SIEMENS

Show actual product details

Data sheet 3RV2031-4VA10

CIRCUIT BREAKER, SIZE S2, FOR MOTOR PROTECTION, CLASS 10, A-RELEASE 35...45A, N-RELEASE 650A, SCREW TERMINAL, STANDARD BREAKING CAPACITY

Figure similar

product brand name	SIRIUS
Product designation	3RV2 circuit breaker
Design of the product	For motor protection

General technical data	
Size of the circuit-breaker	S2
Size of contactor can be combined company-specific	S2
Product extension	
• Auxiliary switch	Yes
Power loss [W] total typical	17 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	IP00
Shock resistance	
• acc. to IEC 60068-2-27	25g / 11 ms Sinus
Mechanical service life (switching cycles)	
• of the main contacts typical	50 000
• of auxiliary contacts typical	50 000
Electrical endurance (switching cycles)	
• typical	50 000
Protection against electrical shock	finger-safe when touched vertically from front acc. to IEC 60529
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 ... +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	35 ... 45 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	45 A
Operating current	
• at AC-3	
— at 400 V rated value	45 A
Operating power	
• at AC-3	
— at 230 V rated value	11 000 W
— at 400 V rated value	22 000 W
— at 500 V rated value	30 000 W
— at 690 V rated value	37 000 W
Operating frequency	
• at AC-3 maximum	15 1/h

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 A
• at 400 V rated value	30 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	65 kA
• at AC at 500 V rated value	10 kA
• at AC at 690 V rated value	4 kA

UL/CSA ratings

Full-load current (FLA) for three-phase AC motor	
• at 480 V rated value	45 A
• at 600 V rated value	45 A
Yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	3 hp
— at 230 V rated value	10 hp
• for three-phase AC motor	
— at 200/208 V rated value	15 hp
— at 220/230 V rated value	15 hp
— at 460/480 V rated value	40 hp
— at 575/600 V rated value	50 hp

Short-circuit protection

Design of the short-circuit trip	magnetic
Design of the fuse link for IT network for short-circuit protection of the main circuit	
• at 240 V	none required
• at 400 V	125
• at 500 V	100
• at 690 V	80

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	140 mm
Width	55 mm
Depth	149 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	10 mm
— downwards	50 mm
• for live parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	50 mm
— downwards	50 mm
— at the side	10 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 ... 25 mm²), 1x (1 ... 35 mm²)
— finely stranded with core end processing	2x (1 ... 16 mm²), 1x (1 ... 25 mm²)
• at AWG conductors for main contacts	2x (18 ... 3), 1x (18 ... 2)
Tightening torque	
• for main contacts with screw-type terminals	3 ... 4.5 N·m
Design of screwdriver shaft	Diameter 5 to 6 mm
Design of the thread of the connection screw	
• for main contacts	M6

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				Declaration of Conformity	Test Certificates
CCC	CSA	UL	EAC	EG-Konf.	spezielle Prüfbescheinigungen

Test Certificates	Shipping Approval		other		Railway
Typprüfbescheinigung/Werkszeugnis	ABS	LRS	Umweltbestätigung	Bestätigungen	Schwingen/Schocken

Further information

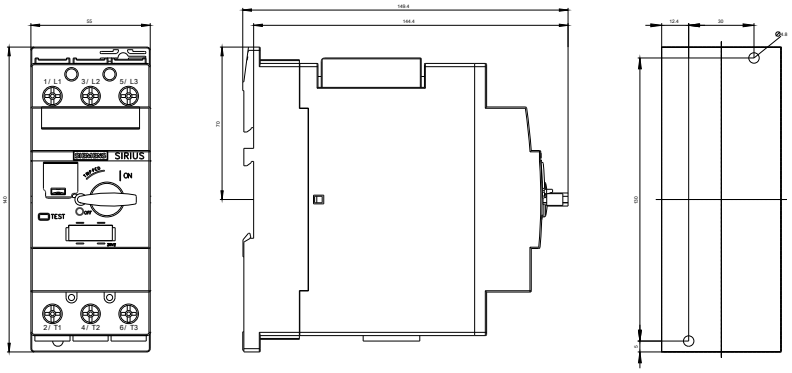
Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

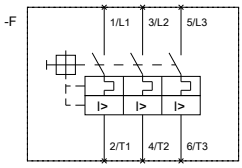
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2031-4VA10

Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4VA10

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4VA10

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4VA10&lang=en





last modified: 09/20/2016