



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
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 (operating 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 Prohibitance (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
• 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 current response value current of the current-dependent overload release	70 ... 80 A
operating voltage	
• rated value	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
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 10
design of the overload release	thermal
breaking capacity operating short-circuit current (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
breaking capacity maximum short-circuit current (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
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	fuse gG: 10 A, miniature circuit breaker C 6 A (short-circuit current $I_k < 400$ A)	
<ul style="list-style-type: none"> • for short-circuit protection of the auxiliary switch required 		
design of the fuse link for IT network for short-circuit protection of the main circuit	none required 160 125 100	
<ul style="list-style-type: none"> • at 240 V 		
<ul style="list-style-type: none"> • at 400 V 		
<ul style="list-style-type: none"> • at 500 V 		
<ul style="list-style-type: none"> • at 690 V 		
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		
<ul style="list-style-type: none"> • for grounded parts at 400 V <ul style="list-style-type: none"> — downwards — upwards — at the side 		
<ul style="list-style-type: none"> • for live parts at 400 V <ul style="list-style-type: none"> — downwards — upwards — at the side 		
<ul style="list-style-type: none"> • for grounded parts at 500 V <ul style="list-style-type: none"> — downwards — upwards — at the side 		
<ul style="list-style-type: none"> • for live parts at 500 V <ul style="list-style-type: none"> — downwards — upwards — at the side 		
<ul style="list-style-type: none"> • for grounded parts at 690 V <ul style="list-style-type: none"> — downwards — upwards — backwards — at the side — forwards 		
<ul style="list-style-type: none"> • for live parts at 690 V <ul style="list-style-type: none"> — downwards — upwards — backwards — at the side — forwards 		
Connections/ Terminals		
product function removable terminal for auxiliary and control circuit		No
type of electrical connection		screw-type terminals
<ul style="list-style-type: none"> • for main current circuit • for auxiliary and control circuit 		
arrangement of electrical connectors for main current circuit		Top and bottom
type of connectable conductor cross-sections		

<ul style="list-style-type: none"> for main contacts <ul style="list-style-type: none"> — solid or stranded — finely stranded with core end processing at AWG cables for main contacts 	2x (1 ... 35 mm ²), 1x (1 ... 50 mm ²) 2x (1 ... 25 mm ²), 1x (1 ... 35 mm ²) 2x (18 ... 2), 1x (18 ... 1)
type of connectable conductor cross-sections <ul style="list-style-type: none"> for auxiliary contacts <ul style="list-style-type: none"> — solid or stranded — finely stranded with core end processing at AWG cables for auxiliary contacts 	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²) 2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²) 2x (20 ... 16), 2x (18 ... 14)
tightening torque <ul style="list-style-type: none"> for main contacts with screw-type terminals for auxiliary contacts with screw-type terminals 	3 ... 4.5 N·m 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 <ul style="list-style-type: none"> for main contacts of the auxiliary and control contacts 	M6 M3

Safety related data	
B10 value <ul style="list-style-type: none"> with high demand rate acc. to SN 31920 	5 000
proportion of dangerous failures <ul style="list-style-type: none"> with low demand rate acc. to SN 31920 with high demand rate acc. to SN 31920 	50 % 50 %
failure rate [FIT] <ul style="list-style-type: none"> 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](#)



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



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=3RV2031-4RA15>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&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, ...)

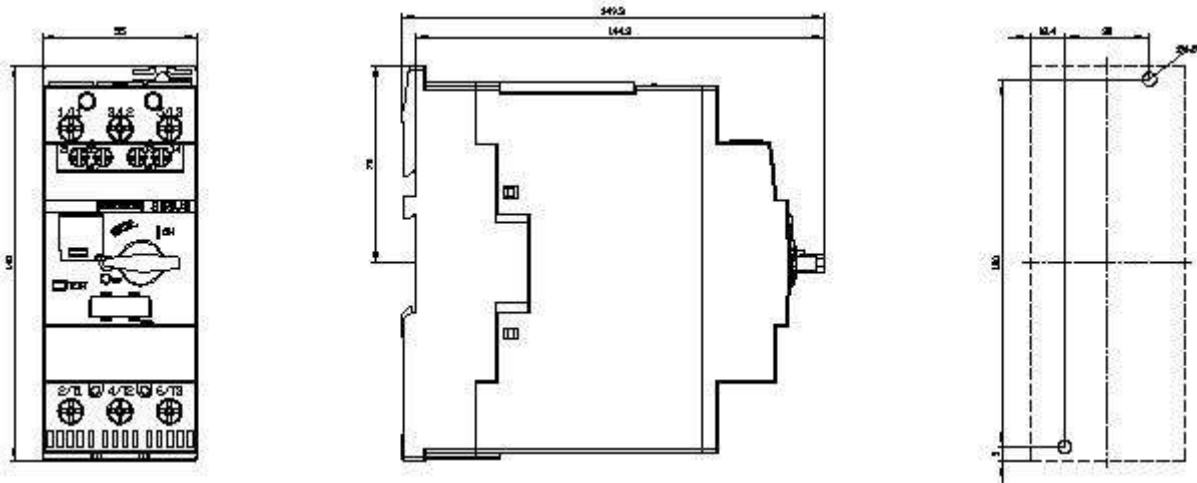
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4RA15&lang=en

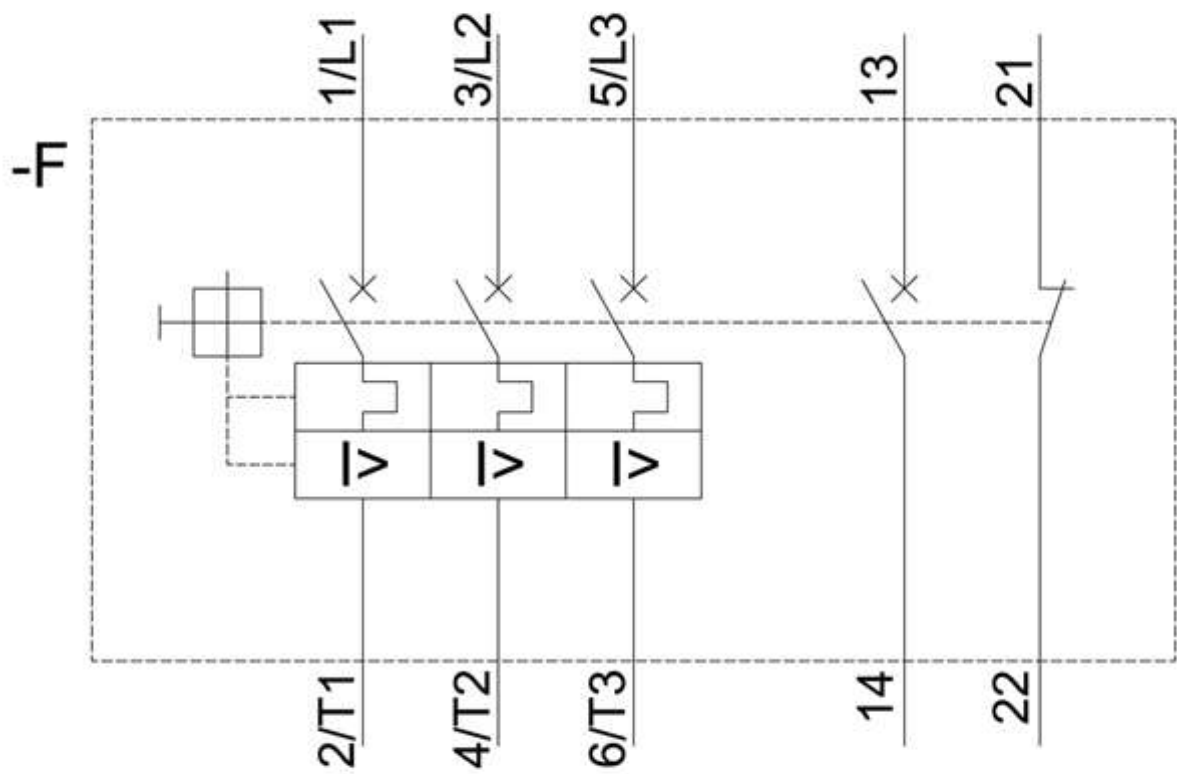
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4RA15/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4RA15&objecttype=14&gridview=view1>





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