

Special type Circuit breaker size S0 for motor protection, CLASS 10
 A-release 16...22 A N-release 286 A screw terminal Standard
 switching capacity Ambient temperature -50 °C 500 switching cycles



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	Yes
<ul style="list-style-type: none"> Auxiliary switch 	Yes
Power loss [W] for rated value of the current	3.5 W
<ul style="list-style-type: none"> at AC in hot operating state per pole 	3.5 W
Insulation voltage with degree of pollution 3 rated value	690 V
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	400 V
<ul style="list-style-type: none"> in networks with grounded star point between main and auxiliary circuit 	400 V
<ul style="list-style-type: none"> 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	500
• of auxiliary contacts typical	500
Electrical endurance (switching cycles)	
• typical	500
Protection against electrical shock	finger-safe when touched vertically from front acc. to IEC 60529
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	-50 ... +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	16 ... 22 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	22 A
Operating current	
• at AC-3	
— at 400 V rated value	22 A
Operating power	
• at AC-3	
— at 230 V rated value	5 500 W
— at 400 V rated value	11 000 W
— at 500 V rated value	11 000 W
— at 690 V rated value	18 500 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	25 kA
• at 500 V rated value	5 kA
• at 690 V rated value	2 kA
Maximum short-circuit current breaking capacity (Icu)	
• at AC at 240 V rated value	100 kA
• at AC at 400 V rated value	55 kA
• at AC at 500 V rated value	10 kA
• at AC at 690 V rated value	4 kA
Response value current	
• of instantaneous short-circuit trip unit	286 A

UL/CSA ratings	
Full-load current (FLA) for three-phase AC motor	
• at 480 V rated value	22 A
• at 600 V rated value	22 A
Yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	1.5 hp
— at 230 V rated value	3 hp
• for three-phase AC motor	
— at 200/208 V rated value	7.5 hp
— at 220/230 V rated value	7.5 hp
— at 460/480 V rated value	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

gG 63 A
gG 50 A
gG 50 A

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	
<ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — Backwards — upwards — downwards — at the side • for grounded parts <ul style="list-style-type: none"> — forwards — Backwards — upwards — at the side — downwards • for live parts <ul style="list-style-type: none"> — forwards — Backwards — upwards — downwards — at the side 	<p>0 mm 0 mm 50 mm 50 mm 0 mm</p> <p>0 mm 0 mm 50 mm 30 mm 50 mm</p> <p>0 mm 0 mm 50 mm 50 mm 30 mm</p>

Connections/ Terminals



Product function	
<ul style="list-style-type: none"> • removable terminal for auxiliary and control circuit 	No
Type of electrical connection	
<ul style="list-style-type: none"> • for main current circuit 	screw-type terminals
Arrangement of electrical connectors for main current circuit	Top and bottom
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — single or multi-stranded — finely stranded with core end processing 	<p>2x (1 ... 2,5 mm²), 2x (2,5 ... 10 mm²) 2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm²</p>

<ul style="list-style-type: none"> at AWG conductors for main contacts 	2x (16 ... 12), 2x (14 ... 8)
Tightening torque	
<ul style="list-style-type: none"> for main contacts with screw-type terminals 	2 ... 2.5 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	
<ul style="list-style-type: none"> for main contacts 	M4

Safety related data



Proportion of dangerous failures	
<ul style="list-style-type: none"> with low demand rate acc. to SN 31920 	50 %
<ul style="list-style-type: none"> with high demand rate acc. to SN 31920 	50 %
Failure rate [FIT]	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> for switching status 	Handle

Certificates/ approvals

General Product Approval	Declaration of Conformity	Test Certificates
KC 	 EG-Konf.	Miscellaneous Type Test Certificates/Test Report Special Test Certificate

Marine / Shipping



Marine / Shipping	other	Railway
	Confirmation  <p>VDE</p>	Vibration and Shock Confirmation

Further information

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

www.siemens.com/sirius/catalogs

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2021-4CA10-0BA0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4CA10-0BA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4CA10-0BA0>

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

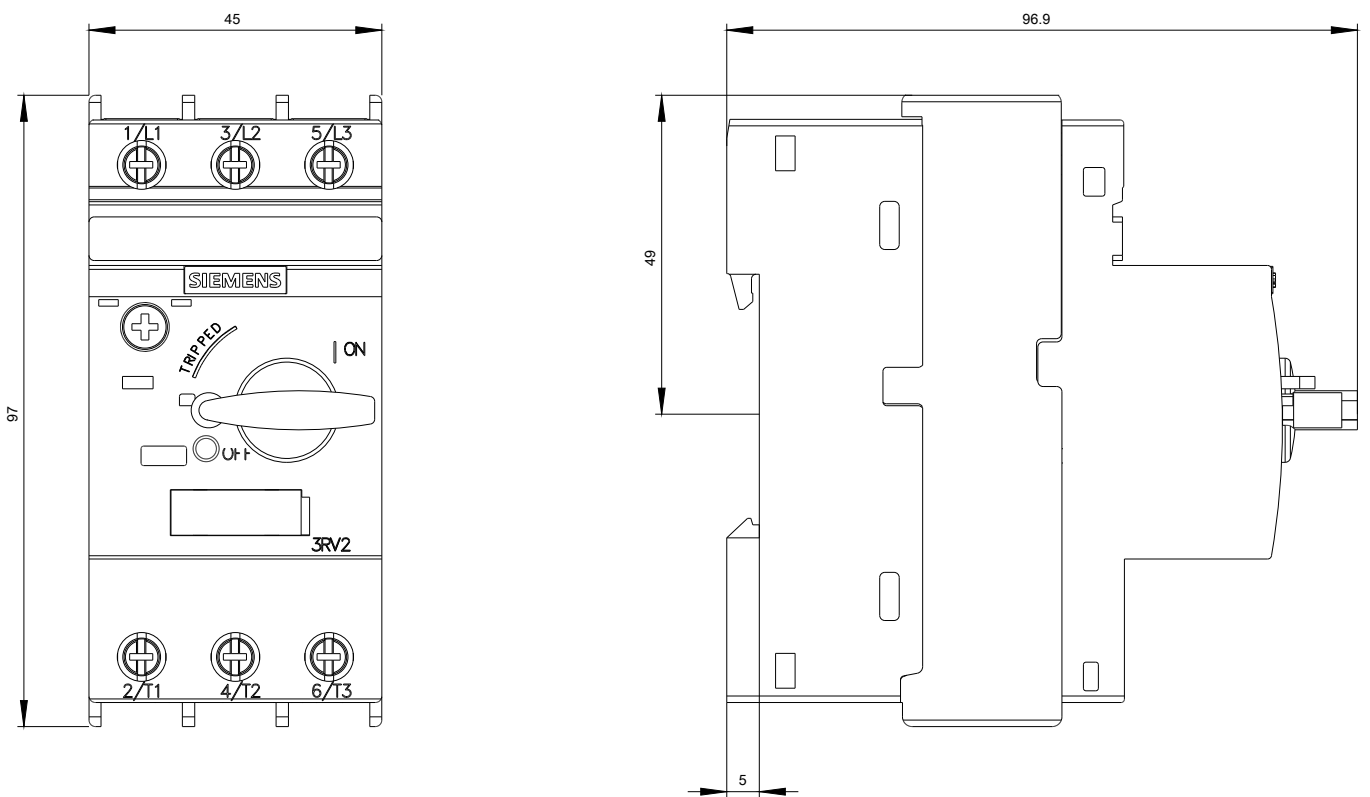
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-4CA10-0BA0&lang=en

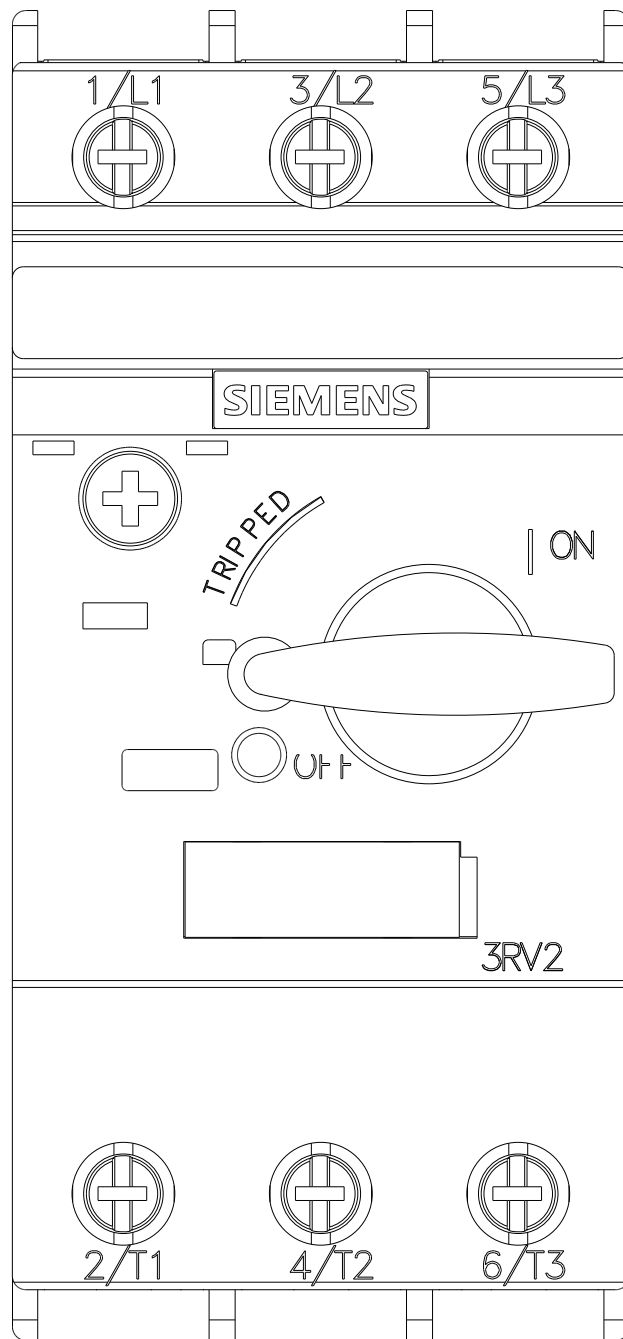
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4CA10-0BA0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-4CA10-0BA0&objecttype=14&gridview=view1>







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