SIEMENS

Data sheet 3RV2031-4EB15

Circuit breaker size S2 for motor protection, Class 20 A-release 22...32 A N-release 416 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	S2
size of contactor can be combined company-specific	S2
product extension auxiliary switch	Yes
power loss [W] for rated value of the current	
● at AC in hot operating state	18 W
● at AC in hot operating state per pole	6 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 in networks with grounded star point	
● between main and auxiliary circuit	400 V
● between main and auxiliary circuit	400 V
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
reference code acc. to IEC 81346-2	Q
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
● ambient temperature during operation	-20 ... +60 °C
● ambient temperature during storage	-50 ... +80 °C
● ambient temperature 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 current response value current of the current-dependent overload release	22 ... 32 A
● operating voltage rated value	690 V
● operating voltage at AC-3 rated value maximum	690 V
operating frequency rated value	50 ... 60 Hz

operational current rated value	32 A
operational current at AC-3 at 400 V rated value	32 A
operating power at AC-3	
● at 230 V rated value	7 500 W
● at 400 V rated value	15 000 W
● at 500 V rated value	18 500 W
● at 690 V rated value	30 000 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
operational current of auxiliary contacts at AC-15	
● at 24 V	2 A
● at 230 V	0.5 A
operational current of auxiliary contacts at DC-13	
● at 24 V	1 A
● at 60 V	0.15 A
● at 110 V	0 A
● at 125 V	0 A
● at 220 V	0 A
Protective and monitoring functions	
product function	
● ground fault detection	No
● phase failure detection	Yes
trip class	Class 20
design of the overload release	thermal
breaking capacity operating short-circuit current (Ics) at AC	
● at 240 V rated value	100 kA
● at 400 V rated value	30 kA
● at 500 V rated value	5 kA
● at 690 V rated value	2 kA
breaking capacity maximum short-circuit current (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
response value current of instantaneous short-circuit trip unit	416 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
● at 480 V rated value	32 A
● at 600 V rated value	32 A
yielded mechanical performance [hp]	
● for single-phase AC motor	
— at 110/120 V rated value	3 hp
— at 230 V rated value	5 hp
● for 3-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	25 hp
— at 575/600 V rated value	30 hp
contact rating of auxiliary contacts according to UL	C300 / R300
Short-circuit protection	
product function short circuit protection	Yes
design of the short-circuit trip	magnetic
design of the fuse link	

● for short-circuit protection of the auxiliary switch required	fuse gG: 10 A, miniature circuit breaker C 6 A (short-circuit current Ik < 400 A)
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
fastening method	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	
● for grounded parts at 400 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
● for live parts at 400 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
● for grounded parts at 500 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
● for live parts at 500 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
● for grounded parts at 690 V	
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	10 mm
— forwards	0 mm
● for live parts at 690 V	
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	10 mm
— forwards	0 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 circuit	screw-type terminals
arrangement of electrical connectors for main current circuit	Top and bottom
type of connectable conductor cross-sections	
● for main contacts	
— solid or 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 cables for main contacts	2x (18 ... 3), 1x (18 ... 2)
type of connectable conductor cross-sections	
● for auxiliary contacts	

— solid or stranded	2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²)
— finely stranded with core end processing	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
● at AWG cables for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14)
● tightening torque for main contacts with screw-type terminals	3 ... 4.5 N·m
● tightening torque 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	M6
● 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
protection class IP on the front acc. to IEC 60529	IP20
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front
display version for switching status	Handle

Certificates/ approvals

General Product Approval

CSA | CCC | UL | UL | KC | EAC

Declaration of Conformity

EG-Konf.

Miscellaneous

Test Certificates

Type Test Certificates/Test Report

Special Test Certificate

Type Test Certificates/Test Report

Type Test Certificates/Test Report

Test Certificates

Type Test Certificates/Test Report

Marine / Shipping

ABS | BUREAU VERITAS | LRS | PRS | RINA

Marine / Shipping

RMRS | DNV·GL

other

Confirmation

VDE

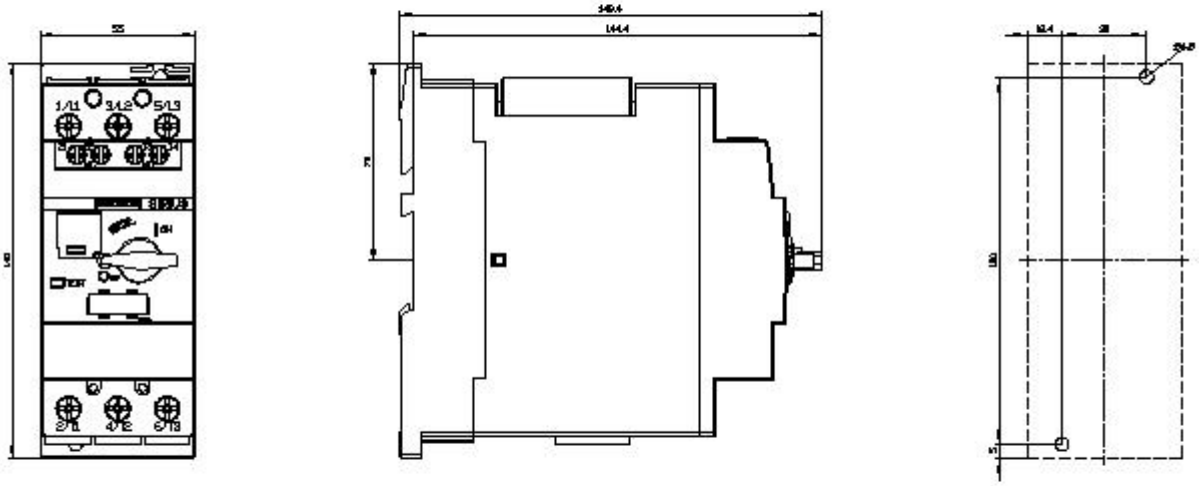
Railway

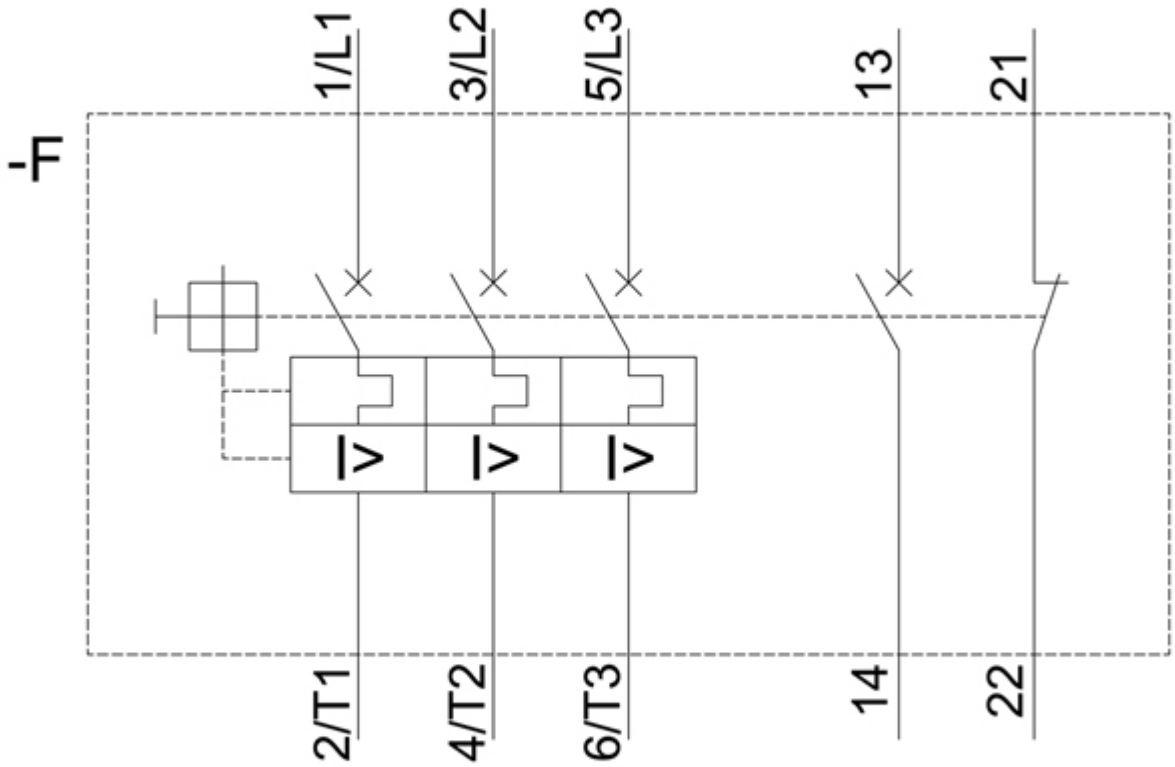
Vibration and Shock

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=3RV2031-4EB15
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4EB15
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4EB15
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4EB15&lang=en
Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4EB15/char
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4EB15&objecttype=14&gridview=view1





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