



circuit breaker size S2 for motor protection Class 20 thermal release 54...65 A short-circuit release 845 A screw terminal standard switching capacity with transverse auxiliary switch 1 NO+1 NC

<b>product brand name</b>	SIRIUS
<b>product designation</b>	Circuit breaker
<b>design of the product</b>	For motor protection
<b>product type designation</b>	3RV2
<b>General technical data</b>	
<b>size of the circuit-breaker</b>	S2
<b>size of contactor can be combined company-specific</b>	S2
product extension auxiliary switch	Yes
<b>power loss [W] for rated value of the current</b>	
• 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
<b>surge voltage resistance rated value</b>	6 kV
<b>shock resistance according to IEC 60068-2-27</b>	25 g / 11 ms Sinus
<b>mechanical service life (operating cycles)</b>	
• of the main contacts typical	20 000
• of auxiliary contacts typical	20 000
electrical endurance (operating cycles) typical	20 000
<b>reference code according to IEC 81346-2</b>	Q
<b>Substance Prohibition (Date)</b>	04/10/2015
<b>SVHC substance name</b>	Lead CAS-No. 7439-92-1
<b>Net Weight</b>	1.238 kg
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
<b>ambient temperature</b>	
• during operation	-20 ... +60 °C
• during storage	-50 ... +80 °C
• during transport	-50 ... +80 °C
relative humidity during operation	10 ... 95 %
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	3
<b>adjustable current response value current of the current-dependent overload release</b>	54 ... 65 A
<b>type of voltage for main current circuit</b>	AC
<b>operating voltage</b>	
• rated value	20 ... 690 V

<ul style="list-style-type: none"> <li>• at AC-3 rated value maximum</li> </ul>	690 V
<ul style="list-style-type: none"> <li>• at AC-3e rated value maximum</li> </ul>	690 V
<b>operating frequency rated value</b>	50 ... 60 Hz
<b>operational current rated value</b>	65 A
<b>operational current</b>	
<ul style="list-style-type: none"> <li>• at AC-3 at 400 V rated value</li> </ul>	65 A
<ul style="list-style-type: none"> <li>• at AC-3e at 400 V rated value</li> </ul>	65 A
<b>operating power</b>	
<ul style="list-style-type: none"> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul>	18.5 kW 30 kW 45 kW 55 kW
<ul style="list-style-type: none"> <li>• at AC-3e <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul>	18.5 kW 30 kW 45 kW 55 kW
<b>operating frequency</b>	
<ul style="list-style-type: none"> <li>• at AC-3 maximum</li> </ul>	15 1/h
<ul style="list-style-type: none"> <li>• at AC-3e maximum</li> </ul>	15 1/h

#### Auxiliary circuit

<b>design of the auxiliary switch</b>	transverse
<b>type of voltage for auxiliary and control circuit</b>	AC/DC
<b>number of NC contacts for auxiliary contacts</b>	1
<b>number of NO contacts for auxiliary contacts</b>	1
number of CO contacts for auxiliary contacts	0
<b>operational current of auxiliary contacts at AC-15</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> </ul>	2 A
<ul style="list-style-type: none"> <li>• at 230 V</li> </ul>	0.5 A
<b>operational current of auxiliary contacts at DC-13</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> <li>• at 60 V</li> <li>• at 110 V</li> <li>• at 125 V</li> <li>• at 220 V</li> </ul>	1 A 0.15 A 0 A 0 A 0 A

#### Protective and monitoring functions

<b>product function</b>	
<ul style="list-style-type: none"> <li>• ground fault detection</li> </ul>	No
<ul style="list-style-type: none"> <li>• phase failure detection</li> </ul>	Yes
<b>trip class</b>	CLASS 20
<b>design of the overload release</b>	thermal
<b>maximum short-circuit current breaking capacity (Icu)</b>	
<ul style="list-style-type: none"> <li>• at AC at 240 V rated value</li> <li>• at AC at 400 V rated value</li> <li>• at AC at 500 V rated value</li> <li>• at AC at 690 V rated value</li> </ul>	65 kA 65 kA 8 kA 4 kA
<b>operating short-circuit current breaking capacity (Ics) at AC</b>	
<ul style="list-style-type: none"> <li>• at 240 V rated value</li> <li>• at 400 V rated value</li> <li>• at 500 V rated value</li> <li>• at 690 V rated value</li> </ul>	100 kA 30 kA 5 kA 2 kA
response value current of instantaneous short-circuit trip unit	845 A

#### UL/CSA ratings

<b>full-load current (FLA) for 3-phase AC motor</b>	
<ul style="list-style-type: none"> <li>• at 480 V rated value</li> <li>• at 600 V rated value</li> </ul>	65 A 62 A
<b>yielded mechanical performance [hp]</b>	
<ul style="list-style-type: none"> <li>• for 3-phase AC motor</li> </ul>	

— 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
<b>contact rating of auxiliary contacts according to UL</b>	C300 / R300
<b>Short-circuit protection</b>	
<b>product function short circuit protection</b>	Yes
<b>design of the short-circuit trip</b>	magnetic
<b>design of the fuse link</b>	fuse gG: 10 A, miniature circuit breaker C 6 A (short-circuit current I <sub>k</sub> < 400 A)
• for short-circuit protection of the auxiliary switch required	
<b>design of the fuse link for IT network for short-circuit protection of the main circuit</b>	none required 160 125 100
• at 240 V	
• at 400 V	
• at 500 V	
• at 690 V	
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	any
<b>fastening method</b>	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
<b>height</b>	140 mm
<b>width</b>	55 mm
<b>depth</b>	149 mm
<b>required spacing</b>	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
• 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	
<b>Connections/ Terminals</b>	
<b>type of electrical connection</b>	screw-type terminals screw-type terminals
• for main current circuit	
• for auxiliary and control circuit	
<b>arrangement of electrical connectors for main current circuit</b>	Top and bottom
<b>type of connectable conductor cross-sections</b>	2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> ) 2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> ) 2x (18 ... 2), 1x (18 ... 1)
• for main contacts	
— solid or stranded	
— finely stranded with core end processing	
• for AWG cables for main contacts	

<b>type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>for auxiliary contacts <ul style="list-style-type: none"> <li>— solid or stranded</li> </ul> </li> </ul>	2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>— finely stranded with core end processing</li> </ul>	2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>for AWG cables for auxiliary contacts</li> </ul>	2x (20 ... 16), 2x (18 ... 14)
<b>tightening torque</b>	
<ul style="list-style-type: none"> <li>for main contacts with screw-type terminals</li> </ul>	3 ... 4.5 N·m
<ul style="list-style-type: none"> <li>for auxiliary contacts with screw-type terminals</li> </ul>	0.8 ... 1.2 N·m
<b>design of screwdriver shaft</b>	Diameter 5 to 6 mm
<b>size of the screwdriver tip</b>	Pozidriv size 2
<b>design of the thread of the connection screw</b>	
<ul style="list-style-type: none"> <li>for main contacts</li> </ul>	M6
<ul style="list-style-type: none"> <li>of the auxiliary and control contacts</li> </ul>	M3

**Safety related data**

product function suitable for safety function	Yes
<b>suitability for use</b>	
<ul style="list-style-type: none"> <li>safety-related switching on</li> </ul>	No
<ul style="list-style-type: none"> <li>safety-related switching OFF</li> </ul>	Yes
<b>service life maximum</b>	10 a
<b>test wear-related service life necessary</b>	Yes
<b>proportion of dangerous failures</b>	
<ul style="list-style-type: none"> <li>with low demand rate according to SN 31920</li> </ul>	40 %
<ul style="list-style-type: none"> <li>with high demand rate according to SN 31920</li> </ul>	50 %
<b>B10 value with high demand rate according to SN 31920</b>	5 000
<b>failure rate [FIT] with low demand rate according to SN 31920</b>	50 FIT

**ISO 13849**

<b>device type according to ISO 13849-1</b>	3
<b>overdimensioning according to ISO 13849-2 necessary</b>	Yes

**IEC 61508**

<b>safety device type according to IEC 61508-2</b>	Type A
<b>T1 value</b>	
<ul style="list-style-type: none"> <li>for proof test interval or service life according to IEC 61508</li> </ul>	10 a

**Electrical Safety**

<b>protection class IP on the front according to IEC 60529</b>	IP20
<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front

**Display**

display version for switching status	Handle
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**Approvals Certificates**

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

**Environment** **General Product Approval**







[Environmental Confirmations](#)







**General Product Approval** **Maritime application**

[Confirmation](#)[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=3RV2031-4JB15>**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4JB15>**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2031-4JB15&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4JB15&lang=en)**Cax online generator**<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4JB15>**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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