

Circuit breaker size S3 for motor protection, CLASS 10 A-release  
65...84 A N-release 1170 A screw terminal Increased switching  
capacity 100 kA



Figure similar

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	
• Auxiliary switch	Yes
Power loss [W] total typical	29 W
Insulation voltage with degree of pollution 3 rated value	1 000 V
Surge voltage resistance rated value	8 kV
maximum permissible voltage for safe isolation	
• in networks with grounded star point between main and auxiliary circuit	400 V
• in networks with grounded star point between main and auxiliary circuit	400 V

<b>Protection class IP</b>	
• on the front	IP20
• of the terminal	IP00
<b>Shock resistance</b>	
• acc. to IEC 60068-2-27	25g / 11 ms Sinus
<b>Mechanical service life (switching cycles)</b>	
• of the main contacts typical	25 000
• of auxiliary contacts typical	25 000
<b>Electrical endurance (switching cycles)</b>	
• typical	25 000
Certificate of suitability ATEX	Yes
<b>Protection against electrical shock</b>	finger-safe when touched vertically from front acc. to IEC 60529
<b>Reference code acc. to DIN EN 81346-2</b>	Q

### Ambient conditions

<b>Installation altitude at height above sea level</b>	
• maximum	2 000 m
<b>Ambient temperature</b>	
• during operation	-20 ... +60 °C
• during storage	-50 ... +80 °C
• during transport	-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>	65 ... 84 A
<b>Operating voltage</b>	
• rated value	690 V
• at AC-3 rated value maximum	690 V
<b>Operating frequency rated value</b>	50 ... 60 Hz
<b>Operating current rated value</b>	84 A
<b>Operating current</b>	
• at AC-3	
— at 400 V rated value	84 A
<b>Operating power</b>	
• at AC-3	
— at 230 V rated value	22 000 W
— at 400 V rated value	45 000 W
— at 500 V rated value	55 000 W
— at 690 V rated value	75 000 W
<b>Operating frequency</b>	
• at AC-3 maximum	15 1/h

Protective and monitoring functions	
<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>Operational short-circuit current breaking capacity (Ics) at AC</b>	
• at 240 V rated value	100 000 A
• at 400 V rated value	50 000 A
• at 500 V rated value	5 000 A
• at 690 V rated value	3 000 A
<b>Maximum short-circuit current breaking capacity (Icu)</b>	
• at AC at 240 V rated value	100 kA
• at AC at 400 V rated value	100 kA
• at AC at 500 V rated value	10 kA
• at AC at 690 V rated value	6 kA
<b>Response value current</b>	
• of instantaneous short-circuit trip unit	1 170 A
UL/CSA ratings	
<b>Full-load current (FLA) for three-phase AC motor</b>	
• at 480 V rated value	84 A
• at 600 V rated value	84 A
<b>Yielded mechanical performance [hp]</b>	
• for single-phase AC motor	
— at 110/120 V rated value	7.5 hp
— at 230 V rated value	15 hp
• for three-phase AC motor	
— at 200/208 V rated value	25 hp
— at 220/230 V rated value	30 hp
— at 460/480 V rated value	60 hp
— at 575/600 V rated value	75 hp
Short-circuit protection	
<b>Product function Short circuit protection</b>	Yes
<b>Design of the short-circuit trip</b>	magnetic
Installation/ mounting/ dimensions	
<b>Mounting position</b>	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>• with side-by-side mounting <ul style="list-style-type: none"> <li>— forwards 0 mm</li> <li>— Backwards 0 mm</li> <li>— upwards 150 mm</li> <li>— downwards 150 mm</li> <li>— at the side 0 mm</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards 0 mm</li> <li>— Backwards 0 mm</li> <li>— upwards 150 mm</li> <li>— at the side 30 mm</li> <li>— downwards 150 mm</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards 0 mm</li> <li>— Backwards 0 mm</li> <li>— upwards 150 mm</li> <li>— downwards 150 mm</li> <li>— at the side 30 mm</li> </ul> </li> </ul>	




Connections/Terminals	
<b>Product function</b>	
<ul style="list-style-type: none"> <li>• removable terminal for auxiliary and control circuit</li> </ul>	No
<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 2x (2.5 ... 16 mm<sup>2</sup>)</li> <li>— single or multi-stranded 2x (2,5 ... 50 mm<sup>2</sup>), 1x (10 ... 70 mm<sup>2</sup>)</li> <li>— finely stranded with core end processing 2x (2.5 ... 35 mm<sup>2</sup>), 2.5 ... 50 mm<sup>2</sup></li> </ul> </li> </ul>	
<b>Tightening torque</b>	
<ul style="list-style-type: none"> <li>• for ring cable lug <ul style="list-style-type: none"> <li>— for main contacts 4.5 ... 6 N·m</li> </ul> </li> </ul>	
<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 4.5 ... 6 N·m</li> </ul>	


Safety related data	
<b>B10 value</b>	

• with high demand rate acc. to SN 31920	5 000
<b>Proportion of dangerous failures</b>	
• with low demand rate acc. to SN 31920	50 %
• with high demand rate acc. to SN 31920	50 %
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	10 y
<b>Display version</b>	
• for switching status	Handle

## Certificates/approvals

General Product Approval			For use in hazardous locations		
					
CCC	CSA	UL		ATEX	IECEX

Declaration of Conformity	Test Certificates	Marine / Shipping	other
	<a href="#">Special Test Certificate</a>		<a href="#">Confirmation</a>
EG-Konf.	<a href="#">Declaration of the Compliance with the order</a>	ABS	
			DNVGL.COM/AF

other	Railway
	<a href="#">Miscellaneous</a>
VDE	<a href="#">Vibration and Shock</a>

## Further information

**Information- and Downloadcenter (Catalogs, Brochures,...)**  
<http://www.siemens.com/industrial-controls/catalogs>

**Industry Mall (Online ordering system)**  
<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2042-4RA10>

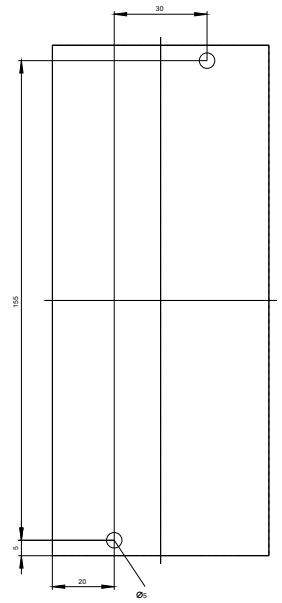
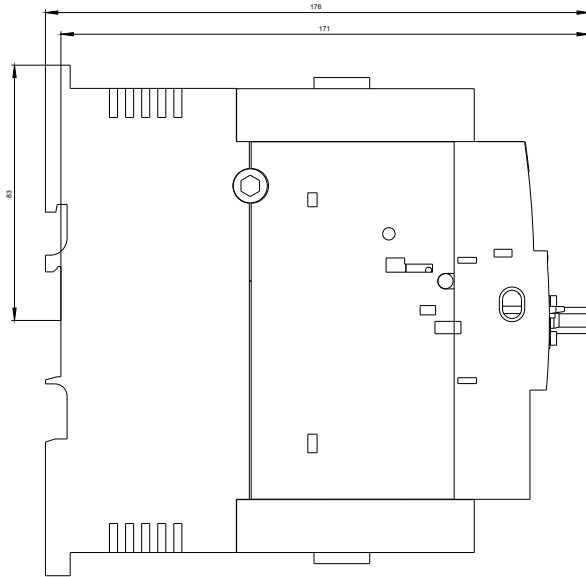
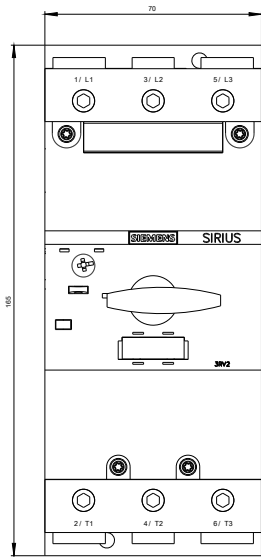
**Cax online generator**  
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2042-4RA10>

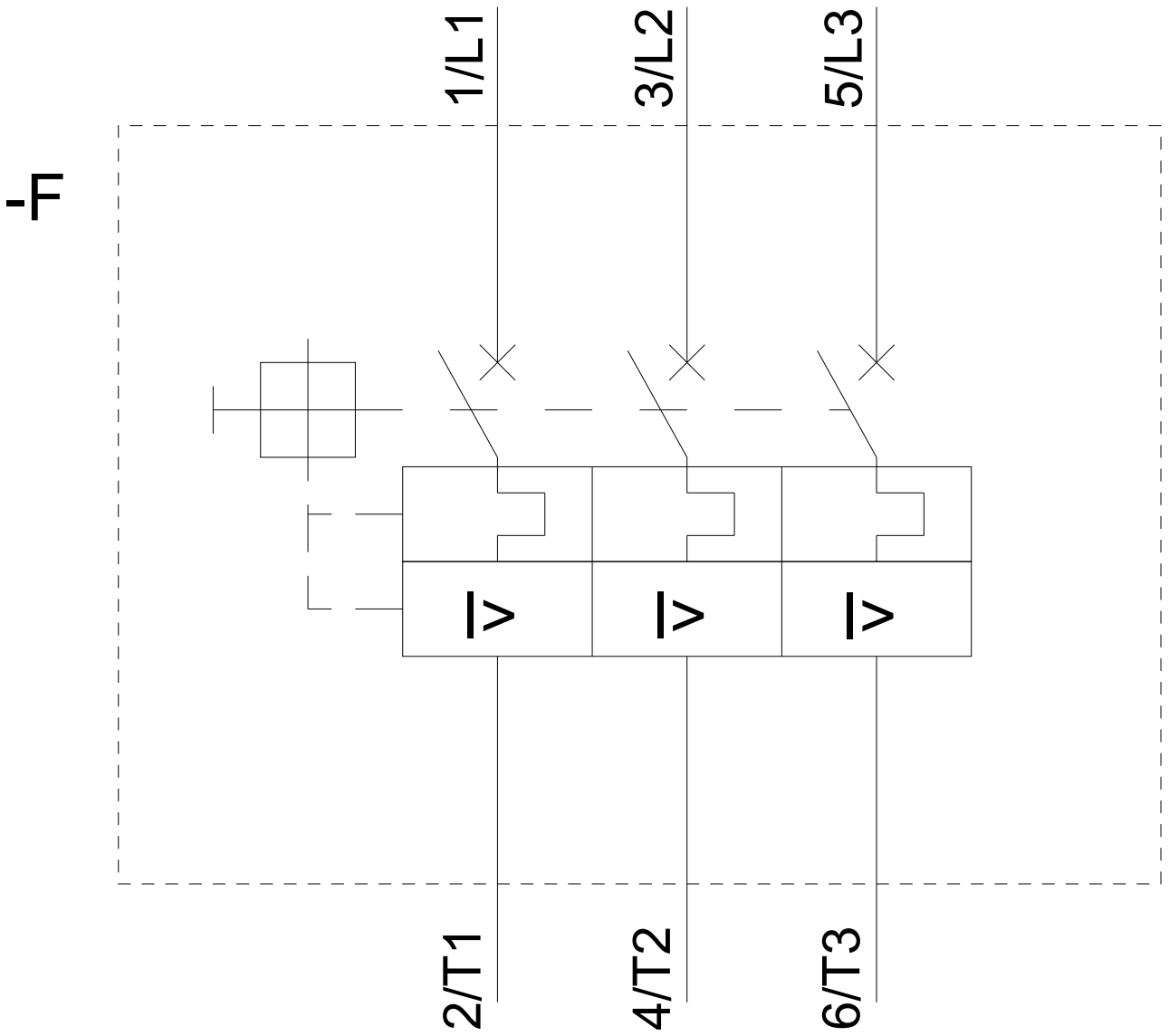
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**  
<https://support.industry.siemens.com/cs/ww/en/ps/3RV2042-4RA10>

**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**  
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2042-4RA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2042-4RA10&lang=en)

**Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**  
<https://support.industry.siemens.com/cs/ww/en/ps/3RV2042-4RA10/char>

**Further characteristics (e.g. electrical endurance, switching frequency)**  
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2042-4RA10&objecttype=14&gridview=view1>





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