SIEMENS

Show actual product details

Data sheet 3RV2021-4FA10

CIRCUIT-BREAKER SZ S0, FOR MOTOR PROTECTION, CLASS 10, A-RELEASE 34...40A, N-RELEASE 480A, SCREW TERMINAL, STANDARD SWITCHING CAPACITY,

product brandname	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	14 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	
• 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
Type of protection	Increased safety
Certificate of suitability relating to ATEX	on request
Protection against electrical shock	finger-safe
Equipment marking 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 ... +40 °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	34 ... 40 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	40 A
Operating current	
• at AC-3	
— at 400 V rated value	40 A
Operating power	
• at AC-3	
— at 230 V rated value	11 000 W
— at 400 V rated value	18 500 W
— at 500 V rated value	22 000 W
— at 690 V rated value	39 000 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	
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	10 kA
• at 500 V rated value	3 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	20 kA
• at AC at 500 V rated value	6 kA
• at AC at 690 V rated value	3 kA
Breaking capacity short-circuit current (Icn)	
• at 1 current path at DC at 150 V rated value	10 kA
• with 2 current paths in series at DC at 300 V rated value	10 kA
• with 3 current paths in series at DC at 450 V rated value	10 kA

UL/CSA ratings	
Full-load current (FLA) for three-phase AC motor	
• at 480 V rated value	40 A
• at 600 V rated value	40 A
Yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	3 hp
— at 230 V rated value	7.5 hp
• for three-phase AC motor	
— at 200/208 V rated value	10 hp
— at 220/230 V rated value	10 hp
— at 460/480 V rated value	30 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	gL/gG 63 A
• at 500 V	gL/gG 63 A
• at 690 V	gL/gG 63 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	96 mm
Required spacing	
• with side-by-side mounting	
— forwards	0 mm
— Backwards	0 mm
— upwards	70 mm
— downwards	70 mm
— at the side	0 mm
• for grounded parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	70 mm
— at the side	30 mm
— downwards	70 mm
• for live parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	70 mm
— downwards	70 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 mm²), 2x (2,5 ... 10 mm²)
— finely stranded with core end processing	2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm²
• 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
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					For use in hazardous locations
CCC	CSA	UL	KTL	EAC	ATEX

For use in hazardous locations	Declaration of Conformity	Test Certificates		Shipping Approval	
IECEx	EG-Konf.	Typprüfbescheinigung/Werkszeugnis	spezielle Prüfbescheinigungen	ABS	BUREAU VERITAS

Shipping Approval				other	
LRS	PRS	RINA	RMRS	Umweltbestätigung	Bestätigungen

other		Railway
VDE	sonstig	Schwingen/Schocken

Further information

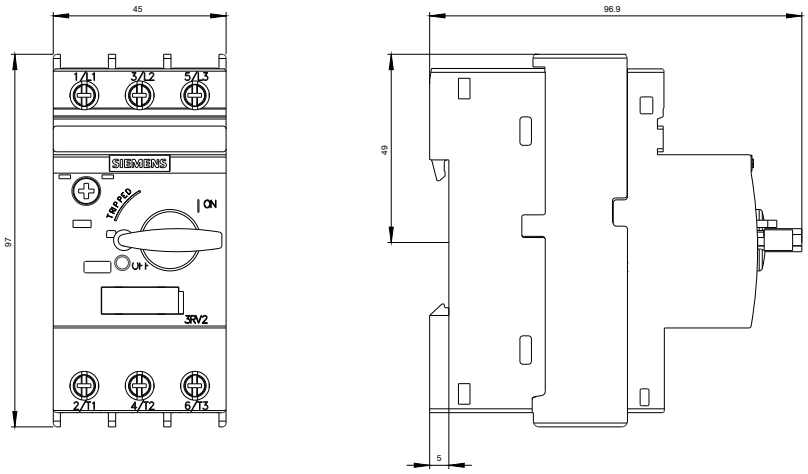
Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

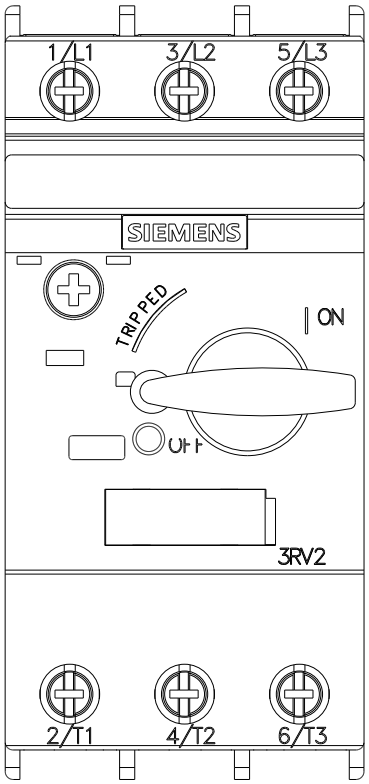
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2021-4FA10

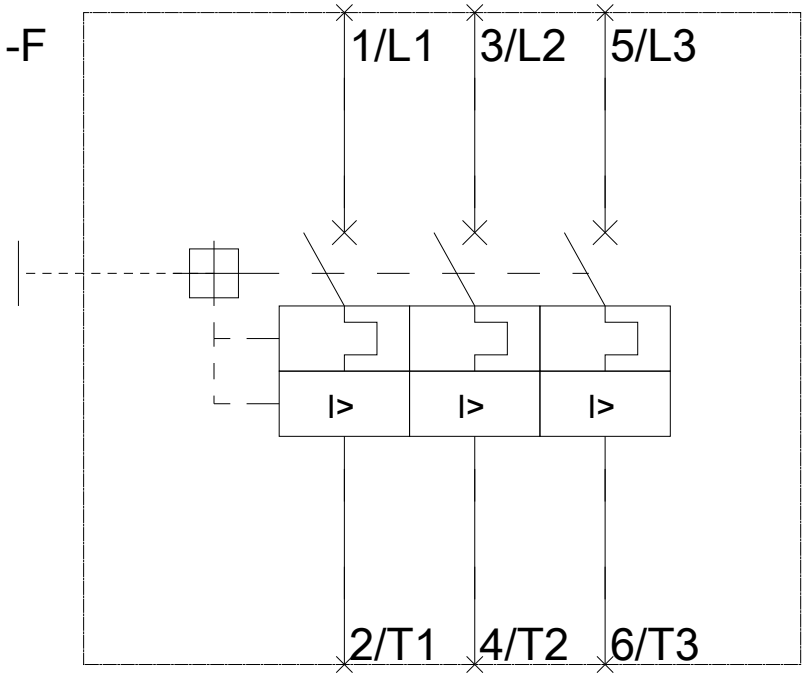
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4FA10

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4FA10

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-4FA10&lang=en







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