



Circuit breaker size S2 for motor protection, CLASS 10 A-release 49...59 A
N-release 845 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	26 W
• at AC in hot operating state per pole	8.7 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	20 000
• of auxiliary contacts typical	20 000
electrical endurance (switching cycles) typical	20 000
type of protection according to ATEX directive 2014/34/EU	Ex II (2) GD
certificate of suitability according to ATEX directive 2014/34/EU	DMT 02 ATEX F 001
reference code acc. to IEC 81346-2	Q
Substance Prohibition (Date)	10.04.2015 00:00:00
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	49 ... 59 A
- operating voltage rated value - operating voltage at AC-3 rated value maximum	690 V 690 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	59 A
operational current at AC-3 at 400 V rated value	59 A
operating power at AC-3	
- at 230 V rated value - at 400 V rated value - at 500 V rated value - at 690 V rated value	15 000 W 30 000 W 37 000 W 55 000 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 - at 230 V	2 A 0.5 A
operational current of auxiliary contacts at DC-13	
- at 24 V - at 60 V - at 110 V - at 125 V - at 220 V	1 A 0.15 A 0 A 0 A 0 A
Protective and monitoring functions	
product function	
- ground fault detection - phase failure detection	No Yes
trip class	CLASS 10
design of the overload release	thermal
breaking capacity operating short-circuit current (Ics) at AC	
- at 240 V rated value - at 400 V rated value - at 500 V rated value - at 690 V rated value	100 kA 30 kA 4 kA 2 kA
breaking capacity maximum short-circuit current (Icu)	
- at AC at 240 V rated value - at AC at 400 V rated value - at AC at 500 V rated value - at AC at 690 V rated value	65 kA 65 kA 8 kA 4 kA
response value current of instantaneous short-circuit trip unit	845 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
- at 480 V rated value - at 600 V rated value	59 A 59 A
yielded mechanical performance [hp]	
- for single-phase AC motor - at 110/120 V rated value - at 230 V rated value - for 3-phase AC motor - at 220/230 V rated value - at 460/480 V rated value - at 575/600 V rated value	5 hp 10 hp 20 hp 40 hp 50 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 $I_k < 400$ A)
design of the fuse link for IT network for short-circuit protection of the main circuit - at 240 V - at 400 V - at 500 V - at 690 V	none required 160 125 100
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 - upwards - at the side - for live parts at 400 V - downwards - upwards - at the side - for grounded parts at 500 V - downwards - upwards - at the side - for live parts at 500 V - downwards - upwards - at the side - for grounded parts at 690 V - downwards - upwards - backwards - at the side - forwards - for live parts at 690 V - downwards - upwards - backwards - at the side - forwards	50 mm 50 mm 10 mm 50 mm 50 mm 10 mm 50 mm 50 mm 10 mm 50 mm 50 mm 10 mm 50 mm 50 mm 0 mm 10 mm 0 mm 50 mm 50 mm 0 mm 10 mm 0 mm
Connections/ Terminals	
product function removable terminal for auxiliary and control circuit	No
type of electrical connection - for main current circuit - for auxiliary and control circuit	screw-type terminals 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 mm ²), 1x (1 ... 50 mm ²)

— finely stranded with core end processing	2x (1 ... 25 mm ²), 1x (1 ... 35 mm ²)
• at 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 mm ²), 2x (0,75 ... 2,5 mm ²)
— finely stranded with core end processing	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²)
• 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	For use in hazardous locations



[KC](#)



For use in hazardous locations	Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping



other	Railway
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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=3RV2031-4XA15>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4XA15>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4XA15>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

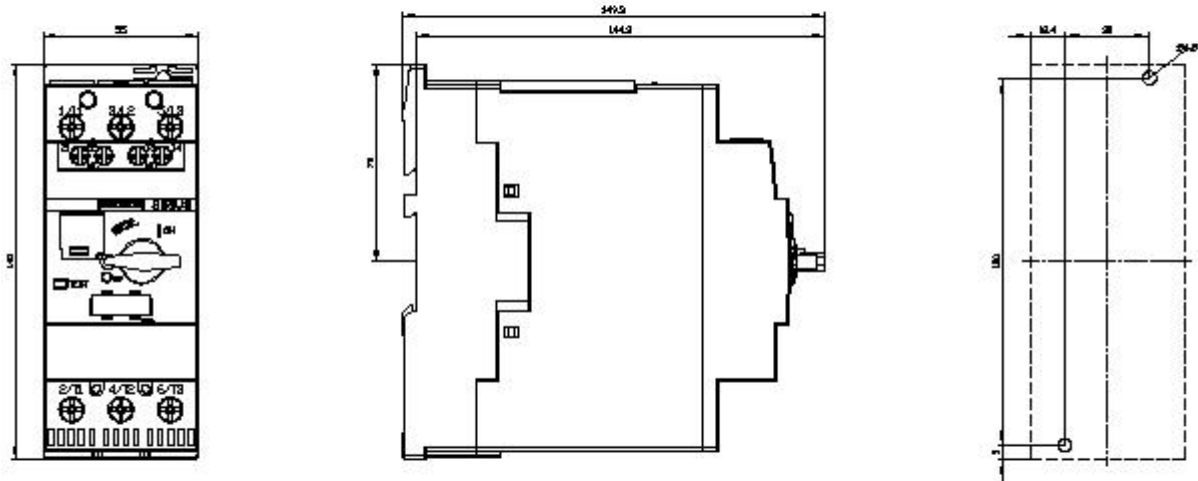
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4XA15&lang=en

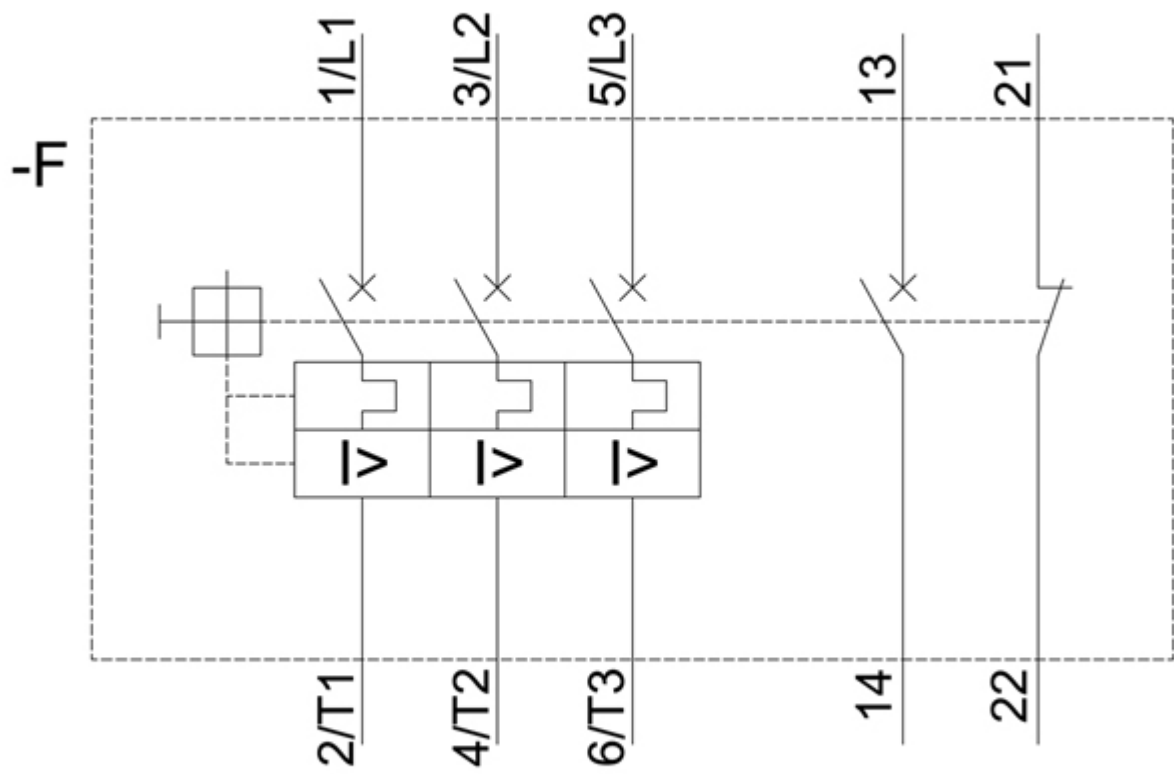
Characteristic: Tripping characteristics, I^2t , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4XA15/char>

Further characteristics (e.g. electrical endurance, switching frequency)

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4XA15&objecttype=14&gridview=view1>





last modified:

12/15/2020