

Circuit breaker size S3 for motor protection, CLASS 10 A-release  
75...93 A N-release 1300 A screw terminal Increased switching  
capacity 100 kA



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	S3
Size of contactor can be combined company-specific	S3
Product extension	Yes
<ul style="list-style-type: none"> <li>Auxiliary switch</li> </ul>	Yes
Power loss [W] for rated value of the current	
<ul style="list-style-type: none"> <li>at AC in hot operating state</li> </ul>	39 W
<ul style="list-style-type: none"> <li>at AC in hot operating state per pole</li> </ul>	13 W
Insulation voltage with degree of pollution 3 at AC rated value	1 000 V
Surge voltage resistance rated value	8 kV
maximum permissible voltage for safe isolation	
<ul style="list-style-type: none"> <li>in networks with grounded star point between main and auxiliary circuit</li> </ul>	400 V

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<ul style="list-style-type: none"> <li>• protection class IP on the front</li> </ul>	IP20
<ul style="list-style-type: none"> <li>• Protection class IP of the terminal</li> </ul>	IP00
<b>Shock resistance</b>	
<ul style="list-style-type: none"> <li>• acc. to IEC 60068-2-27</li> </ul>	25g / 11 ms Sinus
<b>Mechanical service life (switching cycles)</b>	
<ul style="list-style-type: none"> <li>• of the main contacts typical</li> </ul>	25 000
<ul style="list-style-type: none"> <li>• of auxiliary contacts typical</li> </ul>	25 000
<b>Electrical endurance (switching cycles)</b>	
<ul style="list-style-type: none"> <li>• typical</li> </ul>	25 000
<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 acc. to DIN EN 81346-2</b>	Q

### Ambient conditions

<b>Installation altitude at height above sea level</b>	
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	2 000 m
<b>Ambient temperature</b>	
<ul style="list-style-type: none"> <li>• during operation</li> </ul>	-20 ... +60 °C
<ul style="list-style-type: none"> <li>• during storage</li> </ul>	-50 ... +80 °C
<ul style="list-style-type: none"> <li>• during transport</li> </ul>	-50 ... +80 °C
<b>Temperature compensation</b>	-20 ... +60 °C
Relative humidity during operation	10 ... 95 %

### Main circuit

<b>Number of poles for main current circuit</b>	3
<b>adjustable pick-up value current of the current-dependent overload release</b>	75 ... 93 A
<b>Operating voltage</b>	
<ul style="list-style-type: none"> <li>• rated value</li> </ul>	690 V
<ul style="list-style-type: none"> <li>• at AC-3 rated value maximum</li> </ul>	690 V
<b>Operating frequency rated value</b>	50 ... 60 Hz
<b>Operating current rated value</b>	93 A
<b>Operating current</b>	
<ul style="list-style-type: none"> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul> </li> </ul>	93 A
<b>Operating power</b>	
<ul style="list-style-type: none"> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul>	45 000 W 55 000 W 90 000 W

<b>Operating frequency</b>	
<ul style="list-style-type: none"> <li>at AC-3 maximum</li> </ul>	15 1/h
<b>Protective and monitoring functions</b>	
<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 10
<b>Design of the overload release</b>	thermal
<b>Operational short-circuit current breaking capacity (Ics) at AC</b>	
<ul style="list-style-type: none"> <li>at 240 V rated value</li> </ul>	100 000 A
<ul style="list-style-type: none"> <li>at 400 V rated value</li> </ul>	50 000 A
<ul style="list-style-type: none"> <li>at 500 V rated value</li> </ul>	5 000 A
<ul style="list-style-type: none"> <li>at 690 V rated value</li> </ul>	3 000 A
<b>Maximum short-circuit current breaking capacity (Icu)</b>	
<ul style="list-style-type: none"> <li>at AC at 240 V rated value</li> </ul>	100 kA
<ul style="list-style-type: none"> <li>at AC at 400 V rated value</li> </ul>	100 kA
<ul style="list-style-type: none"> <li>at AC at 500 V rated value</li> </ul>	10 kA
<ul style="list-style-type: none"> <li>at AC at 690 V rated value</li> </ul>	6 kA
<b>Response value current</b>	
<ul style="list-style-type: none"> <li>of instantaneous short-circuit trip unit</li> </ul>	1 300 A
<b>UL/CSA ratings</b>	
<b>Full-load current (FLA) for three-phase AC motor</b>	
<ul style="list-style-type: none"> <li>at 480 V rated value</li> </ul>	93 A
<ul style="list-style-type: none"> <li>at 600 V rated value</li> </ul>	93 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> </ul>	7.5 hp 20 hp
<ul style="list-style-type: none"> <li>for three-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>	30 hp 40 hp 75 hp 100 hp
<b>Short-circuit protection</b>	
<b>Product function Short circuit protection</b>	Yes
<b>Design of the short-circuit trip</b>	magnetic
<b>Installation/ mounting/ dimensions</b>	
<ul style="list-style-type: none"> <li>mounting position</li> </ul>	any
<b>Mounting type</b>	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715

<b>Height</b>	165 mm
<b>Width</b>	70 mm
<b>Depth</b>	176 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 70 mm</li> <li>— upwards 70 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 400 V <ul style="list-style-type: none"> <li>— downwards 70 mm</li> <li>— upwards 70 mm</li> <li>— Backwards 0 mm</li> <li>— at the side 10 mm</li> <li>— forwards 0 mm</li> </ul> </li> <li>• for grounded parts at 500 V <ul style="list-style-type: none"> <li>— downwards 110 mm</li> <li>— upwards 110 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 500 V <ul style="list-style-type: none"> <li>— downwards 110 mm</li> <li>— upwards 110 mm</li> <li>— Backwards 0 mm</li> <li>— at the side 10 mm</li> <li>— forwards 0 mm</li> </ul> </li> <li>• for grounded parts at 690 V <ul style="list-style-type: none"> <li>— downwards 150 mm</li> <li>— upwards 150 mm</li> <li>— Backwards 0 mm</li> <li>— at the side 30 mm</li> <li>— forwards 0 mm</li> </ul> </li> <li>• for live parts at 690 V <ul style="list-style-type: none"> <li>— downwards 150 mm</li> <li>— upwards 150 mm</li> <li>— Backwards 0 mm</li> <li>— at the side 30 mm</li> </ul> </li> </ul>	

**Connections/ Terminals**

**Product function**

<ul style="list-style-type: none"> <li>removable terminal for auxiliary and control circuit</li> </ul>	No
<ul style="list-style-type: none"> <li>Type of electrical connection 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</li> <li>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> <li>— finely stranded without core end processing</li> </ul> </li> </ul>	2x (2.5 ... 16 mm <sup>2</sup> ) 2x (2,5 ... 50 mm <sup>2</sup> ), 1x (10 ... 70 mm <sup>2</sup> ) 2x (2.5 ... 35 mm <sup>2</sup> ), 1x (2.5 ... 50 mm <sup>2</sup> ) 2x (10 ... 35 mm <sup>2</sup> ), 1x (10 ... 50 mm <sup>2</sup> )
<b>Tightening torque</b> <ul style="list-style-type: none"> <li>for main contacts for ring cable lug</li> </ul>	4.5 ... 6 N·m
<b>Outer diameter of the usable ring cable lug maximum</b>	19 mm
<b>Tightening torque</b> <ul style="list-style-type: none"> <li>for main contacts with screw-type terminals</li> </ul>	4.5 ... 6 N·m

Safety related data	
<b>B10 value</b> <ul style="list-style-type: none"> <li>with high demand rate acc. to SN 31920</li> </ul>	5 000
<b>Proportion of dangerous failures</b> <ul style="list-style-type: none"> <li>with low demand rate acc. to SN 31920</li> <li>with high demand rate acc. to SN 31920</li> </ul>	50 % 50 %
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	10 y
<b>Display version</b> <ul style="list-style-type: none"> <li>for switching status</li> </ul>	Handle

Certificates/ approvals

General Product Approval	For use in hazardous locations
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[KC](#)



For use in hazardous locations	Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



### Marine / Shipping



other	Railway
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[Confirmation](#)



[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=3RV2042-4YA10>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2042-4YA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2042-4YA10>

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

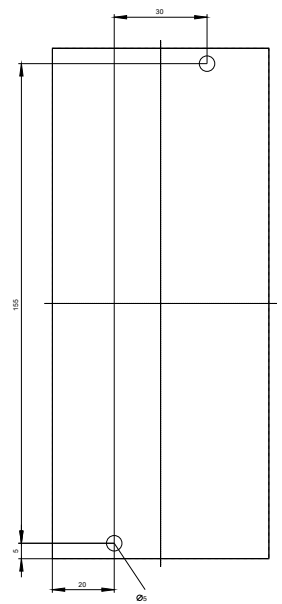
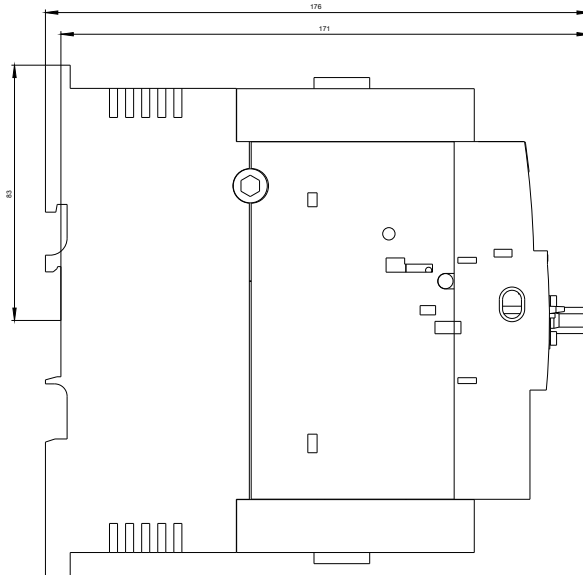
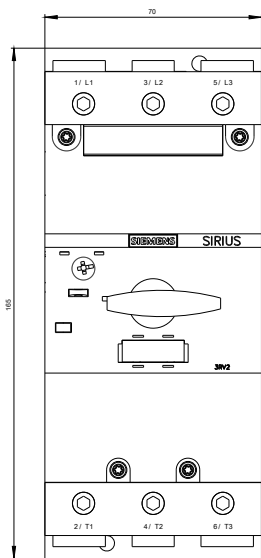
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2042-4YA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2042-4YA10&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2042-4YA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2042-4YA10&objecttype=14&gridview=view1>





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