



Circuit breaker size S2 for motor protection, CLASS 10 A-release 22...32 A  
N-release 416 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
<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	18 W
• at AC in hot operating state per pole	6 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	50 000
• of auxiliary contacts typical	50 000
electrical endurance (switching cycles) typical	50 000
<b>type of protection according to ATEX directive 2014/34/EU</b>	Ex II (2) GD
certificate of suitability according to ATEX directive 2014/34/EU	DMT 02 ATEX F 001
<b>reference code according to IEC 81346-2</b>	Q
<b>Substance Prohibitance (Date)</b>	10/15/2014
<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>	22 ... 32 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>	32 A
<b>operational current</b>	
• at AC-3 at 400 V rated value	32 A
• at AC-3e at 400 V rated value	32 A
<b>operating power</b>	
• at AC-3	
— at 230 V rated value	7.5 kW
— at 400 V rated value	15 kW
— at 500 V rated value	18.5 kW
— at 690 V rated value	30 kW
• at AC-3e	
— at 230 V rated value	7.5 kW
— at 400 V rated value	15 kW
— at 500 V rated value	18.5 kW
— at 690 V rated value	30 kW
<b>operating frequency</b>	
• at AC-3 maximum	15 1/h
• at AC-3e maximum	15 1/h
<b>Protective and monitoring functions</b>	
<b>product function</b>	
• ground fault detection	No
• phase failure detection	Yes
<b>trip class</b>	CLASS 10
<b>design of the overload release</b>	thermal
<b>breaking capacity maximum short-circuit current (Icu)</b>	
• at AC at 240 V rated value	100 kA
• at AC at 400 V rated value	65 kA
• at AC at 500 V rated value	10 kA
• at AC at 690 V rated value	4 kA
<b>breaking capacity operating short-circuit current (Ics) at AC</b>	
• at 240 V rated value	100 kA
• at 400 V rated value	30 kA
• at 500 V rated value	5 kA
• at 690 V rated value	2 kA
response value current of instantaneous short-circuit trip unit	416 A
<b>UL/CSA ratings</b>	
<b>full-load current (FLA) for 3-phase AC motor</b>	
• at 480 V rated value	32 A
• at 600 V rated value	32 A
<b>yielded mechanical performance [hp]</b>	
• for single-phase AC motor	
— at 110/120 V rated value	3 hp
— at 230 V rated value	5 hp
• for 3-phase AC motor	
— at 200/208 V rated value	10 hp
— at 220/230 V rated value	10 hp
— at 460/480 V rated value	25 hp
— at 575/600 V rated value	30 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>	
• at 240 V	none required
• at 400 V	125
• at 500 V	100
• at 690 V	80

Installation/ mounting/ dimensions	
<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>	55 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>— at the side 10 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>— at the side 10 mm</li> </ul> </li> </ul>	
Connections/ Terminals	
<b>type of electrical connection</b>	
<ul style="list-style-type: none"> <li>● for main current circuit</li> </ul>	screw-type terminals
<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 ... 25 mm<sup>2</sup>), 1x (1 ... 35 mm<sup>2</sup>)</li> <li>— finely stranded with core end processing 2x (1 ... 16 mm<sup>2</sup>), 1x (1 ... 25 mm<sup>2</sup>)</li> </ul> </li> <li>● at AWG cables for main contacts 2x (18 ... 3), 1x (18 ... 2)</li> </ul>	
<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
<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
Safety related data	
<b>B10 value</b>	
<ul style="list-style-type: none"> <li>● with high demand rate according to SN 31920</li> </ul>	5 000
<b>proportion of dangerous failures</b>	
<ul style="list-style-type: none"> <li>● with low demand rate according to SN 31920</li> <li>● with high demand rate according to SN 31920</li> </ul>	50 % 50 %
<b>failure rate [FIT]</b>	
<ul style="list-style-type: none"> <li>● with low demand rate according to SN 31920</li> </ul>	50 FIT
T1 value for proof test interval or service life according to IEC 61508	10 y
<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

## Certificates/ approvals

## General Product Approval

[Confirmation](#)[KC](#)

## For use in hazardous locations

## Declaration of Conformity

## Test Certificates



IECEX



ATEX



EG-Konf.

[Special Test Certificate](#)[Type Test Certificates/Test Report](#)

## Marine / Shipping



ABS

BUREAU  
VERITAS

DNV



LRS



PRS



RINA

## Marine / Shipping

## other

## Railway



RMRS

[Confirmation](#)

VDE

[Vibration and Shock](#)[Confirmation](#)

## 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=3RV2031-4EA10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4EA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4EA10>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2031-4EA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4EA10&lang=en)Characteristic: Tripping characteristics, I<sup>t</sup>, Let-through current<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4EA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4EA10&objecttype=14&gridview=view1>

last modified:

6/25/2022