



Circuit breaker size S2 for motor protection, CLASS 10 A-release 35...45 A
N-release 650 A screw terminal Standard switching capacity with
transverse auxiliary switches 1 NO+1 NC

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	S2
size of contactor can be combined company-specific	S2
product extension auxiliary switch	Yes
power loss [W] for rated value of the current	
• at AC in hot operating state	24.5 W
• at AC in hot operating state per pole	8.2 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 Sinus
mechanical service life (operating cycles)	
• of the main contacts typical	50 000
• of auxiliary contacts typical	50 000
electrical endurance (operating cycles) typical	50 000
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)	10/15/2014

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	35 ... 45 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	45 A

operational current	
• at AC-3 at 400 V rated value	45 A
• at AC-3e at 400 V rated value	45 A
operating power	
• at AC-3	
— at 230 V rated value	11 kW
— at 400 V rated value	22 kW
— at 500 V rated value	30 kW
— at 690 V rated value	37 kW
• at AC-3e	
— at 230 V rated value	11 kW
— at 400 V rated value	22 kW
— at 500 V rated value	30 kW
— at 690 V rated value	37 kW
operating frequency	
• at AC-3 maximum	15 1/h
• at AC-3e maximum	15 1/h
Auxiliary circuit	
design of the auxiliary switch	transverse
number of NC contacts for auxiliary contacts	1
number of NO contacts for auxiliary contacts	1
operational current of auxiliary contacts at AC-15	
• at 24 V	2 A
• at 230 V	0.5 A
operational current of auxiliary contacts at DC-13	
• at 24 V	1 A
• at 60 V	0.15 A
• at 110 V	0 A
• at 125 V	0 A
• at 220 V	0 A
Protective and monitoring functions	
product function	
• ground fault detection	No
• phase failure detection	Yes
trip class	CLASS 10
design of the overload release	thermal
maximum short-circuit current breaking capacity (I_{cu})	
• at AC at 240 V rated value	100 kA
• at AC at 400 V rated value	65 kA
• at AC at 500 V rated value	10 kA
• at AC at 690 V rated value	4 kA
operating short-circuit current breaking capacity (I_{cs}) at AC	
• at 240 V rated value	100 kA
• at 400 V rated value	30 kA
• at 500 V rated value	5 kA
• at 690 V rated value	2 kA
response value current of instantaneous short-circuit trip unit	650 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	45 A
• at 600 V rated value	45 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	3 hp
— at 230 V rated value	10 hp
• for 3-phase AC motor	
— at 200/208 V rated value	15 hp
— at 220/230 V rated value	15 hp
— at 460/480 V rated value	40 hp
— at 575/600 V rated value	50 hp
contact rating of auxiliary contacts according to UL	C300 / R300

Short-circuit protection

product function short circuit protection

Yes

design of the short-circuit trip

magnetic

design of the fuse link

- for short-circuit protection of the auxiliary switch required

fuse gG: 10 A, miniature circuit breaker C 6 A (short-circuit current $I_k < 400$ A)

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

- at 240 V
- at 400 V
- at 500 V
- at 690 V

none required
125
100
80

Installation/ mounting/ dimensions

mounting position

any

fastening method

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

height

140 mm

width

55 mm

depth

149 mm

required spacing

- with side-by-side mounting at the side
- for grounded parts at 400 V
 - downwards
 - upwards
 - at the side
- for live parts at 400 V
 - downwards
 - upwards
 - at the side
- for grounded parts at 500 V
 - downwards
 - upwards
 - at the side
- for live parts at 500 V
 - downwards
 - upwards
 - at the side
- for grounded parts at 690 V
 - downwards
 - upwards
 - at the side
- for live parts at 690 V
 - downwards
 - upwards
 - at the side

0 mm
50 mm
50 mm
10 mm
50 mm
50 mm
10 mm
50 mm
50 mm
10 mm
50 mm
50 mm
10 mm
50 mm
50 mm
10 mm

Connections/ Terminals

type of electrical connection

- for main current circuit
- for auxiliary and control circuit

screw-type terminals

screw-type 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
- at AWG cables for main contacts

2x (1 ... 25 mm²), 1x (1 ... 35 mm²)
2x (1 ... 16 mm²), 1x (1 ... 25 mm²)
2x (18 ... 3), 1x (18 ... 2)

type of connectable conductor cross-sections

- for auxiliary contacts
 - solid or stranded
 - finely stranded with core end processing
- at AWG cables for auxiliary contacts

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

tightening torque

- for main contacts with screw-type terminals
- for auxiliary contacts with screw-type terminals

3 ... 4.5 N·m
0.8 ... 1.2 N·m

design of screwdriver shaft
size of the screwdriver tip
design of the thread of the connection screw

- for main contacts
- of the auxiliary and control contacts

Diameter 5 to 6 mm
Pozidriv size 2

M6
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
- 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
display version for switching status

finger-safe, for vertical contact from the front
Handle

Certificates/ approvals

General Product Approval



[Confirmation](#)



[KC](#)



For use in hazardous locations



EG-Konf.

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

Marine / Shipping



Marine / Shipping

other

Railway



[Confirmation](#)



[Vibration and Shock](#)

[Confirmation](#)

Further information

Siemens has decided to exit the Russian market (see here).

<https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business>

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=3RV2031-4VA15>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4VA15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4VA15>

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

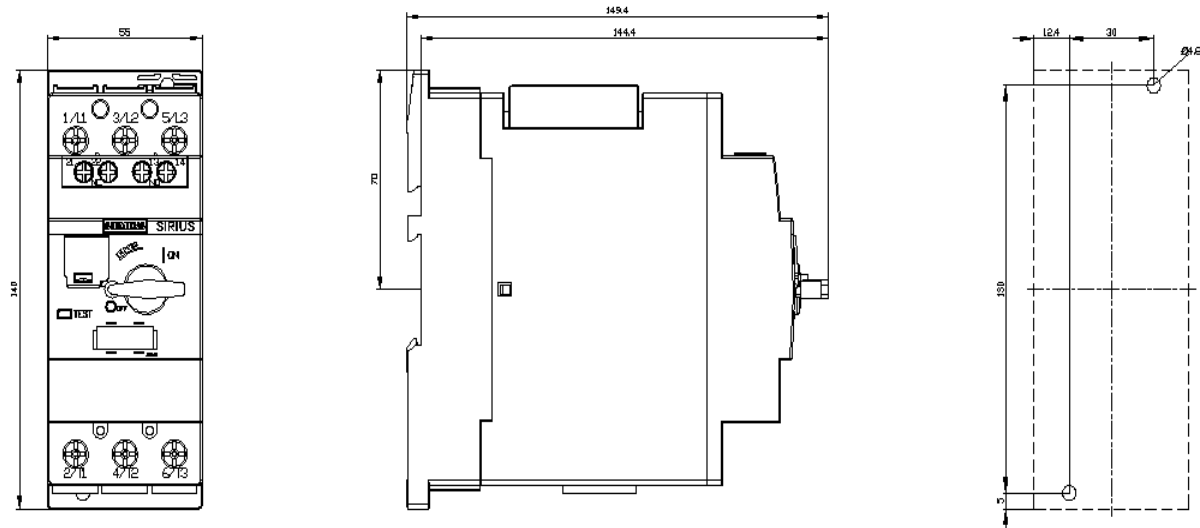
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4VA15&lang=en

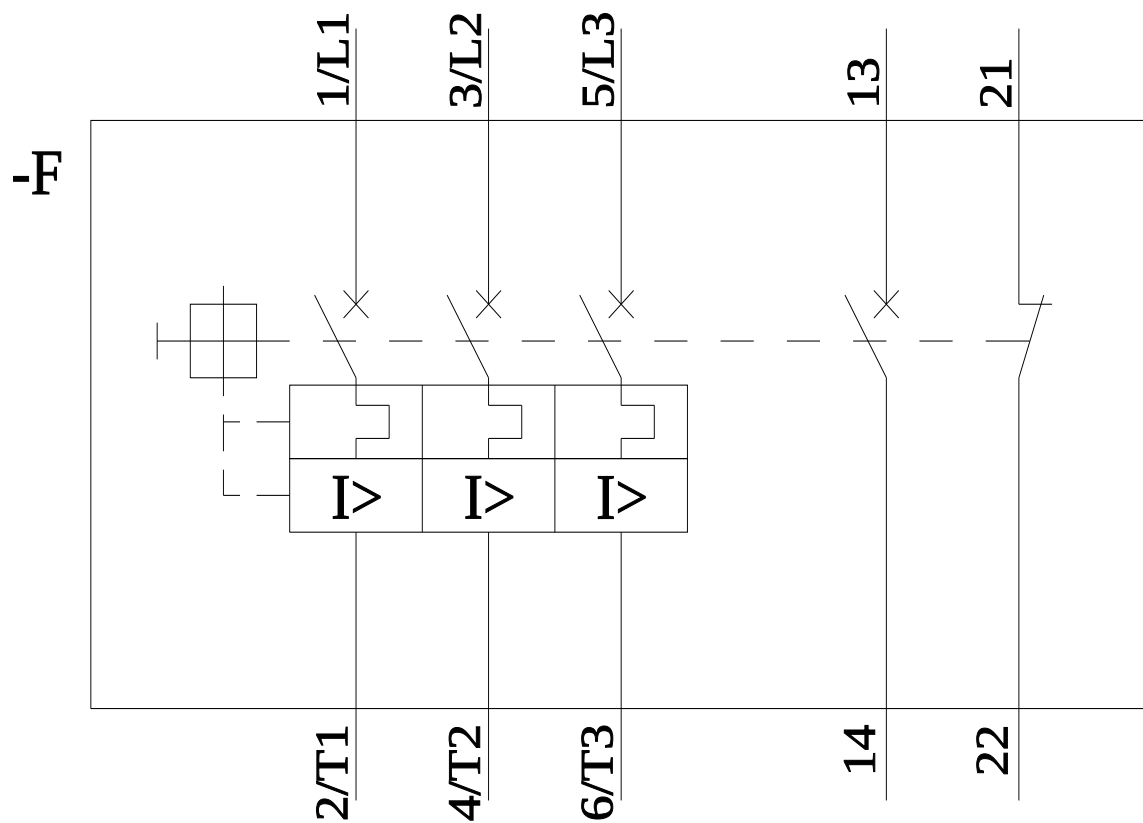
Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4VA15/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4VA15&objecttype=14&gridview=view1>





last modified:

11/21/2022 [↗](#)