



circuit breaker size S2 for motor protection, Class 10 thermal release 54...65 A short-circuit release 845 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	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
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 Prohibition (Date)	04/10/2015
SVHC substance name	Lead CAS-No. 7439-92-1
Net Weight	1.191 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	54 ... 65 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
<ul style="list-style-type: none"> • at AC-3e rated value maximum 	690 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	65 A
operational current	
<ul style="list-style-type: none"> • at AC-3 at 400 V rated value 	65 A
<ul style="list-style-type: none"> • at AC-3e at 400 V rated value 	65 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 	18.5 kW 30 kW 45 kW 55 kW
<ul style="list-style-type: none"> • at AC-3e <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 	18.5 kW 30 kW 45 kW 55 kW
operating frequency	
<ul style="list-style-type: none"> • at AC-3 maximum 	15 1/h
<ul style="list-style-type: none"> • at AC-3e 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 	2 A
<ul style="list-style-type: none"> • at 230 V 	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 	No
<ul style="list-style-type: none"> • phase failure detection 	Yes
trip class	CLASS 10
design of the overload release	thermal
maximum short-circuit current breaking capacity (Icu)	
<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 	100 kA 65 kA 8 kA 4 kA
operating short-circuit current breaking capacity (Ics) 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 	100 kA 30 kA 4 kA 2 kA
response value current of instantaneous short-circuit trip unit	845 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 	65 A 62 A
yielded mechanical performance [hp]	
<ul style="list-style-type: none"> • for 3-phase AC motor 	

— at 200/208 V rated value	20 hp
— at 220/230 V rated value	25 hp
— at 460/480 V rated value	50 hp
— at 575/600 V rated value	60 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)
• 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
• at 240 V	
• at 400 V	
• at 500 V	
• at 690 V	
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	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
• 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	
Connections/ Terminals	
type of electrical connection	screw-type terminals screw-type terminals
• 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	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)
• for main contacts	
— solid or stranded	
— finely stranded with core end processing	
• for AWG cables for main contacts	

type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — solid or stranded 	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²)
<ul style="list-style-type: none"> — finely stranded with core end processing 	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²)
<ul style="list-style-type: none"> • for AWG cables for auxiliary contacts 	2x (20 ... 16), 2x (18 ... 14)
tightening torque	
<ul style="list-style-type: none"> • for main contacts with screw-type terminals 	3 ... 4.5 N·m
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • for main contacts 	M6
<ul style="list-style-type: none"> • of the auxiliary and control contacts 	M3
Safety related data	
product function suitable for safety function	Yes
suitability for use	
<ul style="list-style-type: none"> • safety-related switching on 	No
<ul style="list-style-type: none"> • safety-related switching OFF 	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 	40 %
<ul style="list-style-type: none"> • 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	
<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
Approvals Certificates	
Environmental Product Declaration	
<ul style="list-style-type: none"> • global warming potential [CO2 eq] / during manufacturing 	12.8 kg
<ul style="list-style-type: none"> • global warming potential [CO2 eq] / during sales 	0.477 kg
<ul style="list-style-type: none"> • global warming potential [CO2 eq] / during operation 	230 kg
<ul style="list-style-type: none"> • global warming potential [CO2 eq] / after end of life 	-3.4 kg
<ul style="list-style-type: none"> • global warming potential [CO2 eq] / total 	239.877 kg
Environment	General Product Approval



[Environmental Con-
firmations](#)



General Product Approval

For use in hazardous locations



Test Certificates **Maritime application**

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Maritime application **other**



[Miscellaneous](#)



[Confirmation](#)

[Miscellaneous](#)

Railway

[Special Test Certificate](#)

[Confirmation](#)

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=3RV2031-4JA15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4JA15>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4JA15&lang=en

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4JA15>

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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