

Circuit breaker size S0 for motor protection, CLASS 10 A-release
1.1...1.6 A N-release 21 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
maximum permissible voltage for safe isolation	
• in networks with grounded star point between main and auxiliary circuit	400 V

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Protection class IP	
• on the front	IP20
• of the terminal	IP20
Shock resistance	
• acc. 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 acc. to DIN EN 81346-2	Q

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
Temperature compensation	-20 ... +60 °C
Relative humidity during operation	10 ... 95 %

Main circuit

Number of poles for main current circuit	3
Adjustable pick-up value current of the current-dependent overload release	1.1 ... 1.6 A
Operating voltage	
• rated value	690 V
• at AC-3 rated value maximum	690 V
Operating frequency rated value	50 ... 60 Hz
Operating current rated value	1.6 A
Operating current	
• at AC-3 — at 400 V rated value	1.6 A
Operating power	
• at AC-3 — at 230 V rated value — at 400 V rated value	250 W 550 W

— at 500 V rated value	750 W
— at 690 V rated value	1 100 W
Operating frequency	
• at AC-3 maximum	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	No
• Phase failure detection	Yes
Trip class	CLASS 10
Design of the overload release	thermal
Operational short-circuit current breaking capacity (Ics) at AC	
• at 240 V rated value	100 kA
• at 400 V rated value	100 kA
• at 500 V rated value	100 kA
• at 690 V rated value	100 kA
Maximum short-circuit current breaking capacity (Icu)	
• at AC at 240 V rated value	100 kA
• at AC at 400 V rated value	100 kA
• at AC at 500 V rated value	100 kA
• at AC at 690 V rated value	100 kA
Response value current	
• of instantaneous short-circuit trip unit	21 A
UL/CSA ratings	
Full-load current (FLA) for three-phase AC motor	
• at 480 V rated value	1.6 A
• at 600 V rated value	1.6 A
Yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 230 V rated value	0.1 hp
• for three-phase AC motor	
— at 460/480 V rated value	0.75 hp
— at 575/600 V rated value	0.75 hp
Short-circuit protection	
Product function Short circuit protection	Yes
Design of the short-circuit trip	magnetic

Installation/ mounting/ dimensions	
Mounting position	any
Mounting type	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
Height	119 mm
Width	45 mm
Depth	97 mm
Required spacing	
• for grounded parts at 400 V — downwards 30 mm — upwards 30 mm — Backwards 0 mm — at the side 9 mm — forwards 0 mm • for live parts at 400 V — downwards 30 mm — upwards 30 mm — Backwards 0 mm — at the side 9 mm — forwards 0 mm • for grounded parts at 500 V — downwards 30 mm — upwards 30 mm — Backwards 0 mm — at the side 9 mm — forwards 0 mm • for live parts at 500 V — downwards 30 mm — upwards 30 mm — Backwards 0 mm — at the side 9 mm — forwards 0 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
- at the side

0 mm
30 mm

Connections/ Terminals

Product function	
removable terminal for auxiliary and control circuit	No
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 - single or multi-stranded - finely stranded with core end processing - finely stranded without core end processing - at AWG conductors for main contacts	2x (1 ... 10 mm ²) 2x (1 ... 6 mm ²) 2x (1 ... 6 mm ²) 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 acc. to SN 31920	5 000
Proportion of dangerous failures	
- with low demand rate acc. to SN 31920 - with high demand rate acc. to SN 31920	50 % 50 %
Failure rate [FIT]	
with low demand rate acc. to SN 31920	50 FIT
T1 value for proof test interval or service life acc. to IEC 61508	10 y
Display version	
for switching status	Handle

Certificates/ approvals

General Product Approval	For use in hazardous locations
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Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Marine / Shipping	other
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[Confirmation](#)

other	Railway
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[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=3RV2021-1AA20>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-1AA20>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1AA20>

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

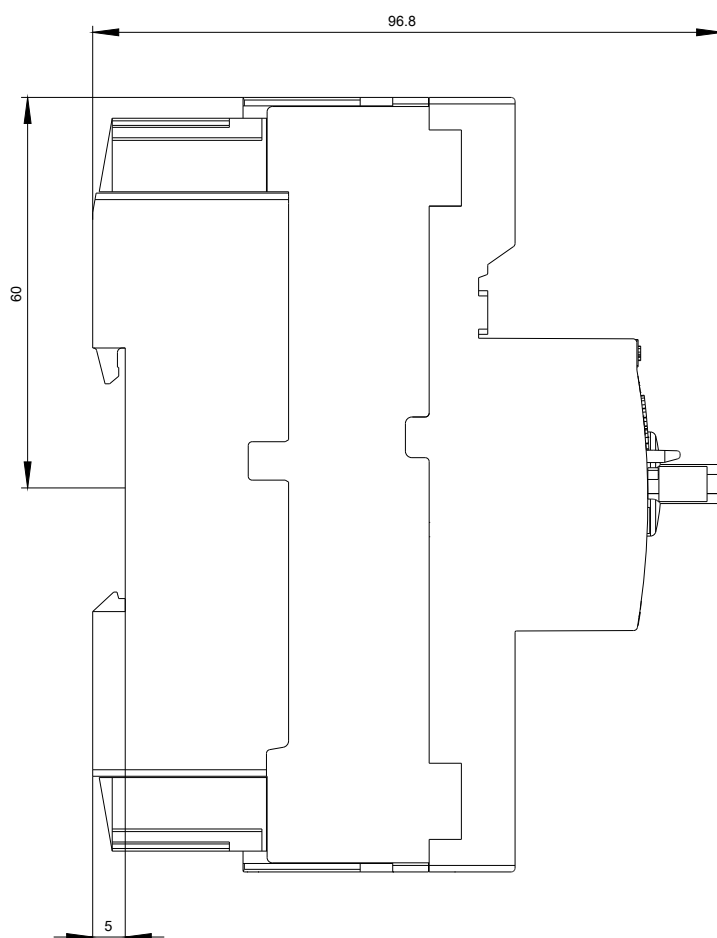
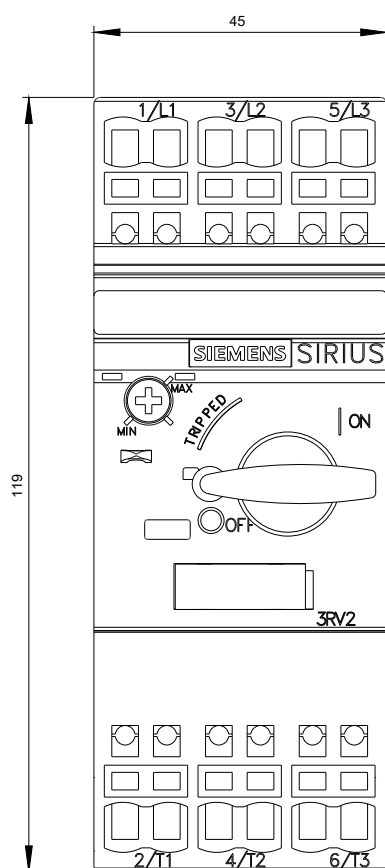
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-1AA20&lang=en

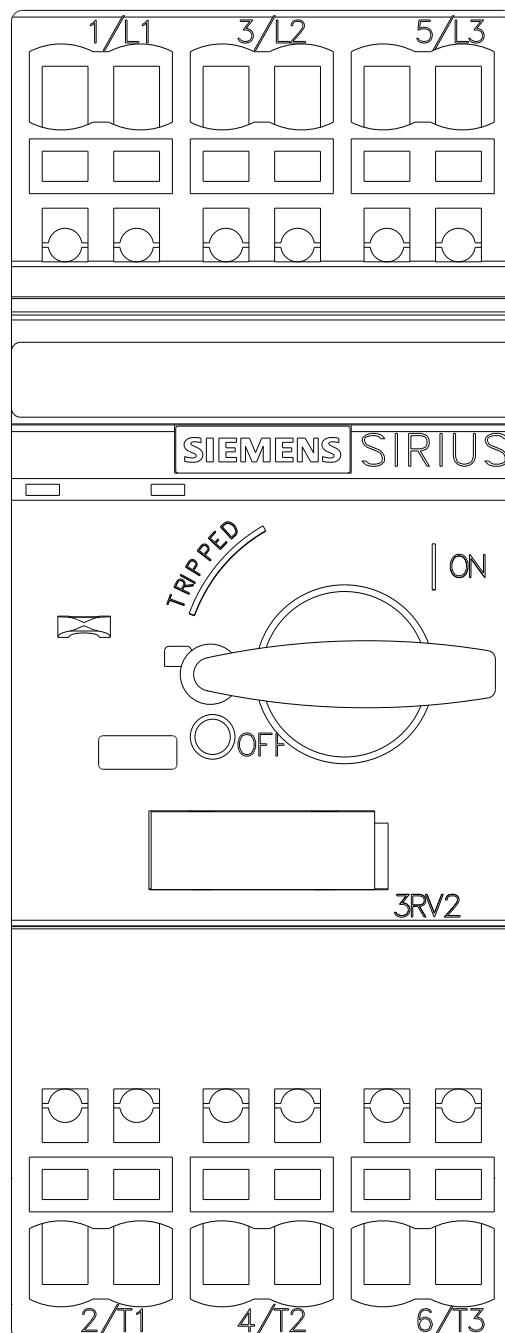
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1AA20/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-1AA20&objecttype=14&gridview=view1>







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03/13/2020