

Circuit breaker size S0 for motor protection, CLASS 10 A-release
17...22 A N-release 286 A screw terminal Switching capacity 30 kA at
600 V according to UL/CSA



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	
<ul style="list-style-type: none"> at AC in hot operating state 	10.5 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 at AC rated value	690 V
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
<ul style="list-style-type: none"> in networks with grounded star point between main and auxiliary circuit 	400 V

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Protection class IP	
<ul style="list-style-type: none"> on the front 	IP20
<ul style="list-style-type: none"> of the terminal 	IP20
Shock resistance	
<ul style="list-style-type: none"> acc. to IEC 60068-2-27 	25g / 11 ms
Mechanical service life (switching cycles)	
<ul style="list-style-type: none"> of the main contacts typical 	100 000
<ul style="list-style-type: none"> of auxiliary contacts typical 	100 000
Electrical endurance (switching cycles)	
<ul style="list-style-type: none"> typical 	100 000
Reference code acc. to DIN EN 81346-2	Q

Ambient conditions

Installation altitude at height above sea level	
<ul style="list-style-type: none"> maximum 	2 000 m
Ambient temperature	
<ul style="list-style-type: none"> during operation 	-20 ... +60 °C
<ul style="list-style-type: none"> during storage 	-50 ... +80 °C
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> rated value 	690 V
<ul style="list-style-type: none"> at AC-3 rated value maximum 	690 V
Operating frequency rated value	50 ... 60 Hz
Operating current rated value	22 A
Operating current	
<ul style="list-style-type: none"> at AC-3 <ul style="list-style-type: none"> — at 400 V rated value 	22 A
Operating power	
<ul style="list-style-type: none"> at AC-3 <ul style="list-style-type: none"> — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value 	5 500 W 11 000 W 11 000 W 18 500 W
Operating frequency	
<ul style="list-style-type: none"> 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
• at 480 AC Y/277 V acc. to UL 489 rated value	30 A
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
— at 575/600 V rated value	20 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	
<ul style="list-style-type: none"> • at 400 V • at 500 V • at 690 V 	<ul style="list-style-type: none"> gL/gG 63 A gL/gG 50 A gL/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"> • for grounded parts at 400 V <ul style="list-style-type: none"> — downwards — upwards — Backwards — at the side — forwards • for live parts at 400 V <ul style="list-style-type: none"> — downwards — upwards — Backwards — at the side — forwards • for grounded parts at 500 V <ul style="list-style-type: none"> — downwards — upwards — Backwards — at the side — forwards • for live parts at 500 V <ul style="list-style-type: none"> — downwards — upwards — Backwards — at the side — forwards • for grounded parts at 690 V <ul style="list-style-type: none"> — downwards — upwards 	<ul style="list-style-type: none"> 30 mm 30 mm 0 mm 9 mm 0 mm 30 mm 30 mm 0 mm 9 mm 0 mm 30 mm 30 mm 0 mm 9 mm 0 mm 50 mm 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	0 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
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)
Tightening torque	
• 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	
• for main contacts	M4

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	Test Certificates
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[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

Marine / Shipping



Marine / Shipping	other	Railway
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[Confirmation](#)



[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=3RV2023-4CA10>

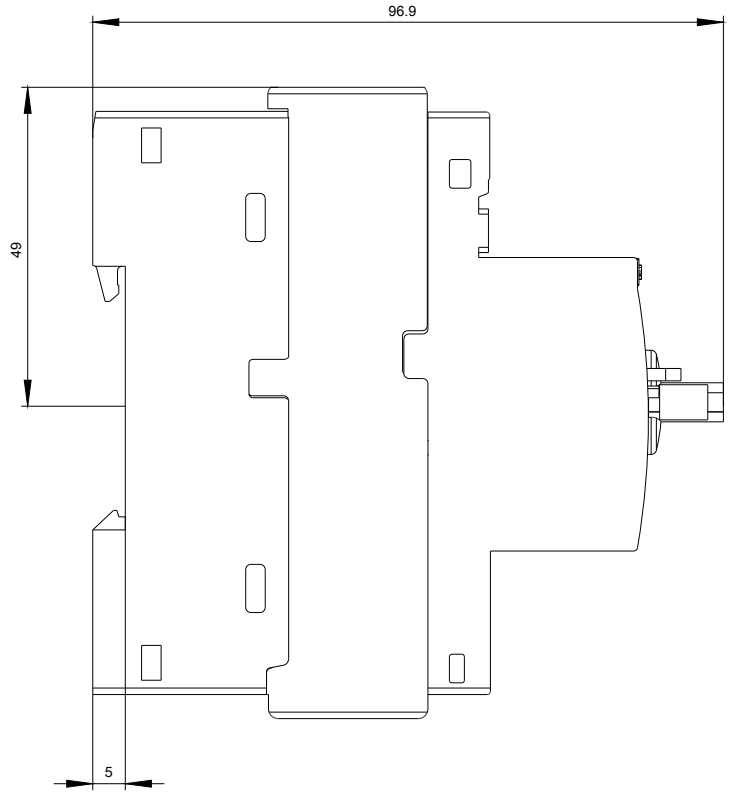
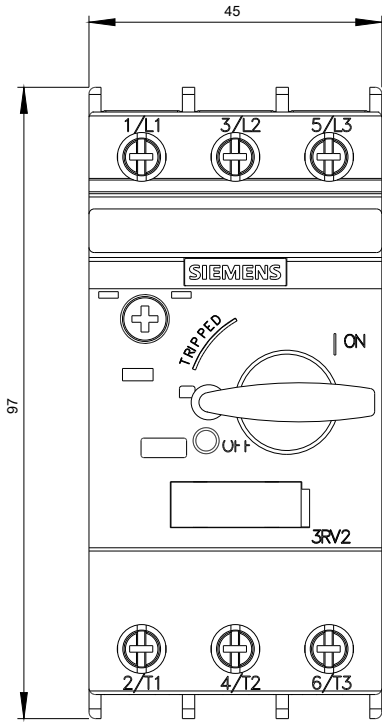
Cax online generator
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2023-4CA10>

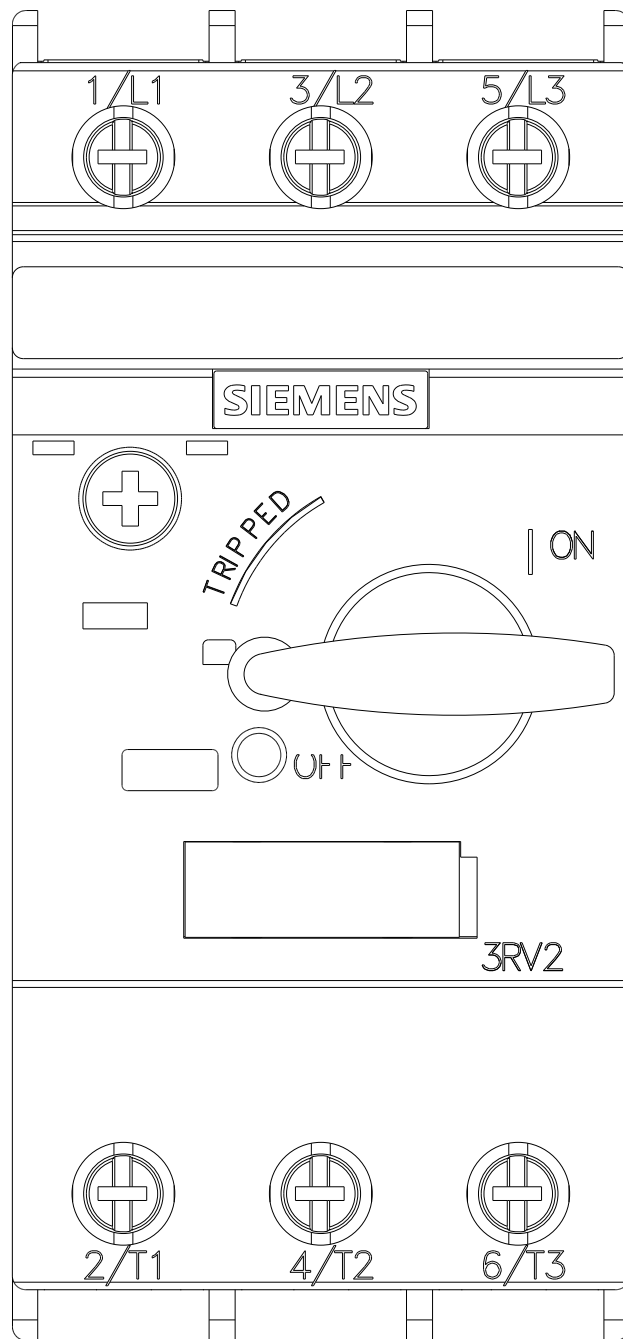
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
<https://support.industry.siemens.com/cs/ww/en/ps/3RV2023-4CA10>

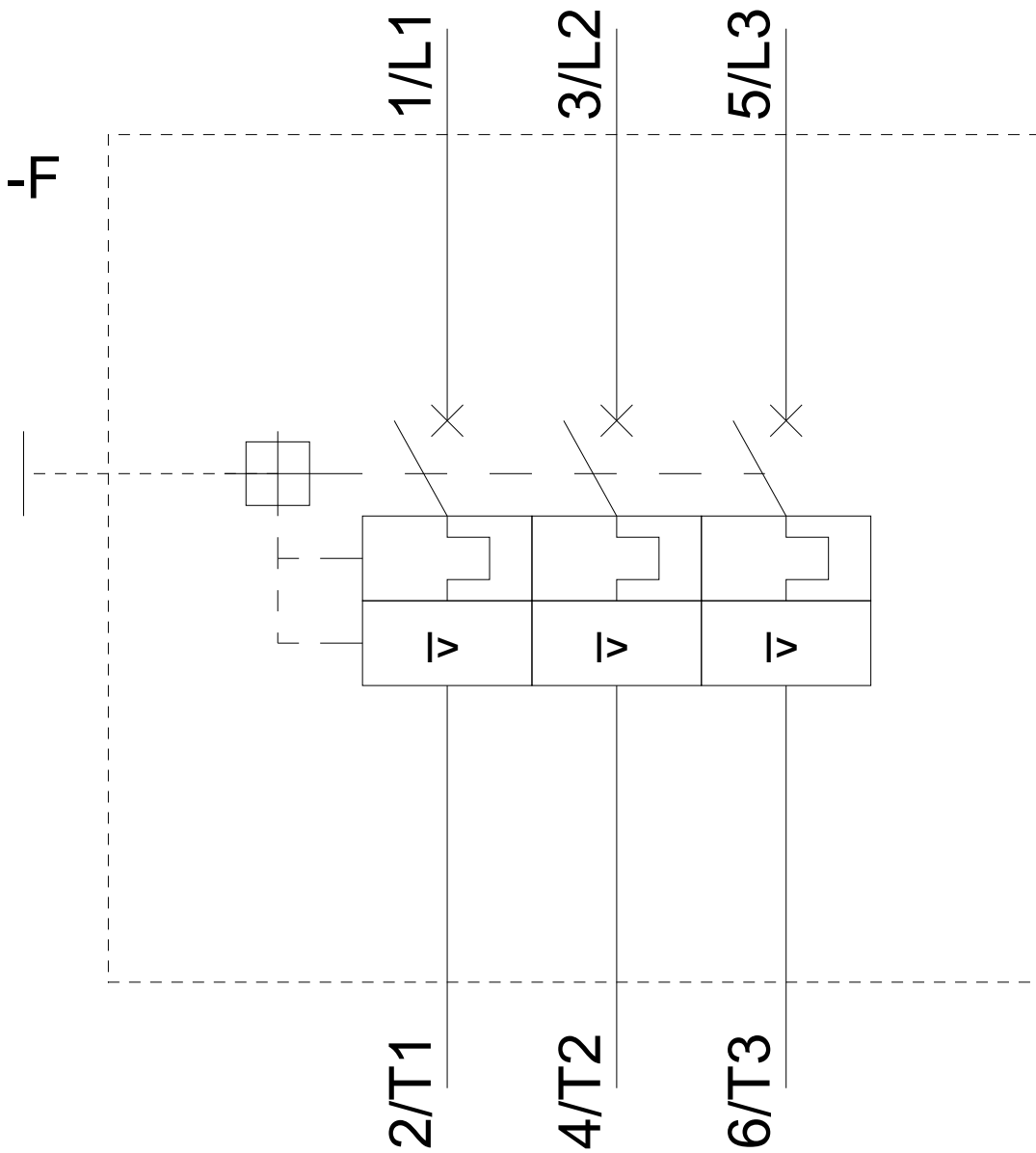
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2023-4CA10&lang=en

Characteristic: Tripping characteristics, I^t, Let-through current
<https://support.industry.siemens.com/cs/ww/en/ps/3RV2023-4CA10/char>

Further characteristics (e.g. electrical endurance, switching frequency)
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2023-4CA10&objecttype=14&gridview=view1>







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