SIEMENS

Data sheet 3RV2031-4RA15

Siemens EcoTech

Circuit breaker size S2 for motor protection, CLASS 10 A-release 70...80 A N-release 1040 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	29.5 W
• at AC in hot operating state per pole	9.8 W
insulation voltage with degree of pollution 3 at AC rated value	690 V
surge voltage resistance rated value	6 kV
shock resistance according to IEC 60068-2-27	25g / 11 ms Sinus
mechanical service life (operating cycles)	
• of the main contacts typical	20 000
• of auxiliary contacts typical	20 000
electrical endurance (operating cycles) typical	20 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	04/10/2015
SVHC substance name	Lead - 7439-92-1 Lead titanium zirconium oxide - 12626-81-2
Net Weight	1.19 kg
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
relative humidity during operation	10 ... 95 %
Environmental footprint	
Environmental Product Declaration(EPD)	Yes
global warming potential [CO2 eq] total	239.877 kg
global warming potential [CO2 eq] during manufacturing	12.8 kg
global warming potential [CO2 eq] during sales	0.477 kg
global warming potential [CO2 eq] during operation	230 kg

global warming potential [CO2 eq] after end of life	-3.4 kg
Siemens Eco Profile (SEP)	Siemens EcoTech
Main circuit	
number of poles for main current circuit	3
adjustable current response value current of the current-dependent overload release	70 ... 80 A
type of voltage for main current circuit	AC
operating voltage	
● rated value	20 ... 690 V
● at AC-3 rated value maximum	690 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	80 A
operational current	
● at AC-3 at 400 V rated value	80 A
operating power	
● at AC-3	
— at 230 V rated value	22 kW
— at 400 V rated value	37 kW
— at 500 V rated value	55 kW
— at 690 V rated value	75 kW
operating frequency	
● at AC-3 maximum	15 1/h
Auxiliary circuit	
design of the auxiliary switch	transverse
type of voltage for auxiliary and control circuit	AC/DC
number of NC contacts for auxiliary contacts	1
number of NO contacts for auxiliary contacts	1
number of CO contacts for auxiliary contacts	0
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 10
design of the overload release	thermal
maximum short-circuit current breaking capacity (Icu)	
● at AC at 240 V rated value	65 kA
● at AC at 400 V rated value	65 kA
● at AC at 500 V rated value	8 kA
● at AC at 690 V rated value	4 kA
operating short-circuit current breaking capacity (Ics) at AC	
● at 240 V rated value	65 kA
● at 400 V rated value	30 kA
● at 500 V rated value	5 kA
● at 690 V rated value	2 kA
response value current of instantaneous short-circuit trip unit	1 040 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
● at 480 V rated value	77 A
● at 600 V rated value	77 A
yielded mechanical performance [hp]	

● for single-phase AC motor	
— at 110/120 V rated value	7.5 hp
— at 230 V rated value	15 hp
● for 3-phase AC motor	
— at 200/208 V rated value	25 hp
— at 220/230 V rated value	30 hp
— at 460/480 V rated value	60 hp
— at 575/600 V rated value	75 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	160
● at 500 V	125
● at 690 V	100
Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	140 mm
width	55 mm
depth	149 mm
required spacing	
● with side-by-side mounting at the side	0 mm
● 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
— at the side	10 mm
● for live parts at 690 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
Connections/ Terminals	
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 ... 35 mm²), 1x (1 ... 50 mm²)
— finely stranded with core end processing	2x (1 ... 25 mm²), 1x (1 ... 35 mm²)
• for AWG cables for main contacts	2x (18 ... 2), 1x (18 ... 1)
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)
• for 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
• 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 size 2
design of the thread of the connection screw	
• for main contacts	M6
• of the auxiliary and control contacts	M3
Safety related data	
product function suitable for safety function	Yes
suitability for use	
• safety-related switching on	No
• safety-related switching OFF	Yes
service life maximum	10 a
test wear-related service life necessary	Yes
proportion of dangerous failures	
• with low demand rate according to SN 31920	40 %
• with high demand rate according to SN 31920	50 %
B10 value with high demand rate according to SN 31920	5 000
failure rate [FIT] with low demand rate according to SN 31920	50 FIT
ISO 13849	
device type according to ISO 13849-1	3
overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
safety device type according to IEC 61508-2	Type A
T1 value	
• for proof test interval or service life according to IEC 61508	10 a
Electrical Safety	
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
Display	
display version for switching status	Handle
Approvals Certificates	

General Product Approval

KC


General Product Approval	For use in hazardous locations		Test Certificates		Maritime application
	ATEX	IECEx	Special Test Certificate	Type Test Certificates/Test Report	ABS

Maritime application	other

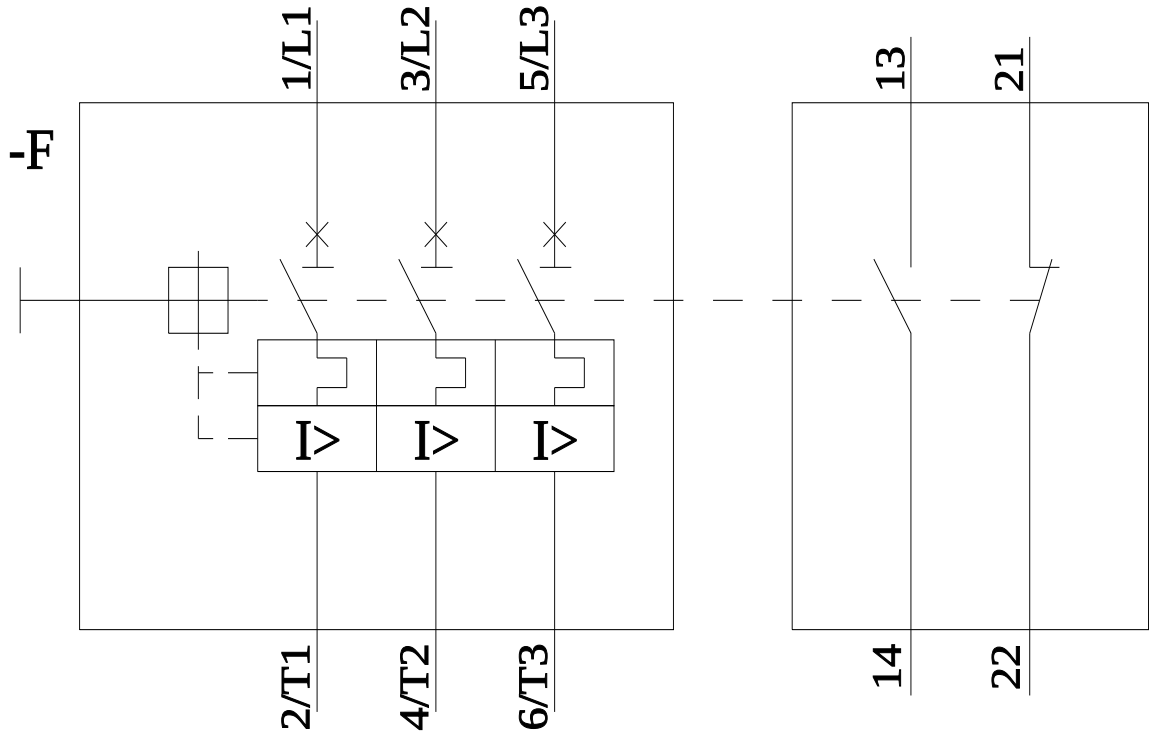
Miscellaneous

other		Railway		Environment
产品合格 QC PASS	Confirmation	Special Test Certific-ate	Confirmation	EPD

Environment	
Siemens EcoTech	Environmental Con-firmations

Further information

Information on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875
Information for data generation and storage
https://support.industry.siemens.com/cs/ww/en/view/109995012
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=3RV2031-4RA15
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4RA15
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4RA15&lang=en
Cax online generator
https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4RA15
Characteristic curves
https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP="HAUPT"></mmp_prod__no>



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