



Circuit breaker size S0 for starter combination Rated current 6.3 A N-release 82 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>	S0
<b>size of contactor can be combined company-specific</b>	S00, S0
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	7.25 W
• at AC in hot operating state per pole	2.4 W
<b>type of calculation of power loss current-dependent</b>	quadratic
insulation voltage with degree of pollution 3 at AC rated value	690 V
<b>surge voltage resistance rated value</b>	6 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	IP20
<b>shock resistance according to IEC 60068-2-27</b>	25g / 11 ms
<b>mechanical service life (operating cycles)</b>	
• of the main contacts typical	100 000
• of auxiliary contacts typical	100 000
electrical endurance (operating cycles) typical	100 000
<b>reference code according to IEC 81346-2</b>	Q
<b>continuous current rated value</b>	6.3 A
<b>Substance Prohibitance (day/month/year)</b>	10/01/2009
<b>Net Weight</b>	0.352 g
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	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
relative humidity during operation	10 ... 95 %
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	3
<b>type of voltage for main current circuit</b>	AC
<b>operating voltage</b>	
<ul style="list-style-type: none"> <li>rated value</li> </ul>	690 V
<ul style="list-style-type: none"> <li>rated value</li> </ul>	20 ... 690 V
<ul style="list-style-type: none"> <li>at AC-3 rated value maximum</li> </ul>	690 V
<ul style="list-style-type: none"> <li>at AC-3e rated value maximum</li> </ul>	690 V
<b>operating frequency rated value</b>	50 ... 60 Hz
<b>operational current rated value</b>	6.3 A
<b>operational current</b>	
<ul style="list-style-type: none"> <li>at AC-3 at 400 V rated value</li> </ul>	6.3 A
<ul style="list-style-type: none"> <li>at AC-3e at 400 V rated value</li> </ul>	6.3 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> <li>at 690 V rated value</li> </ul> </li> </ul>	1.5 kW 2.2 kW 3 kW 4 kW
<ul style="list-style-type: none"> <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>	1.5 kW 2.2 kW 3 kW 4 kW
<b>operating frequency</b>	
<ul style="list-style-type: none"> <li>at AC-3 maximum</li> </ul>	15 1/h
<ul style="list-style-type: none"> <li>at AC-3e maximum</li> </ul>	15 1/h
<b>Auxiliary circuit</b>	
<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
<b>Protective and monitoring functions</b>	
<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>	No
<b>protection function thermal overload protection (ANSI 49)</b>	No
<b>maximum short-circuit current breaking capacity (I<sub>cu</sub>)</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 100 kA 6 kA
<b>operating short-circuit current breaking capacity (I<sub>cs</sub>) 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 100 kA 100 kA 4 kA
response value current of instantaneous short-circuit trip unit	82 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>	6.3 A 6.3 A
<b>yielded mechanical performance [hp]</b>	
<ul style="list-style-type: none"> <li>for single-phase AC motor</li> </ul>	

— at 110/120 V rated value	0.25 hp
— at 230 V rated value	0.5 hp
● for 3-phase AC motor	
— at 200/208 V rated value	1 hp
— at 220/230 V rated value	1.5 hp
— at 460/480 V rated value	3 hp
— at 575/600 V rated value	5 hp
<b>UL File Number (CCN)</b>	E47705 (NLRV, NLRV7)
<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>	97 mm
<b>width</b>	45 mm
<b>depth</b>	97 mm
<b>required spacing</b>	
● with side-by-side mounting	
— forwards	0 mm
— backwards	0 mm
— upwards	50 mm
— downwards	50 mm
— at the side	0 mm
● for grounded parts	
— forwards	0 mm
— backwards	0 mm
— upwards	50 mm
— at the side	30 mm
— downwards	50 mm
● for live parts	
— forwards	0 mm
— backwards	0 mm
— upwards	50 mm
— downwards	50 mm
— at the side	30 mm
● for grounded parts at 400 V	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
● for live parts at 400 V	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
● for grounded parts at 500 V	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
● for live parts at 500 V	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
● for grounded parts at 690 V	
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm

— at the side	30 mm
— forwards	0 mm
● for live parts at 690 V	
— downwards	50 mm
— upwards	50 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 or stranded	2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 10 mm <sup>2</sup> )
— finely stranded with core end processing	2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup>
● for AWG cables for main contacts	2x (16 ... 12), 2x (14 ... 8)
<b>connectable conductor cross-section for main contacts</b>	
● solid or stranded	0.75 ... 4 mm <sup>2</sup>
● finely stranded with core end processing	0.5 ... 2.5 mm <sup>2</sup>
<b>AWG number as coded connectable conductor cross section for main contacts</b>	18 ... 12
<b>tightening torque</b>	
● for main contacts with screw-type terminals	2 ... 2.5 N·m
<b>design of screwdriver shaft</b>	Diameter 5 to 6 mm
<b>size of the screwdriver tip</b>	Pozidriv size 2
<b>design of the thread of the connection screw</b>	
● for main contacts	M4
<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	2.68 kg

- global warming potential [CO2 eq] / during sales
- global warming potential [CO2 eq] / during operation
- global warming potential [CO2 eq] / after end of life
- global warming potential [CO2 eq] / total

0.143 kg  
72.7 kg  
-0.445 kg  
75.078 kg

**Environment** **General Product Approval**

[Environmental Confirmations](#)



**General Product Approval** **Test Certificates**



[Type Test Certificates/Test Report](#)

**Test Certificates** **Maritime application**

[Special Test Certificate](#)



**Maritime application** **other** **Railway**



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**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=3RV2321-1GC10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2321-1GC10>

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

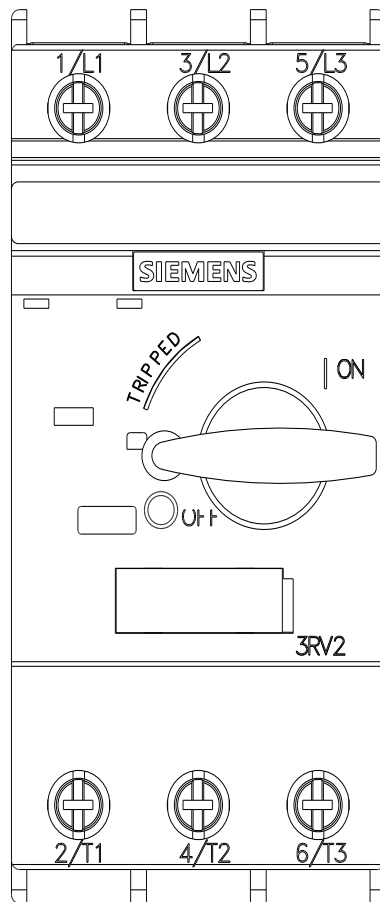
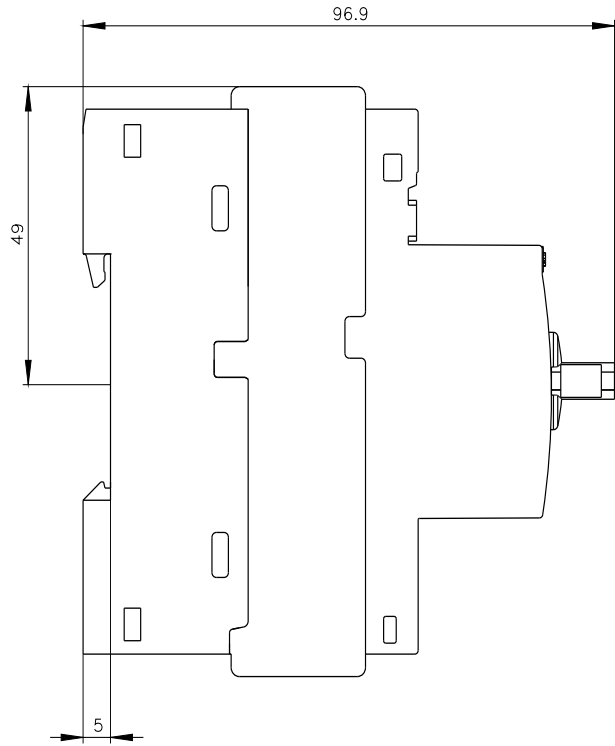
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**Cax online generator**

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2321-1GC10>

**Characteristic curves**

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last modified:

5/5/2026 