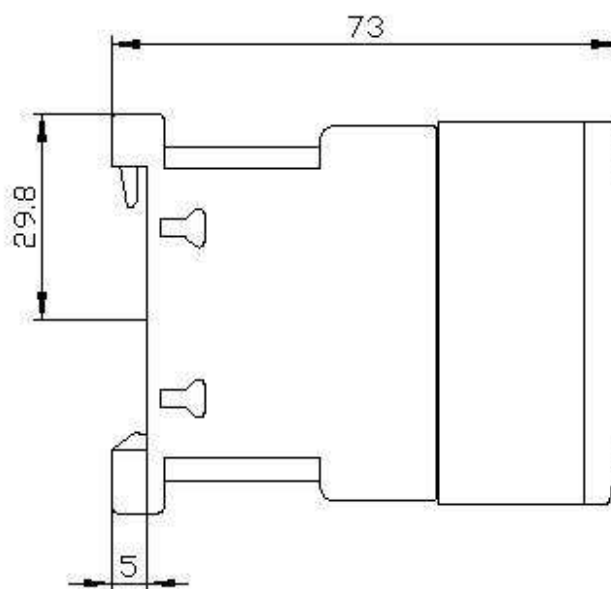
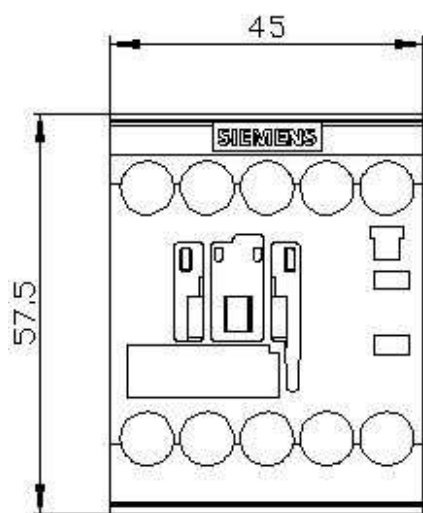
<http://www.siemens.com/cax>

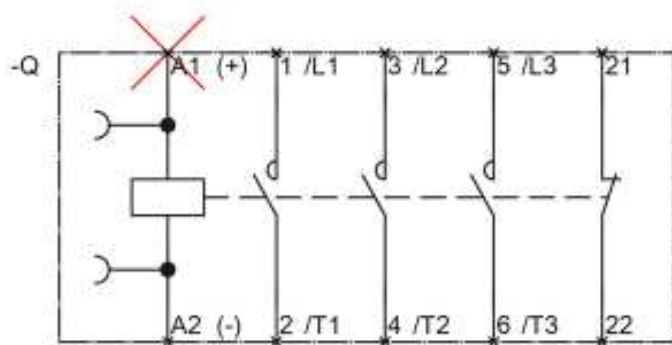
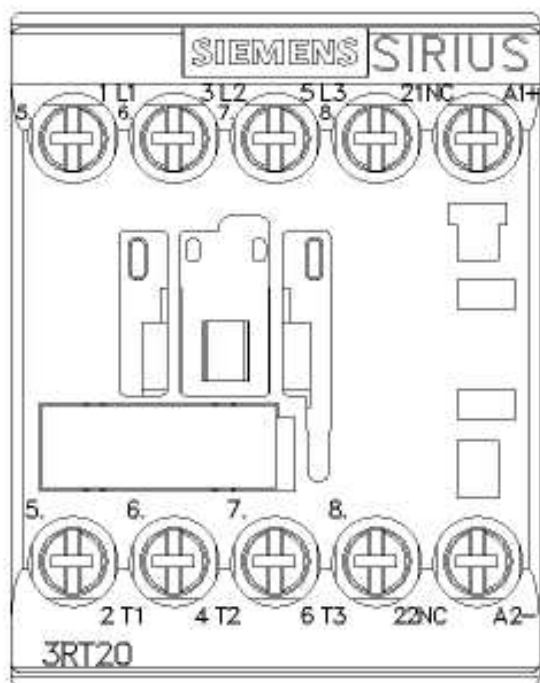
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WW/view/en/3RT2016-1BB42/all>

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

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RT2016-1BB42





last change:

Mar 27, 2012