



circuit breaker size S2 for motor protection, Class 10 thermal release 70...80 A short-circuit release 1040 A screw terminal standard switching capacity with transverse auxiliary switch 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	25 g / 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 CAS-No. 7439-92-1
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 %
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

<ul style="list-style-type: none"> ● at AC-3 rated value maximum 	690 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	80 A
operational current	
<ul style="list-style-type: none"> ● at AC-3 at 400 V rated value 	80 A
operating power	
<ul style="list-style-type: none"> ● at AC-3 <ul style="list-style-type: none"> — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value 	22 kW 37 kW 55 kW 75 kW
operating frequency	
<ul style="list-style-type: none"> ● 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	
<ul style="list-style-type: none"> ● at 24 V ● at 230 V 	2 A 0.5 A
operational current of auxiliary contacts at DC-13	
<ul style="list-style-type: none"> ● 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	
<ul style="list-style-type: none"> ● ground fault detection ● phase failure detection 	No Yes
trip class	CLASS 10
design of the overload release	thermal
maximum short-circuit current breaking capacity (I_{cu})	
<ul style="list-style-type: none"> ● 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
operating short-circuit current breaking capacity (I_{cs}) at AC	
<ul style="list-style-type: none"> ● at 240 V rated value ● at 400 V rated value ● at 500 V rated value ● at 690 V rated value 	65 kA 30 kA 5 kA 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	
<ul style="list-style-type: none"> ● at 480 V rated value ● at 600 V rated value 	77 A 77 A
yielded mechanical performance [hp]	
<ul style="list-style-type: none"> ● for single-phase AC motor <ul style="list-style-type: none"> — at 110/120 V rated value — at 230 V rated value ● for 3-phase AC motor <ul style="list-style-type: none"> — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 575/600 V rated value 	7.5 hp 15 hp 25 hp 30 hp 60 hp 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 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 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 • 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 — at the side • for live parts at 690 V — downwards — upwards — at the side	0 mm 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 10 mm 50 mm 50 mm 10 mm
Connections/ Terminals	
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 — finely stranded with core end processing • for 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 • for auxiliary contacts — solid or stranded — finely stranded with core end processing • for 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 size 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

product function suitable for safety function	Yes
suitability for use	
<ul style="list-style-type: none"> safety-related switching on safety-related switching OFF 	No Yes
service life maximum	10 a
test wear-related service life necessary	Yes
proportion of dangerous failures	
<ul style="list-style-type: none"> with low demand rate according to SN 31920 with high demand rate according to SN 31920 	40 % 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	
<ul style="list-style-type: none"> 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
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Approvals Certificates

Environmental Product Declaration	
<ul style="list-style-type: none"> global warming potential [CO2 eq] / during manufacturing global warming potential [CO2 eq] / during sales global warming potential [CO2 eq] / during operation global warming potential [CO2 eq] / after end of life global warming potential [CO2 eq] / total 	12.8 kg 0.477 kg 230 kg -3.4 kg 239.877 kg

Environment General Product Approval

[Environmental Con-
firmations](#)



General Product Approval For use in hazardous locations Maritime application



Maritime application other



[Confirmation](#)

other

[Miscellaneous](#)

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>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)





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