



Circuit breaker size S0 for motor protection, CLASS 10 A-release 16...22 A
N-release 286 A ring cable lug connection Standard switching capacity

product brand name	SIRIUS
product designation	Circuit breaker
design of the product	For motor protection
product type designation	3RV2

General technical data

size of the circuit-breaker	S0
size of contactor can be combined company-specific	S00, S0
product extension auxiliary switch	Yes
power loss [W] for rated value of the current	
• at AC in hot operating state	10.5 W
• at AC in hot operating state per pole	3.5 W
insulation voltage with degree of pollution 3 at AC rated value	690 V
surge voltage resistance rated value	6 kV
shock resistance according to IEC 60068-2-27	25g / 11 ms
mechanical service life (switching cycles)	
• of the main contacts typical	100 000
• of auxiliary contacts typical	100 000
electrical endurance (switching cycles) typical	100 000
type of protection according to ATEX directive 2014/34/EU	Ex II (2) GD
certificate of suitability according to ATEX directive 2014/34/EU	DMT 02 ATEX F 001
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009

Ambient conditions

installation altitude at height above sea level maximum	2 000 m
ambient temperature	
• during operation	-20 ... +60 °C
• during storage	-50 ... +80 °C
• during transport	-50 ... +80 °C
relative humidity during operation	10 ... 95 %

Main circuit

number of poles for main current circuit	3
adjustable current response value current of the current-dependent overload release	16 ... 22 A
operating voltage	
• rated value	20 ... 690 V
• at AC-3 rated value maximum	690 V
• at AC-3e rated value maximum	690 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	22 A

operational current

- at AC-3 at 400 V rated value
- at AC-3e at 400 V rated value

22 A
22 A

operating power

- at AC-3
 - at 230 V rated value
 - at 400 V rated value
 - at 500 V rated value
 - at 690 V rated value

5.5 kW
11 kW
11 kW
18.5 kW

- at AC-3e
 - at 230 V rated value
 - at 400 V rated value
 - at 500 V rated value
 - at 690 V rated value

5.5 kW
11 kW
11 kW
18.5 kW

operating frequency

- at AC-3 maximum
- at AC-3e maximum

15 1/h
15 1/h

Auxiliary circuit**number of NC contacts for auxiliary contacts**

0

number of NO contacts for auxiliary contacts

0

number of CO contacts for auxiliary contacts

0

Protective and monitoring functions**product function**

- ground fault detection
- phase failure detection

No
Yes

trip class

CLASS 10

design of the overload release

thermal

breaking capacity maximum short-circuit current (Icu)

- at AC at 240 V rated value
- at AC at 400 V rated value
- at AC at 500 V rated value
- at AC at 690 V rated value

100 kA
55 kA
10 kA
4 kA

breaking capacity operating short-circuit current (Ics) at AC

- at 240 V rated value
- at 400 V rated value
- at 500 V rated value
- at 690 V rated value

100 kA
25 kA
5 kA
2 kA

response value current of instantaneous short-circuit trip unit

286 A

UL/CSA ratings**full-load current (FLA) for 3-phase AC motor**

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

22 A
22 A

yielded mechanical performance [hp]

- for single-phase AC motor
 - at 110/120 V rated value
 - at 230 V rated value
- for 3-phase AC motor
 - at 200/208 V rated value
 - at 220/230 V rated value
 - at 460/480 V rated value

1.5 hp
3 hp

7.5 hp
7.5 hp
15 hp

Short-circuit protection**product function short circuit protection**

Yes

design of the short-circuit trip

magnetic

design of the fuse link for IT network for short-circuit protection of the main circuit

- at 400 V
- at 500 V
- at 690 V

gL/gG 63 A
gL/gG 50 A
gL/gG 50 A

Installation/ mounting/ dimensions**mounting position**

any

fastening method

screw and snap-on mounting onto 35 mm standard mounting rail

height	according to DIN EN 60715
width	97 mm
depth	45 mm
required spacing	97 mm
• with side-by-side mounting at the side	0 mm
• for grounded parts at 400 V — downwards	30 mm
— upwards	30 mm
— at the side	9 mm
• for live parts at 400 V — downwards	30 mm
— upwards	30 mm
— at the side	9 mm
• for grounded parts at 500 V — downwards	30 mm
— upwards	30 mm
— at the side	9 mm
• for live parts at 500 V — downwards	30 mm
— upwards	30 mm
— at the side	9 mm
• for grounded parts at 690 V — downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
• for live parts at 690 V — downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
Connections/ Terminals	
type of electrical connection	
• for main current circuit	Ring cable lug connection
• for auxiliary and control circuit	ring terminal lug connection
arrangement of electrical connectors for main current circuit	Top and bottom
tightening torque	
• for main contacts for ring cable lug	2 ... 2.5 N·m
• for auxiliary contacts for ring cable lug	1.2 ... 0.8 N·m
outer diameter of the usable ring cable lug maximum	7.5 mm
design of screwdriver shaft	Diameter 5 to 6 mm
size of the screwdriver tip	size 2 and Pozidriv 2
design of the thread of the connection screw	
• for main contacts	M4
• of the auxiliary and control contacts	M3
Safety related data	
B10 value	
• with high demand rate according to SN 31920	5 000
proportion of dangerous failures	
• with low demand rate according to SN 31920	50 %
• with high demand rate according to SN 31920	50 %
failure rate [FIT]	
• with low demand rate according to SN 31920	50 FIT
T1 value for proof test interval or service life according to IEC 61508	10 y
protection class IP on the front according to IEC 60529	IP00
display version for switching status	Handle
Certificates/ approvals	

General Product Approval



[Confirmation](#)



[KC](#)



For use in hazardous locations

Declaration of
Conformity

Test Certificates

Marine / Shipping



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Marine / Shipping



other

Railway

[Confirmation](#)



[Vibration and Shock](#)

[Confirmation](#)

Further information

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

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2021-4CA40>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4CA40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4CA40>

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

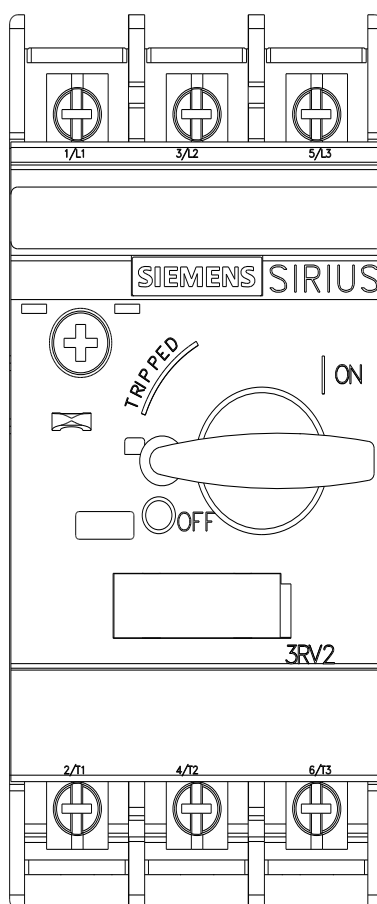
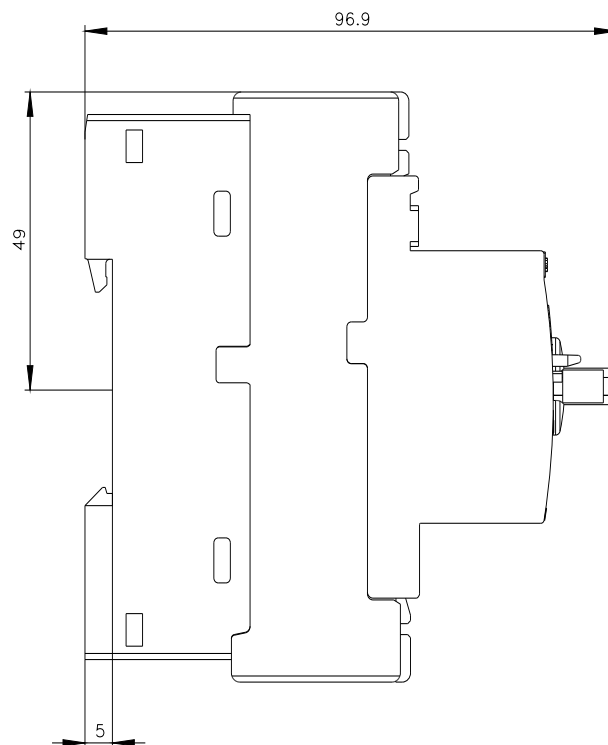
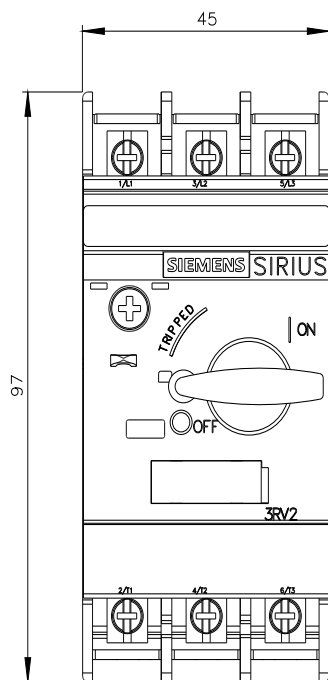
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-4CA40&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4CA40/char>

Further characteristics (e.g. electrical endurance, switching frequency)

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-4CA40&objecttype=14&gridview=view1>





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