

Circuit breaker size S3 for motor protection, CLASS 10 A release  
36...50 A N release 650 A Screw-type connection Standard switching  
capacity

<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

### General technical data

<b>Size of the circuit-breaker</b>	S3
<b>Size of contactor can be combined company-specific</b>	S3
<b>Product extension</b>	
• Auxiliary switch	Yes
<b>Power loss [W] total typical</b>	21 W
Insulation voltage with degree of pollution 3 rated value	1 000 V
<b>Surge voltage resistance rated value</b>	8 kV
<b>maximum permissible voltage for safe isolation</b>	
• in networks with grounded star point between main and auxiliary circuit	400 V
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<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
<b>Protection against electrical shock</b>	finger-safe when touched vertically from front acc. to IEC 60529
Equipment marking acc. to DIN EN 81346-2	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

<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>	36 ... 50 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>	50 A
<b>Operating current</b>	
<ul style="list-style-type: none"> <li>at AC-3</li> </ul>	
<ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul>	50 A
<b>Operating power</b>	
<ul style="list-style-type: none"> <li>at AC-3</li> </ul>	
<ul style="list-style-type: none"> <li>— at 230 V rated value</li> </ul>	11 000 W
<ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul>	22 000 W
<ul style="list-style-type: none"> <li>— at 500 V rated value</li> </ul>	30 000 W
<ul style="list-style-type: none"> <li>— at 690 V rated value</li> </ul>	45 000 W
<b>Operating frequency</b>	
<ul style="list-style-type: none"> <li>at AC-3 maximum</li> </ul>	15 1/h

### Protective and monitoring functions

<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>	30 000 A
<ul style="list-style-type: none"> <li>at 500 V rated value</li> </ul>	6 000 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>	65 kA
<ul style="list-style-type: none"> <li>at AC at 500 V rated value</li> </ul>	12 kA
<ul style="list-style-type: none"> <li>at AC at 690 V rated value</li> </ul>	5 kA
<b>Response value current</b>	

- of instantaneous short-circuit trip unit 650 A

### UL/CSA ratings

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

- at 480 V rated value 50 A
- at 600 V rated value 50 A

#### Yielded mechanical performance [hp]

- for single-phase AC motor
  - at 110/120 V rated value 5 hp
  - at 230 V rated value 10 hp
- for three-phase AC motor
  - at 200/208 V rated value 15 hp
  - at 220/230 V rated value 20 hp
  - at 460/480 V rated value 40 hp
  - at 575/600 V rated value 50 hp

### Short-circuit protection

#### Product function Short circuit protection

Yes

#### Design of the short-circuit trip

magnetic

### Installation/ mounting/ dimensions

#### Mounting position

any

#### Mounting type

screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715

#### Height

165 mm

#### Width

70 mm

#### Depth

176 mm

#### Required spacing

- with side-by-side mounting
  - forwards 0 mm
  - Backwards 0 mm
  - upwards 150 mm
  - downwards 150 mm
  - at the side 0 mm
- for grounded parts
  - forwards 0 mm
  - Backwards 0 mm
  - upwards 150 mm
  - at the side 30 mm
  - downwards 150 mm
- for live parts
  - forwards 0 mm
  - Backwards 0 mm
  - upwards 150 mm

- downwards
- at the side

150 mm  
30 mm

## 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</li> <li>— single or multi-stranded</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> )
<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</li> </ul> </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>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				Declaration of Conformity	Test Certificates
 CCC	 CSA	 UL		 EG-Konf.	<a href="#">Special Test Certificate</a>

Test Certificates	other		Railway
<a href="#">Declaration of the Compliance with the order</a>	<a href="#">Confirmation</a>	 VDE	<a href="#">Miscellaneous</a> <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?mfb=3RV2041-4HA10>

**Cax online generator**  
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RV2041-4HA10>

**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**  
<https://support.industry.siemens.com/cs/ww/en/ps/3RV2041-4HA10>

**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**  
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mfb=3RV2041-4HA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3RV2041-4HA10&lang=en)

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