



Circuit breaker size S2 for motor protection, Class 20 A-release 22...32 A N-release 416 A screw terminal Standard switching capacity with transverse auxiliary switches 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	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>reference code according to IEC 81346-2</b>	Q
<b>Substance Prohibitive (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

<ul style="list-style-type: none"> <li>• at AC-3e at 400 V rated value</li> </ul>	32 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>	7.5 kW 15 kW 18.5 kW 30 kW  7.5 kW 15 kW 18.5 kW 30 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>design of the auxiliary switch</b>	transverse
<b>number of NC contacts for auxiliary contacts</b>	1
<b>number of NO contacts for auxiliary contacts</b>	1
<b>operational current of auxiliary contacts at AC-15</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> <li>• at 230 V</li> </ul>	2 A 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
<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 20
<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>	100 kA 65 kA 10 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	416 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>	32 A 32 A
<b>yielded mechanical performance [hp]</b>	
<ul style="list-style-type: none"> <li>• for single-phase AC motor <ul style="list-style-type: none"> <li>— at 110/120 V rated value</li> <li>— at 230 V rated value</li> </ul> </li> <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>	3 hp 5 hp  10 hp 10 hp 25 hp 30 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)	
<ul style="list-style-type: none"> <li>for short-circuit protection of the auxiliary switch required</li> </ul>		
<b>design of the fuse link for IT network for short-circuit protection of the main circuit</b>	none required 125 100 80	
<ul style="list-style-type: none"> <li>at 240 V</li> </ul>		
<ul style="list-style-type: none"> <li>at 400 V</li> </ul>		
<ul style="list-style-type: none"> <li>at 500 V</li> <li>at 690 V</li> </ul>		
<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>	55 mm	
<b>depth</b>	149 mm	
<b>required spacing</b>	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	
<ul style="list-style-type: none"> <li>for grounded parts at 400 V               <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>at the side</li> </ul> </li> </ul>		
<ul style="list-style-type: none"> <li>for live parts at 400 V               <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>at the side</li> </ul> </li> </ul>		
<ul style="list-style-type: none"> <li>for grounded parts at 500 V               <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>at the side</li> </ul> </li> </ul>		
<ul style="list-style-type: none"> <li>for live parts at 500 V               <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>at the side</li> </ul> </li> </ul>		
<ul style="list-style-type: none"> <li>for grounded parts at 690 V               <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>at the side</li> </ul> </li> </ul>		
<ul style="list-style-type: none"> <li>for live parts at 690 V               <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>at the side</li> </ul> </li> </ul>		
<b>Connections/ Terminals</b>		
<b>type of electrical connection</b>		screw-type terminals
<ul style="list-style-type: none"> <li>for main current circuit</li> <li>for auxiliary and control circuit</li> </ul>		
<b>arrangement of electrical connectors for main current circuit</b>		Top and bottom
<b>type of connectable conductor cross-sections</b>		2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> ) 2x (1 ... 16 mm <sup>2</sup> ), 1x (1 ... 25 mm <sup>2</sup> ) 2x (18 ... 3), 1x (18 ... 2)
<ul style="list-style-type: none"> <li>for main contacts               <ul style="list-style-type: none"> <li>solid or stranded</li> <li>finely stranded with core end processing</li> </ul> </li> </ul>		
<ul style="list-style-type: none"> <li>at AWG cables for main contacts</li> </ul>		
<b>type of connectable conductor cross-sections</b>		2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ) 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ) 2x (20 ... 16), 2x (18 ... 14)
<ul style="list-style-type: none"> <li>for auxiliary contacts               <ul style="list-style-type: none"> <li>solid or stranded</li> <li>finely stranded with core end processing</li> </ul> </li> </ul>		
<ul style="list-style-type: none"> <li>at AWG cables for auxiliary contacts</li> </ul>		

<b>tightening torque</b>	
<ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> <li>• for auxiliary contacts with screw-type terminals</li> </ul>	3 ... 4.5 N·m 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> <li>• of the auxiliary and control contacts</li> </ul>	M6 M3

**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
display version for switching status	Handle

**Certificates/ approvals**

**General Product Approval**



[Confirmation](#)



[KC](#)



**Declaration of Conformity      Test Certificates      Marine / Shipping**



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



**Marine / Shipping      other**



[Confirmation](#)

**other      Railway**



[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=3RV2031-4EB15>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4EB15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4EB15>

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

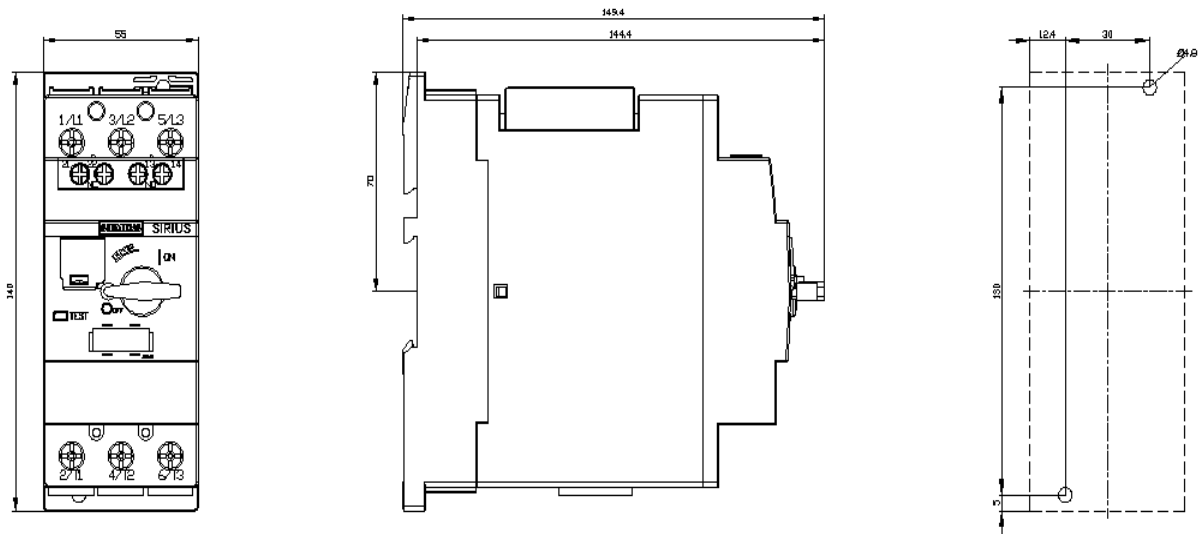
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2031-4EB15&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4EB15&lang=en)

Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4EB15/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4EB15&objecttype=14&gridview=view1>



last modified:

6/25/2022 