



Circuit breaker size S3 for motor protection, Class 20 A-release 57...75 A  
N-release 975 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 auxiliary switch	Yes
power loss [W] for rated value of the current	
• at AC in hot operating state	38 W
• at AC in hot operating state per pole	12.7 W
insulation voltage with degree of pollution 3 at AC rated value	1 000 V
surge voltage resistance rated value	8 kV
shock resistance according to IEC 60068-2-27	25g / 11 ms Sinus
mechanical service life (operating cycles)	
• of the main contacts typical	25 000
• of auxiliary contacts typical	25 000
electrical endurance (operating cycles) typical	25 000
reference code according to IEC 81346-2	Q
Substance Prohibition (Date)	03/01/2017

### Ambient conditions

installation altitude at height above sea level maximum	2 000 m
ambient temperature	
• during operation	-20 ... +60 °C
• during storage	-50 ... +80 °C
• during transport	-50 ... +80 °C
relative humidity during operation	10 ... 95 %

### Main circuit

number of poles for main current circuit	3
adjustable current response value current of the current-dependent overload release	57 ... 75 A
operating voltage	
• rated value	20 ... 690 V
• at AC-3 rated value maximum	690 V
• at AC-3e rated value maximum	690 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	75 A
operational current	
• at AC-3 at 400 V rated value	75 A
• at AC-3e at 400 V rated value	75 A
operating power	

<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>	22 kW 37 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>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>maximum short-circuit current breaking capacity (Icu)</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 100 kA 10 kA 6 kA
<b>operating short-circuit current breaking capacity (Ics) 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 50 kA 5 kA 3 kA
response value current of instantaneous short-circuit trip unit	975 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>	75 A 75 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>	7.5 hp 15 hp 25 hp 30 hp 60 hp 75 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>	
<b>mounting position</b>	any
<b>fastening method</b>	screw and snap-on mounting onto 35 mm DIN 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 at the side</li> <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> <li>• for live parts at 400 V <ul style="list-style-type: none"> <li>— downwards</li> </ul> </li> </ul>	0 mm 70 mm 70 mm 10 mm 70 mm

- upwards 70 mm
- at the side 10 mm
- for grounded parts at 500 V
  - downwards 110 mm
  - upwards 110 mm
  - at the side 10 mm
- for live parts at 500 V
  - downwards 110 mm
  - upwards 110 mm
  - at the side 10 mm
- for grounded parts at 690 V
  - downwards 150 mm
  - upwards 150 mm
  - at the side 30 mm
- for live parts at 690 V
  - downwards 150 mm
  - upwards 150 mm
  - at the side 30 mm

#### Connections/ Terminals

##### type of electrical connection

- for main current circuit

screw-type terminals

##### arrangement of electrical connectors for main current circuit

Top and bottom

##### type of connectable conductor cross-sections

- for main contacts
  - solid
  - solid or stranded
  - finely stranded with core end processing
  - finely stranded without core end processing

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>)

##### tightening torque

- for main contacts for ring cable lug

4.5 ... 6 N·m

##### outer diameter of the usable ring cable lug maximum

19 mm

##### tightening torque

- for main contacts with screw-type terminals

4.5 ... 6 N·m

#### Safety related data

##### B10 value

- with high demand rate according to SN 31920

5 000

##### proportion of dangerous failures

- with low demand rate according to SN 31920
- with high demand rate according to SN 31920

50 %  
 50 %

T1 value for proof test interval or service life according to IEC 61508

10 a

##### protection class IP on the front according to IEC 60529

IP20

##### touch protection on the front according to IEC 60529

display version for switching status

finger-safe, for vertical contact from the front  
 Handle

#### Certificates/ approvals

General Product Approval

Declaration of  
Conformity

[Confirmation](#)



[KC](#)



Declaration of  
Conformity

Test Certificates

Marine / Shipping



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



## Marine / Shipping

other



LRS



PRS



RINA



RMRS

[Confirmation](#)



VDE

## Railway

[Vibration and Shock](#)

[Confirmation](#)

## Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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=3RV2042-4KB10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2042-4KB10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2042-4KB10>

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

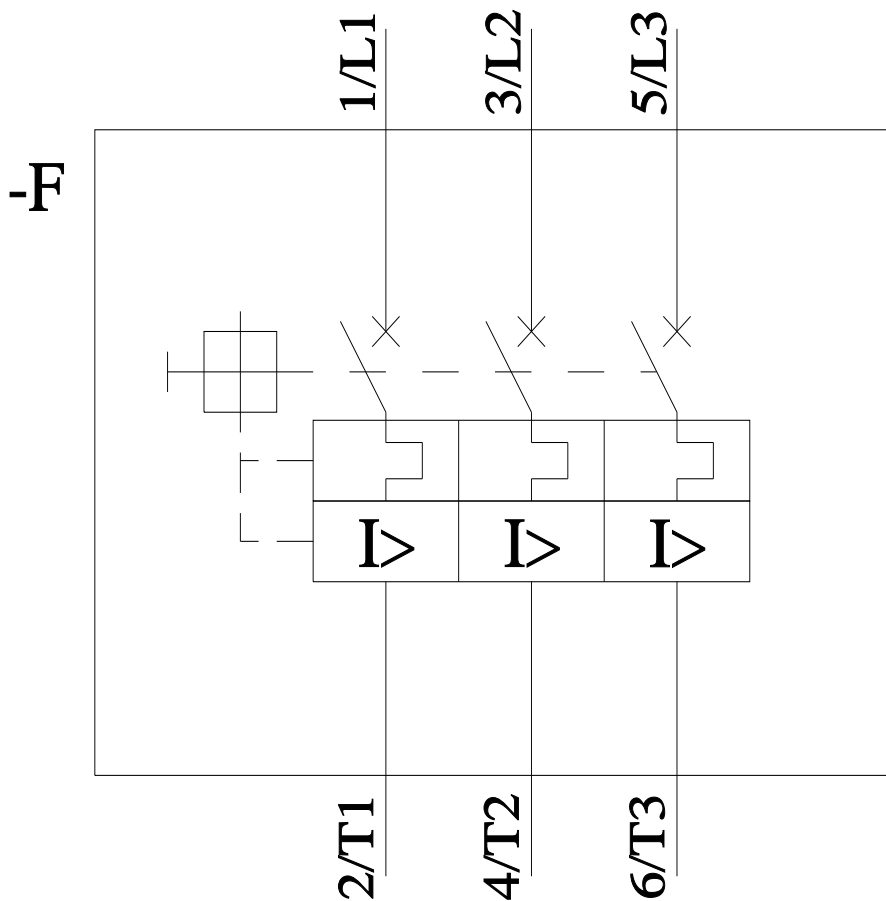
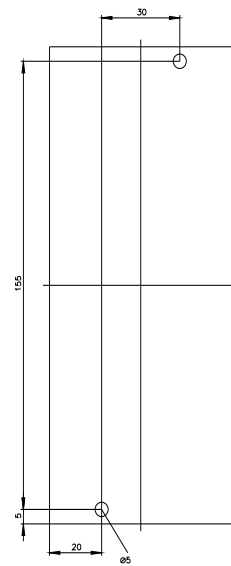
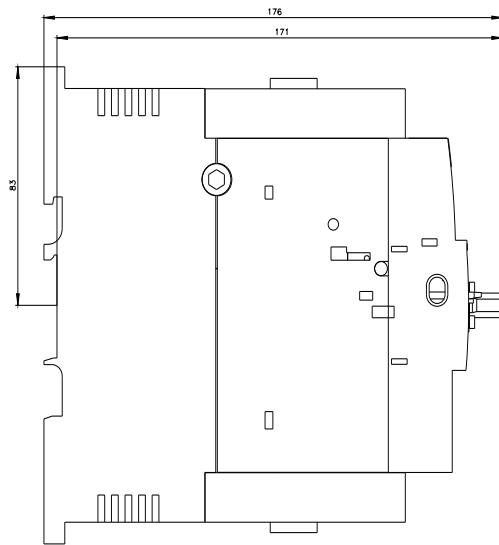
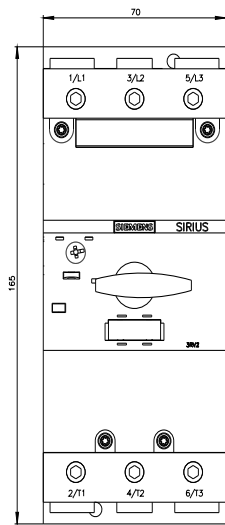
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2042-4KB10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2042-4KB10&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2042-4KB10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2042-4KB10&objecttype=14&gridview=view1>



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