



Circuit breaker size S0 for motor protection, CLASS 10 A-release 2.8...4 A
N release 52 A Spring-type terminal 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	7.25 W
• at AC in hot operating state per pole	2.4 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 (operating cycles)	
• of the main contacts typical	100 000
• of auxiliary contacts typical	100 000
electrical endurance (operating 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	2.8 ... 4 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	4 A

operational current

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

4 A

4 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

0.8 kW

1.5 kW

2.2 kW

3 kW

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

0.8 kW

1.5 kW

2.2 kW

3 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

maximum short-circuit current breaking capacity (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

100 kA

100 kA

6 kA

operating short-circuit current breaking capacity (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

100 kA

100 kA

4 kA

response value current of instantaneous short-circuit trip unit

52 A

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

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

4 A

4 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
 - at 575/600 V rated value

0.13 hp

0.33 hp

0.8 hp

0.75 hp

2 hp

3 hp

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

Yes

design of the short-circuit trip

magnetic

Installation/ mounting/ dimensions**mounting position**

any

fastening method

screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715

height

119 mm

width

45 mm

depth

97 mm

required spacing	
• with side-by-side mounting at the side	0 mm
• for grounded parts at 400 V — downwards — upwards — at the side	30 mm 30 mm 9 mm
• for live parts at 400 V — downwards — upwards — at the side	30 mm 30 mm 9 mm
• for grounded parts at 500 V — downwards — upwards — at the side	30 mm 30 mm 9 mm
• for live parts at 500 V — downwards — upwards — at the side	30 mm 30 mm 9 mm
• for grounded parts at 690 V — downwards — upwards — backwards — at the side — forwards	50 mm 50 mm 0 mm 30 mm 0 mm
• for live parts at 690 V — downwards — upwards — backwards — at the side — forwards	50 mm 50 mm 0 mm 30 mm 0 mm
Connections/ Terminals	
type of electrical connection	
• for main current circuit	spring-loaded terminals
arrangement of electrical connectors for main current circuit	Top and bottom
type of connectable conductor cross-sections	
• for main contacts — solid or stranded — finely stranded with core end processing — finely stranded without core end processing	2x (1 ... 10 mm ²) 2x (1 ... 6 mm ²) 2x (1 ... 6 mm ²)
• at AWG cables for main contacts	2x (18 ... 8)
design of screwdriver shaft	Diameter 3 mm
size of the screwdriver tip	3,0 x 0,5 mm
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 • with high demand rate according to SN 31920	50 % 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 a
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
display version for switching status	Handle
Certificates/ approvals	
General Product Approval	For use in hazard-ous locations

[Confirmation](#)



[KC](#)



For use in hazardous locations



Declaration of Conformity



EG-Konf.

Test Certificates

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

Marine / Shipping



Marine / Shipping



LRS



PRS



RINA



RMRS

other

Railway

[Confirmation](#)



[Confirmation](#)

[Vibration and Shock](#)

Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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=3RV2021-1EA20>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-1EA20>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1EA20>

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

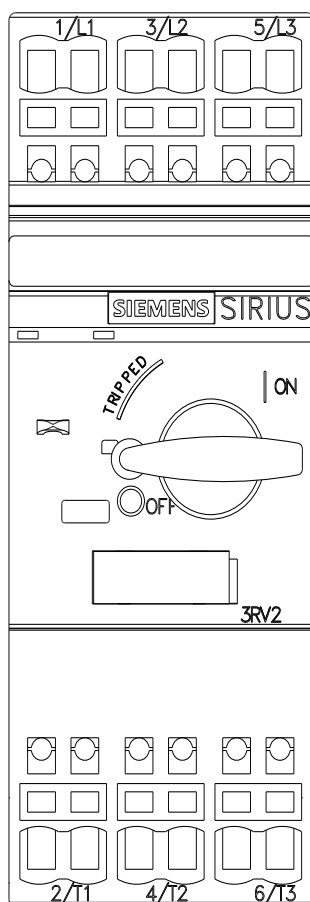
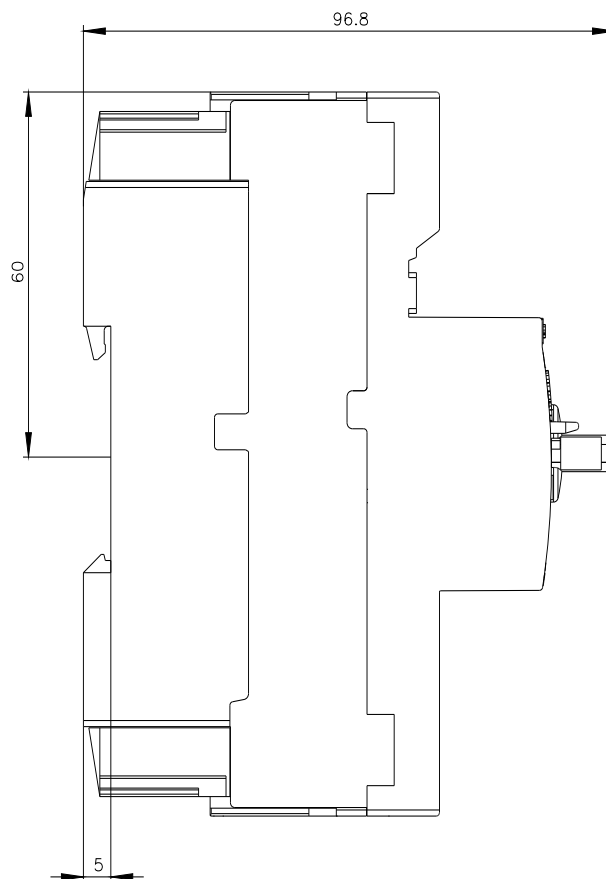
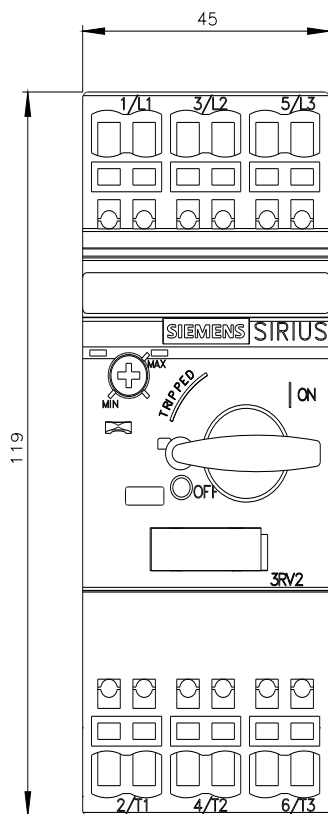
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-1EA20&lang=en

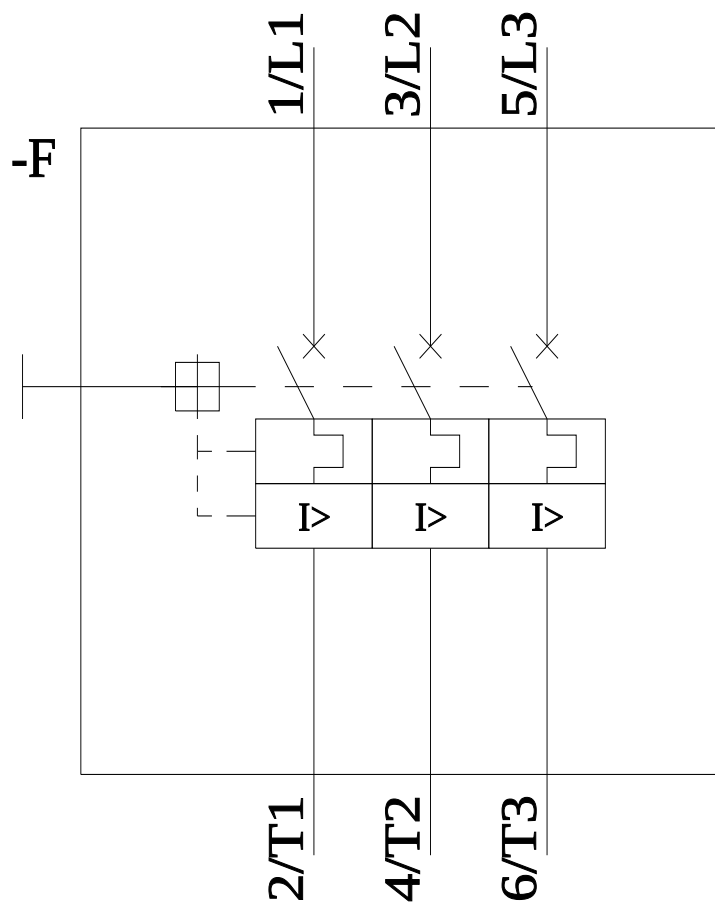
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1EA20/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-1EA20&objecttype=14&gridview=view1>





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11/21/2022 