



Circuit breaker size S2 for motor protection, CLASS 10 with overload relay function A-release 54...65 A N-release 845 A screw terminal Standard switching capacity

<b>product brand name</b>	SIRIUS
<b>product designation</b>	Circuit breaker
<b>design of the product</b>	For motor protection with overload relay function
<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
shock resistance according to IEC 60068-2-27	25g / 11 ms Sinus
<b>mechanical service life (switching cycles)</b>	
• of the main contacts typical	20 000
• of auxiliary contacts typical	20 000
electrical endurance (switching cycles) typical	20 000
<b>reference code according to IEC 81346-2</b>	Q
<b>Substance Prohibitive (Date)</b>	03/01/2017
<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>operating voltage</b>	
• rated value	20 ... 690 V
• at AC-3 rated value maximum	690 V
• at AC-3e rated value maximum	690 V
<b>operating frequency rated value</b>	50 ... 60 Hz
<b>operational current rated value</b>	65 A
<b>operational current</b>	
• at AC-3 at 400 V rated value	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> <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  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> <li>at AC-3e maximum</li> </ul>	15 1/h 15 1/h
<b>Auxiliary circuit</b>	
<b>number of NC contacts for auxiliary contacts</b>	0
<ul style="list-style-type: none"> <li>note</li> </ul>	1
<b>number of NO contacts for auxiliary contacts</b>	0
<ul style="list-style-type: none"> <li>note</li> </ul>	1
<b>Protective and monitoring functions</b>	
<b>product function</b>	
<ul style="list-style-type: none"> <li>ground fault detection</li> <li>phase failure detection</li> </ul>	No Yes
<b>trip class</b>	CLASS 10
<b>design of the overload release</b>	thermal
<b>breaking capacity maximum short-circuit current (I<sub>cu</sub>)</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>breaking capacity operating short-circuit current (I<sub>cs</sub>) 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
<b>UL/CSA ratings</b>	
<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 <ul style="list-style-type: none"> <li>at 200/208 V rated value</li> <li>at 220/230 V rated value</li> <li>at 460/480 V rated value</li> <li>at 575/600 V rated value</li> </ul> </li> </ul>	20 hp 25 hp 50 hp 60 hp
<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 for IT network for short-circuit protection of the main circuit</b>	
<ul style="list-style-type: none"> <li>at 240 V</li> <li>at 400 V</li> <li>at 500 V</li> <li>at 690 V</li> </ul>	none required 160 125 100
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	any

<b>fastening method</b>	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
<b>height</b>	140 mm
<b>width</b>	75 mm
<b>depth</b>	149 mm
<b>required spacing</b>	
<ul style="list-style-type: none"> <li>● for grounded parts at 400 V <ul style="list-style-type: none"> <li>— downwards 50 mm</li> <li>— upwards 50 mm</li> <li>— at the side 10 mm</li> </ul> </li> <li>● for live parts at 400 V <ul style="list-style-type: none"> <li>— downwards 50 mm</li> <li>— upwards 50 mm</li> <li>— at the side 10 mm</li> </ul> </li> <li>● for grounded parts at 500 V <ul style="list-style-type: none"> <li>— downwards 50 mm</li> <li>— upwards 50 mm</li> <li>— at the side 10 mm</li> </ul> </li> <li>● for live parts at 500 V <ul style="list-style-type: none"> <li>— downwards 50 mm</li> <li>— upwards 50 mm</li> <li>— at the side 10 mm</li> </ul> </li> <li>● for grounded parts at 690 V <ul style="list-style-type: none"> <li>— downwards 50 mm</li> <li>— upwards 50 mm</li> <li>— backwards 0 mm</li> <li>— at the side 10 mm</li> <li>— forwards 0 mm</li> </ul> </li> <li>● for live parts at 690 V <ul style="list-style-type: none"> <li>— downwards 50 mm</li> <li>— upwards 50 mm</li> <li>— backwards 0 mm</li> <li>— at the side 10 mm</li> <li>— forwards 0 mm</li> </ul> </li> </ul>	
<b>Connections/ Terminals</b>	
<b>type of electrical connection</b>	
<ul style="list-style-type: none"> <li>● for main current circuit screw-type terminals</li> <li>● for auxiliary and control circuit screw-type terminals</li> </ul>	
<b>arrangement of electrical connectors for main current circuit</b>	Top and bottom
<b>type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>● for main contacts <ul style="list-style-type: none"> <li>— solid or stranded 2x (1 ... 35 mm<sup>2</sup>), 1x (1 ... 50 mm<sup>2</sup>)</li> <li>— finely stranded with core end processing 2x (1 ... 25 mm<sup>2</sup>), 1x (1 ... 35 mm<sup>2</sup>)</li> </ul> </li> <li>● at AWG cables for main contacts 2x (18 ... 2), 1x (18 ... 1)</li> </ul>	
<b>tightening torque</b>	
<ul style="list-style-type: none"> <li>● for main contacts with screw-type terminals 3 ... 4.5 N·m</li> <li>● for auxiliary contacts with screw-type terminals 0.8 ... 1.2 N·m</li> </ul>	
<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 M6</li> <li>● of the auxiliary and control contacts M3</li> </ul>	
<b>Safety related data</b>	
<b>B10 value</b>	
<ul style="list-style-type: none"> <li>● with high demand rate according to SN 31920 5 000</li> </ul>	
<b>proportion of dangerous failures</b>	
<ul style="list-style-type: none"> <li>● with low demand rate according to SN 31920 50 %</li> <li>● with high demand rate according to SN 31920 50 %</li> </ul>	
<b>failure rate [FIT]</b>	

• with low demand rate according to SN 31920	50 FIT
T1 value for proof test interval or service life according to IEC 61508	10 y
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 version for switching status	Handle

### Certificates/ approvals

#### General Product Approval



[Confirmation](#)



[KC](#)



#### Declaration of Conformity

#### Test Certificates

#### Marine / Shipping



EG-Konf.

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



ABS



BUREAU VERITAS

#### Marine / Shipping

#### other



DNV



LRS



PRS



RINA



RMRS

[Confirmation](#)

#### other

#### Railway



VDE

[Confirmation](#)

[Vibration and Shock](#)

### 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=3RV2131-4JA10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2131-4JA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2131-4JA10>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2131-4JA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2131-4JA10&lang=en)

Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2131-4JA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2131-4JA10&objecttype=14&gridview=view1>

last modified:

6/25/2022