



Circuit breaker size S3 for starter combination Rated current 50 A N-release 650 A screw terminal Standard switching capacity

<b>product brand name</b>	SIRIUS
<b>product designation</b>	Circuit breaker
<b>design of the product</b>	For starter combinations
<b>product type designation</b>	3RV2
<b>General technical data</b>	
<b>Product equipment of circuit breaker for motor protection complete unit with protection device</b>	Yes
<b>size of the circuit-breaker</b>	S3
<b>size of contactor can be combined company-specific</b>	S3
product function disconnecter functionality	Yes
product extension auxiliary switch	Yes
<b>power loss [W] for rated value of the current</b>	
• at AC in hot operating state	27 W
• at AC in hot operating state per pole	9 W
<b>type of calculation of power loss current-dependent</b>	quadratic
insulation voltage with degree of pollution 3 at AC rated value	1 000 V
<b>surge voltage resistance rated value</b>	8 kV
<b>maximum permissible voltage for protective separation</b>	
• in networks with ungrounded 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 according to IEC 60529	IP20
• on the front	IP20
• of the terminal	IP00
<b>shock resistance according to IEC 60068-2-27</b>	25 g / 11 ms Sinus
<b>mechanical service life (operating cycles)</b>	
• of the main contacts typical	25 000
• of auxiliary contacts typical	25 000
electrical endurance (operating cycles) typical	25 000
<b>reference code according to IEC 81346-2</b>	Q
<b>continuous current rated value</b>	50 A
<b>Substance Prohibitance (day/month/year)</b>	03/01/2017
<b>SVHC substance name</b>	Lead CAS-No. 7439-92-1
<b>Net Weight</b>	2.214 kg
<b>Ambient conditions</b>	

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

### Main circuit

<b>number of poles for main current circuit</b>	3
<b>type of voltage for main current circuit</b>	AC
<b>operating voltage</b>	
• rated value	690 V
• rated value	20 ... 690 V
• at AC-3 rated value maximum	690 V
• at AC-3e rated value maximum	690 V
<b>operating frequency rated value</b>	50 ... 60 Hz
<b>operational current rated value</b>	50 A
<b>operational current</b>	
• at AC-3 at 400 V rated value	50 A
• at AC-3e at 400 V rated value	50 A
<b>operating power</b>	
• at AC-3	
— at 230 V rated value	11 kW
— at 400 V rated value	22 kW
— at 500 V rated value	30 kW
— at 690 V rated value	45 kW
• at AC-3e	
— at 230 V rated value	11 kW
— at 400 V rated value	22 kW
— at 500 V rated value	30 kW
— at 690 V rated value	45 kW
<b>operating frequency</b>	
• at AC-3 maximum	15 1/h
• at AC-3e maximum	15 1/h

### Auxiliary circuit

<b>type of voltage for auxiliary and control circuit</b>	AC/DC
<b>number of NC contacts for auxiliary contacts</b>	0
<b>number of NO contacts for auxiliary contacts</b>	0
number of CO contacts for auxiliary contacts	0

### Protective and monitoring functions

<b>product function</b>	
• ground fault detection	No
• phase failure detection	No
<b>protection function thermal overload protection (ANSI 49)</b>	No
<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	65 kA
• at AC at 500 V rated value	12 kA
• at AC at 690 V rated value	6 kA
<b>operating short-circuit current breaking capacity (Ics) at AC</b>	
• at 240 V rated value	100 kA
• at 400 V rated value	30 kA
• at 500 V rated value	6 kA
• at 690 V rated value	3 kA
response value current of instantaneous short-circuit trip unit	650 A

### UL/CSA ratings

<b>full-load current (FLA) for 3-phase AC motor</b>	
• at 480 V rated value	50 A
• at 600 V rated value	50 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>	<p>5 hp</p> <p>10 hp</p> <p>15 hp</p> <p>20 hp</p> <p>40 hp</p> <p>50 hp</p>
<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>Mounting method of circuit breaker for Transformer protection, Generator protection and system protection optional standard bar mounting</b>	Yes
<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</li> <li>— backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> <li>● for grounded parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> <li>● for live parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </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> <li>— upwards</li> <li>— at the side</li> </ul> </li> <li>● for grounded parts at 500 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 500 V <ul style="list-style-type: none"> <li>— downwards</li> <li>— upwards</li> <li>— at the side</li> </ul> </li> <li>● for grounded parts at 690 V <ul style="list-style-type: none"> <li>— downwards</li> <li>— upwards</li> <li>— backwards</li> </ul> </li> </ul>	<p>0 mm</p> <p>0 mm</p> <p>150 mm</p> <p>150 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>150 mm</p> <p>30 mm</p> <p>150 mm</p> <p>0 mm</p> <p>0 mm</p> <p>150 mm</p> <p>150 mm</p> <p>30 mm</p> <p>70 mm</p> <p>70 mm</p> <p>10 mm</p> <p>70 mm</p> <p>70 mm</p> <p>10 mm</p> <p>110 mm</p> <p>110 mm</p> <p>10 mm</p> <p>110 mm</p> <p>110 mm</p> <p>10 mm</p> <p>150 mm</p> <p>150 mm</p> <p>0 mm</p>

— at the side	30 mm
— forwards	0 mm
● for live parts at 690 V	
— downwards	150 mm
— upwards	150 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
<b>Connections/ Terminals</b>	
<b>product component removable terminal for auxiliary and control circuit</b>	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	
— solid	2x (2.5 ... 16 mm <sup>2</sup> )
— solid or stranded	2x (2.5 ... 50 mm <sup>2</sup> ), 1x (10 ... 70 mm <sup>2</sup> )
— finely stranded with core end processing	2x (2.5 ... 35 mm <sup>2</sup> ), 1x (2.5 ... 50 mm <sup>2</sup> )
— finely stranded without core end processing	2x (10 ... 35 mm <sup>2</sup> ), 1x (10 ... 50 mm <sup>2</sup> )
<b>connectable conductor cross-section for main contacts</b>	
● finely stranded with core end processing	2.5 ... 50 mm <sup>2</sup>
● finely stranded without core end processing	10 ... 50 mm <sup>2</sup>
<b>AWG number as coded connectable conductor cross section for main contacts</b>	10 ... 2
<b>tightening torque</b>	
● for main contacts for ring cable lug	4.5 ... 6 N·m
<b>outer diameter of the usable ring cable lug maximum</b>	19 mm
<b>tightening torque</b>	
● for main contacts with screw-type terminals	4.5 ... 6 N·m
<b>Safety related data</b>	
product function suitable for safety function	Yes
<b>suitability for use</b>	
● safety-related switching on	No
● safety-related switching OFF	Yes
<b>service life maximum</b>	10 a
<b>test wear-related service life necessary</b>	Yes
<b>proportion of dangerous failures</b>	
● with low demand rate according to SN 31920	40 %
● with high demand rate according to SN 31920	50 %
<b>B10 value with high demand rate according to SN 31920</b>	5 000
<b>failure rate [FIT] with low demand rate according to SN 31920</b>	50 FIT
<b>ISO 13849</b>	
<b>device type according to ISO 13849-1</b>	3
<b>overdimensioning according to ISO 13849-2 necessary</b>	Yes
<b>IEC 61508</b>	
<b>safety device type according to IEC 61508-2</b>	Type A
<b>T1 value</b>	
● for proof test interval or service life according to IEC 61508	10 a
<b>Electrical Safety</b>	
<b>protection class IP on the front according to IEC 60529</b>	IP20
<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front
<b>Display</b>	
display version for switching status	Handle
<b>Approvals Certificates</b>	
<b>Environmental Product Declaration</b>	
● global warming potential [CO <sub>2</sub> eq] / during manufacturing	18.5 kg

- global warming potential [CO2 eq] / during sales 1.24 kg
- global warming potential [CO2 eq] / during operation 265 kg
- global warming potential [CO2 eq] / after end of life -1.5 kg
- global warming potential [CO2 eq] / total 283.24 kg

Environment

General Product Approval

[Environmental Confirmations](#)



General Product Approval

Test Certificates



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

Maritime application



other

Railway

[Confirmation](#)

[Miscellaneous](#)

[Confirmation](#)

[Miscellaneous](#)



[Special Test Certificate](#)

Further information

Information on the packaging

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

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RV2341-4HC10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2341-4HC10>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2341-4HC10&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2341-4HC10&lang=en)

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2341-4HC10>

Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp\\_prod\\_noCOMP="HAUPT"></mmp\\_prod\\_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)



