

Circuit breaker size S0 for motor protection, CLASS 10 A-release
1.1...1.6 A N-release 21 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	S0
Size of contactor can be combined company-specific	S00, S0
Product extension	
• Auxiliary switch	Yes
Power loss [W] total typical	6 W
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
• in networks with grounded star point between main and auxiliary circuit	400 V
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
Certificate of suitability according to ATEX directive 2014/34/EU	DMT 02 ATEX F 001
Protection against electrical shock	finger-safe
Reference code acc. to DIN EN 81346-2	Q
Ambient conditions	
Installation altitude at height above sea level	
• maximum	2 000 m
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	250 W
— at 400 V rated value	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	
Design of the auxiliary switch	transverse
Number of NC contacts for auxiliary contacts	1
Number of NO contacts for auxiliary contacts	1
Number of CO contacts	
• for auxiliary contacts	0

Operating current of auxiliary contacts at AC-15	<ul style="list-style-type: none"> • at 24 V • at 120 V • at 125 V • at 230 V 	2 A 0.5 A 0.5 A 0.5 A
Operating current of auxiliary contacts at DC-13	<ul style="list-style-type: none"> • at 24 V • at 60 V 	1 A 0.15 A
Protective and monitoring functions		
Product function		
<ul style="list-style-type: none"> • Ground fault detection • Phase failure detection 	No Yes	
Trip class	CLASS 10	
Design of the overload release	thermal	
Operational short-circuit current breaking capacity (Ics) at AC		
<ul style="list-style-type: none"> • 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 100 kA	
Maximum short-circuit current breaking capacity (Icu)		
<ul style="list-style-type: none"> • 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 100 kA	
Breaking capacity short-circuit current (Icn)		
<ul style="list-style-type: none"> • at 1 current path at DC at 150 V rated value • with 2 current paths in series at DC at 300 V rated value • with 3 current paths in series at DC at 450 V rated value 	10 kA 10 kA 10 kA	
Response value current		
<ul style="list-style-type: none"> • of instantaneous short-circuit trip unit 	21 A	
UL/CSA ratings		
Full-load current (FLA) for three-phase AC motor		
<ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value 	1.6 A 1.6 A	
Yielded mechanical performance [hp]		
<ul style="list-style-type: none"> • for single-phase AC motor <ul style="list-style-type: none"> — at 230 V rated value • for three-phase AC motor 	0.1 hp	

— at 460/480 V rated value	0.75 hp
— at 575/600 V rated value	0.75 hp
Contact rating of auxiliary contacts according to UL	C300 / R300

Short-circuit protection	
Product function	Short circuit protection
Design of the short-circuit trip	magnetic
Design of the fuse link	<ul style="list-style-type: none"> for short-circuit protection of the auxiliary switch required <p>Fuse gL/gG: 10 A, miniature circuit breaker C 6 A (short-circuit current $I_k < 400$ A)</p>

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	97 mm
Width	45 mm
Depth	97 mm
Required spacing	
• with side-by-side mounting	
— forwards	0 mm
— Backwards	0 mm
— upwards	50 mm
— downwards	50 mm
— at the side	0 mm
• for grounded parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	50 mm
— at the side	30 mm
— downwards	50 mm
• for live parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	50 mm
— downwards	50 mm
— at the side	30 mm

Connections/Terminals	
Product function	
• removable terminal for auxiliary and control circuit	No
Type of electrical connection	
• for main current circuit	screw-type terminals

• for auxiliary and control current circuit	screw-type 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	2x (1 ... 2,5 mm ²), 2x (2,5 ... 10 mm ²)
— finely stranded with core end processing	2x (1 ... 2,5 mm ²), 2x (2,5 ... 6 mm ²), 1x 10 mm ²
• at AWG conductors for main contacts	2x (16 ... 12), 2x (14 ... 8)
Type of connectable conductor cross-sections	
• for auxiliary contacts	
— single or multi-stranded	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²)
— finely stranded with core end processing	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²)
• at AWG conductors for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14)
Tightening torque	
• for main contacts with screw-type terminals	2 ... 2.5 N·m
• for auxiliary contacts with screw-type terminals	0.8 ... 1.2 N·m
Design of screwdriver shaft	Diameter 5 to 6 mm
Size of the screwdriver tip	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 acc. to SN 31920	5 000
Proportion of dangerous failures	
• with low demand rate acc. to SN 31920	50 %
• with high demand rate acc. to SN 31920	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



CCC



CSA



UL



ATEX



IECEx

Declaration of Conformity	Test Certificates	Marine / Shipping
 EG-Konf.	Miscellaneous Type Test Certificates/Test Report Special Test Certificate	 ABS

Marine / Shipping	other
 LRS	 Confirmation

other	Railway
 VDE	Vibration and Shock

Further information

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

<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2021-1AA15>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-1AA15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1AA15>

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

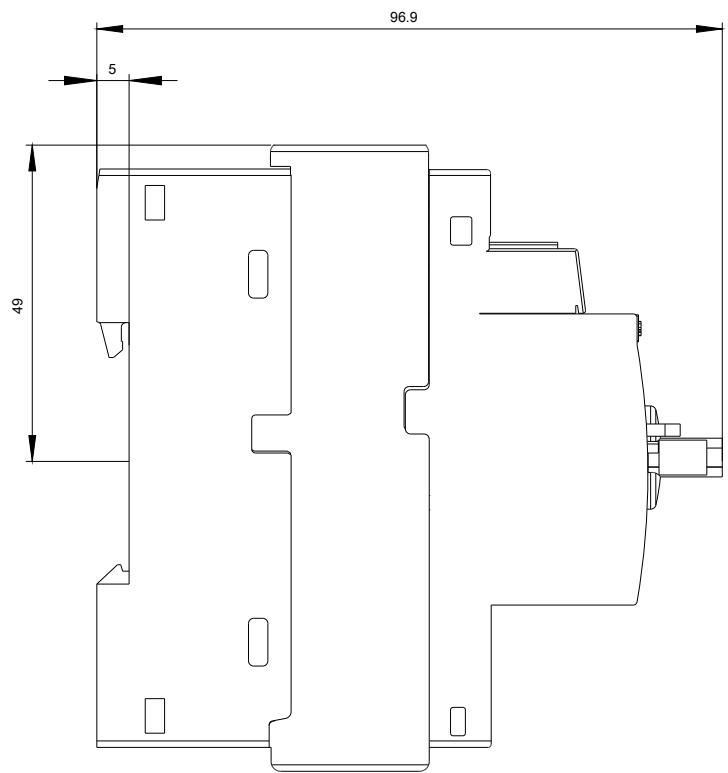
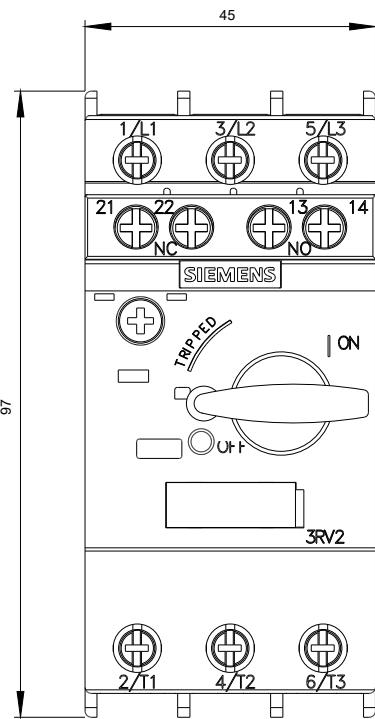
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-1AA15&lang=en

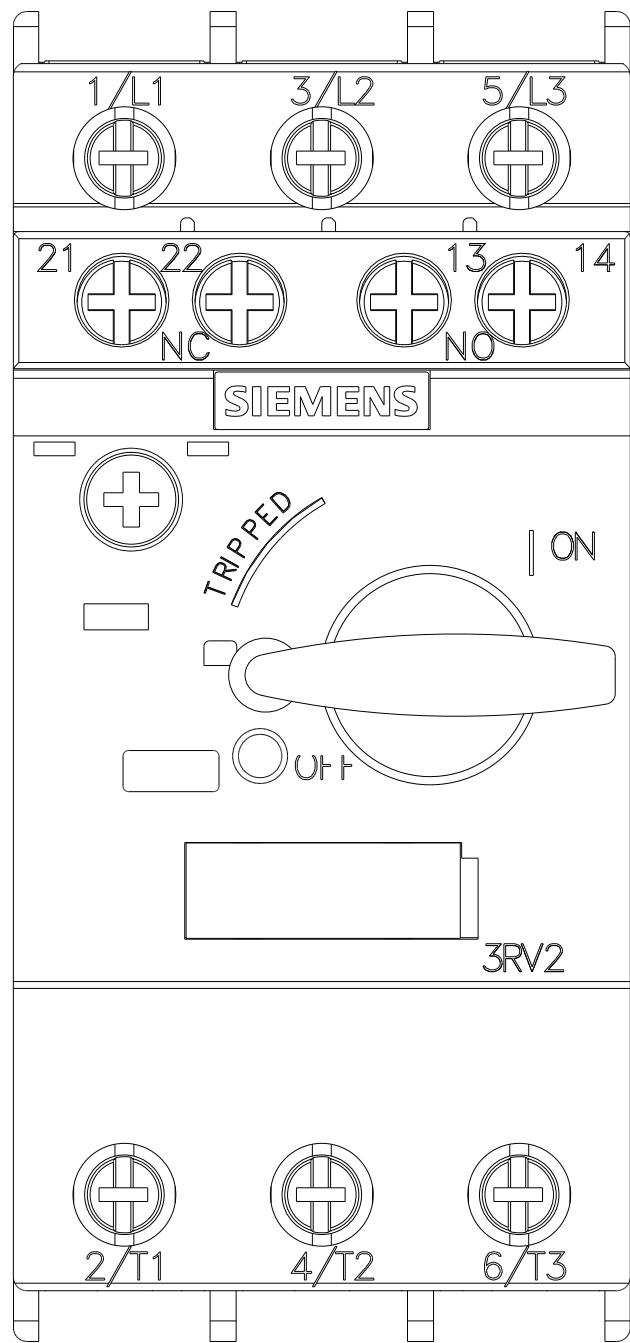
Characteristic: Tripping characteristics, I²t, Let-through current

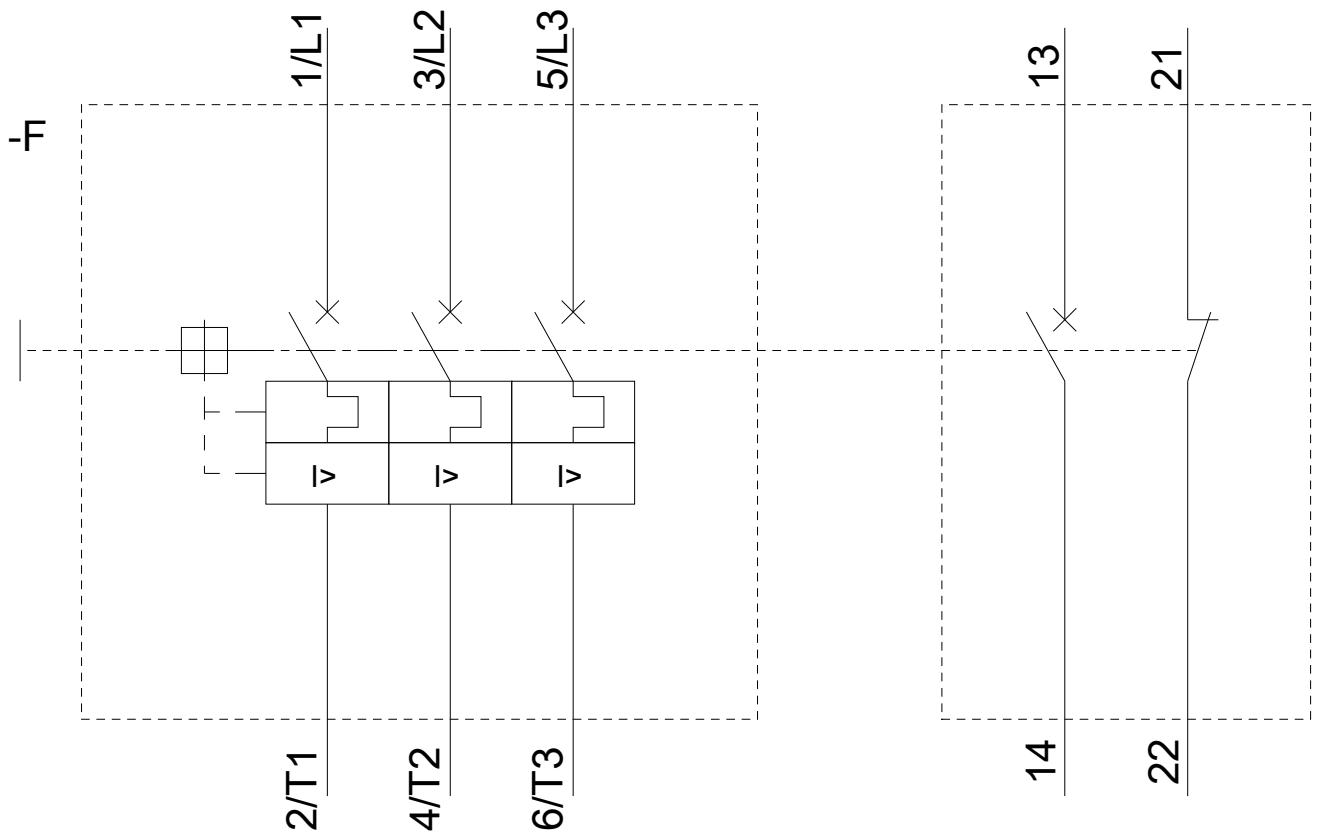
<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1AA15/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-1AA15&objecttype=14&gridview=view1>







last modified:

06/07/2019