

Circuit breaker size S00 for motor protection, CLASS 10 A-release  
9...12 A N-release 156 A Screw terminal Standard switching capacity



Product brand name	SIRIUS
Product designation	Circuit breaker
Design of the product	For motor protection
Product type designation	3RV1

General technical data	
Size of the circuit-breaker	S00
Size of contactor can be combined company-specific	S00
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>	9.25 W
<ul style="list-style-type: none"> <li>at AC in hot operating state per pole</li> </ul>	3.1 W
Insulation voltage with degree of pollution 3 at AC rated value	690 V
Surge voltage resistance rated value	6 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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<b>Protection class IP</b>	
<ul style="list-style-type: none"> <li>on the front</li> </ul>	IP20
<ul style="list-style-type: none"> <li>of the terminal</li> </ul>	IP00
<b>Mechanical service life (switching cycles)</b>	
<ul style="list-style-type: none"> <li>of the main contacts typical</li> </ul>	100 000
<ul style="list-style-type: none"> <li>of auxiliary contacts typical</li> </ul>	100 000
<b>Electrical endurance (switching cycles)</b>	
<ul style="list-style-type: none"> <li>typical</li> </ul>	100 000
<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>	9 ... 12.5 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>	12.5 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>	12.5 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> </ul> </li> </ul>	3 000 W 5 500 W 5 500 W
<b>Operating frequency</b>	

- at AC-3 maximum

15 1/h

### Auxiliary circuit

#### Number of CO contacts

- for auxiliary contacts

0

### Protective and monitoring functions

#### Product function

- Ground fault detection
- Phase failure detection

No

Yes

#### Trip class

CLASS 10

#### Design of the overload release

thermal

#### Operational short-circuit current breaking capacity (Ics) at AC

- at 240 V rated value
- at 400 V rated value
- at 500 V rated value
- at 690 V rated value

100 000 A

12 500 A

3 000 A

2 000 A

#### Maximum short-circuit current breaking capacity (Icu)

- at AC at 240 V rated value
- at AC at 400 V rated value
- at AC at 500 V rated value
- at AC at 690 V rated value

100 kA

50 kA

3 kA

2 kA

#### Response value current

- of instantaneous short-circuit trip unit

156 A

### UL/CSA ratings

#### Full-load current (FLA) for three-phase AC motor

- at 480 V rated value
- at 600 V rated value

12 A

12 A

#### Yielded mechanical performance [hp]

- for single-phase AC motor
  - at 110/120 V rated value
  - at 230 V rated value
- for three-phase AC motor
  - at 200/208 V rated value
  - at 220/230 V rated value
  - at 460/480 V rated value
  - at 575/600 V rated value

0.5 hp

2 hp

3 hp

3 hp

7.5 hp

10 hp

### Short-circuit protection

#### Product function Short circuit protection

Yes

#### Design of the short-circuit trip

magnetic

#### Design of the fuse link for IT network for short-circuit protection of the main circuit

- |            |            |
|------------|------------|
| • at 240 V | gL/gG 80 A |
| • at 400 V | gL/gG 80 A |
| • at 500 V | gL/gG 50 A |
| • at 690 V | gL/gG 50 A |

### 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>	90 mm
<b>Width</b>	45 mm
<b>Depth</b>	75 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 20 mm</li> <li>— upwards 20 mm</li> <li>— Backwards 0 mm</li> <li>— at the side 9 mm</li> <li>— forwards 0 mm</li> </ul> </li> <li>• for live parts at 400 V <ul style="list-style-type: none"> <li>— downwards 20 mm</li> <li>— upwards 20 mm</li> <li>— Backwards 0 mm</li> <li>— at the side 9 mm</li> <li>— forwards 0 mm</li> </ul> </li> <li>• for grounded parts at 500 V <ul style="list-style-type: none"> <li>— downwards 20 mm</li> <li>— upwards 20 mm</li> <li>— Backwards 0 mm</li> <li>— at the side 9 mm</li> <li>— forwards 0 mm</li> </ul> </li> <li>• for live parts at 500 V <ul style="list-style-type: none"> <li>— downwards 20 mm</li> <li>— upwards 20 mm</li> <li>— Backwards 0 mm</li> <li>— at the side 9 mm</li> <li>— forwards 0 mm</li> </ul> </li> <li>• for grounded parts at 690 V <ul style="list-style-type: none"> <li>— downwards 20 mm</li> <li>— upwards 20 mm</li> <li>— Backwards 0 mm</li> <li>— at the side 9 mm</li> </ul> </li> </ul>	

— forwards	0 mm
• for live parts at 690 V	
— downwards	20 mm
— upwards	20 mm
— Backwards	0 mm
— at the side	9 mm

## Connections/ Terminals

<b>Product function</b>	
• removable terminal for auxiliary and control circuit	No
<b>Type of electrical connection</b>	
• for main current circuit	screw-type terminals
<b>Arrangement of electrical connectors for main current circuit</b>	Top and bottom
<b>Type of connectable conductor cross-sections</b>	
• for main contacts	
— single or multi-stranded	2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ), 2x (1 ... 4 mm <sup>2</sup> )
— finely stranded with core end processing	2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )
<b>Type of connectable conductor cross-sections</b>	
• for auxiliary contacts	
— single or multi-stranded	2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> )
<b>Tightening torque</b>	
• for main contacts with screw-type terminals	0.8 ... 1.2 N·m
• for auxiliary contacts with screw-type terminals	0.8 ... 1.2 N·m
<b>Size of the screwdriver tip</b>	Pozidriv 2
<b>Design of the thread of the connection screw</b>	
• for main contacts	M3

## 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>Failure rate [FIT]</b>	
• with low demand rate acc. to SN 31920	50 FIT
<b>Display version</b>	
• for switching status	Rocker switch

## Certificates/ approvals

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

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping	other
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[Miscellaneous](#)

[Confirmation](#)

other	Railway
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[Special Test Certificate](#)

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=3RV1011-1KA10>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV1011-1KA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV1011-1KA10>

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

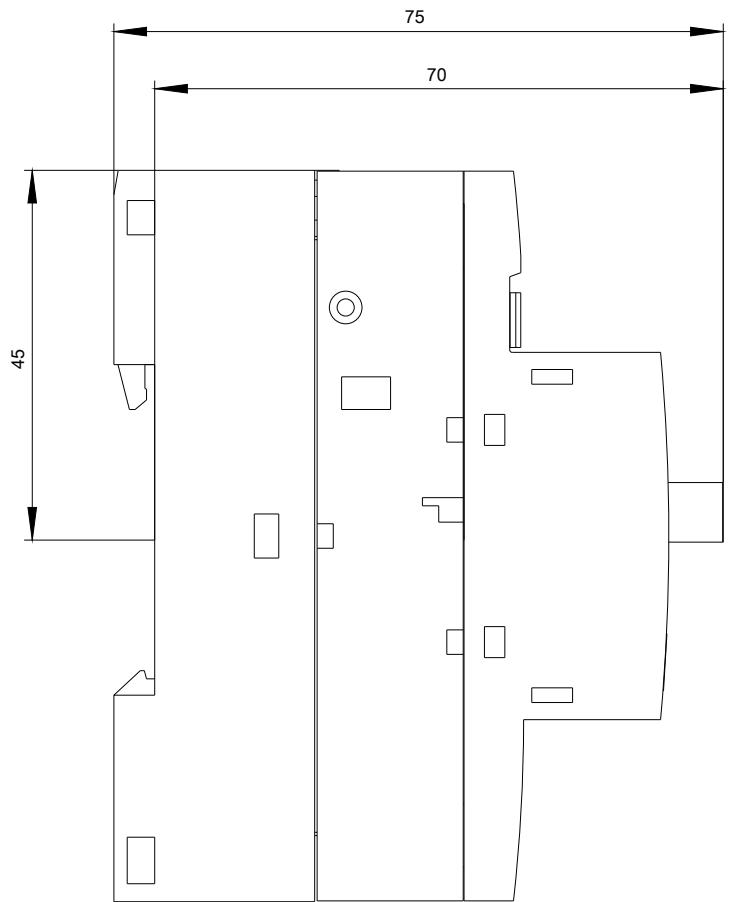
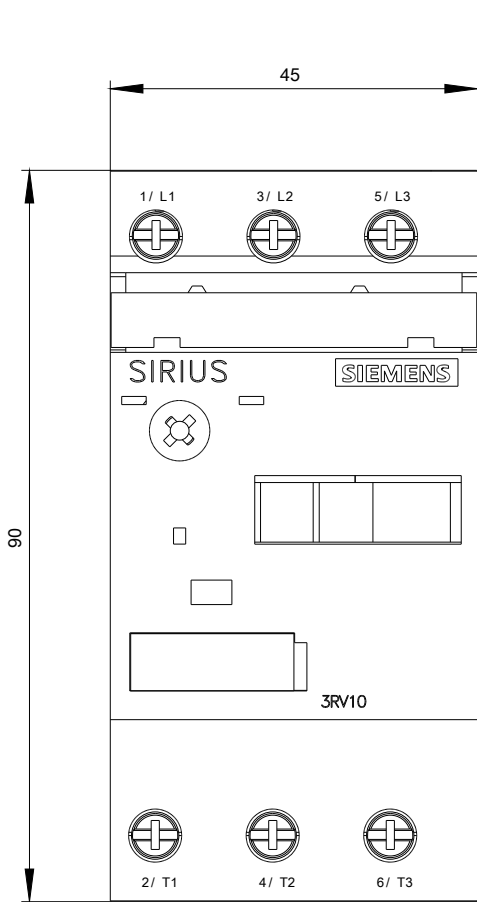
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV1011-1KA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV1011-1KA10&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV1011-1KA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV1011-1KA10&objecttype=14&gridview=view1>





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