

Circuit breaker size S0 for motor protection, CLASS 10 A-release
16...22 A N-release 286 A ring cable lug connection Standard
switching capacity



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	S0
Size of contactor can be combined company-specific	S00, S0
Product extension	
• Auxiliary switch	Yes
Power loss [W] total typical	8 W
Insulation voltage with degree of pollution 3 rated value	690 V
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
• in networks with grounded star point between main and auxiliary circuit	400 V
• in networks with grounded star point between main and auxiliary circuit	400 V
Protection class IP	

<ul style="list-style-type: none"> • on the front • of the terminal 	<p>IP00</p> <p>IP00</p>
Shock resistance	
<ul style="list-style-type: none"> • acc. to IEC 60068-2-27 	25g / 11 ms
Mechanical service life (switching cycles)	
<ul style="list-style-type: none"> • of the main contacts typical • of auxiliary contacts typical 	<p>100 000</p> <p>100 000</p>
Electrical endurance (switching cycles)	
<ul style="list-style-type: none"> • typical 	100 000
Certificate of suitability ATEX	Yes
Reference code acc. to DIN EN 81346-2	Q

Ambient conditions

Installation altitude at height above sea level	
<ul style="list-style-type: none"> • maximum 	2 000 m
Temperature compensation	-20 ... +60 °C
Relative humidity during operation	10 ... 95 %

Main circuit

Number of poles for main current circuit	3
Adjustable pick-up value current of the current-dependent overload release	16 ... 22 A
Operating voltage	
<ul style="list-style-type: none"> • rated value • at AC-3 rated value maximum 	<p>690 V</p> <p>690 V</p>
Operating frequency rated value	50 ... 60 Hz
Operating current rated value	22 A
Operating current	
<ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value 	22 A
Operating power	
<ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value 	<p>5 500 W</p> <p>11 000 W</p> <p>11 000 W</p> <p>18 500 W</p>
Operating frequency	
<ul style="list-style-type: none"> • at AC-3 maximum 	15 1/h

Auxiliary circuit

Number of NC contacts for auxiliary contacts	0
Number of NO contacts for auxiliary contacts	0
Number of CO contacts	
<ul style="list-style-type: none"> • for auxiliary contacts 	0

Protective and monitoring functions

Product function	
<ul style="list-style-type: none"> • Ground fault detection • Phase failure detection 	<p>No</p> <p>Yes</p>
(trip class)	CLASS 10
Design of the overload release	thermal
Operational short-circuit current breaking capacity (Ics) at AC	
<ul style="list-style-type: none"> • at 240 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value 	<p>100 kA</p> <p>25 kA</p> <p>5 kA</p> <p>2 kA</p>
Maximum short-circuit current breaking capacity (Icu)	
<ul style="list-style-type: none"> • 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 	<p>100 kA</p> <p>55 kA</p> <p>10 kA</p> <p>4 kA</p>
Breaking capacity short-circuit current (Icn)	
<ul style="list-style-type: none"> • at 1 current path at DC at 150 V rated value • with 2 current paths in series at DC at 300 V rated value • with 3 current paths in series at DC at 450 V rated value 	<p>10 kA</p> <p>10 kA</p> <p>10 kA</p>
Response value current	
<ul style="list-style-type: none"> • of instantaneous short-circuit trip unit 	286 A

UL/CSA ratings

Full-load current (FLA) for three-phase AC motor	
<ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value 	<p>22 A</p> <p>22 A</p>
Yielded mechanical performance [hp]	
<ul style="list-style-type: none"> • for single-phase AC motor <ul style="list-style-type: none"> — at 110/120 V rated value — at 230 V rated value • for three-phase AC motor <ul style="list-style-type: none"> — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value 	<p>1.5 hp</p> <p>3 hp</p> <p>7.5 hp</p> <p>7.5 hp</p> <p>15 hp</p>

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 400 V
- at 500 V
- at 690 V

gL/gG 63 A
gL/gG 50 A
gL/gG 50 A

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)	97 mm
Width	45 mm
Depth	97 mm
Required spacing	
• 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

Connections/Terminals

Product function	
• removable terminal for auxiliary and control circuit	No
Type of electrical connection	
• for main current circuit	Ring cable lug connection
• for auxiliary and control current circuit	ring cable connection
Arrangement of electrical connectors for main current circuit	Top and bottom
Tightening torque	
• for ring cable lug	
— for main contacts	2 ... 2.5 N·m

— for auxiliary contacts	1.2 ... 0.8 N·m
Outer diameter of the usable ring cable lug maximum	7.5 mm
Design of screwdriver shaft	Diameter 5 to 6 mm
Size of the screwdriver tip	Size 2 and Pozidriv 2
Design of the thread of the connection screw	
• for main contacts	M4
• of the auxiliary and control contacts	M3

Safety related data	
B10 value	
• with high demand rate acc. to SN 31920	5 000
Proportion of dangerous failures	
• with low demand rate acc. to SN 31920	50 %
• with high demand rate acc. to SN 31920	50 %
Failure rate [FIT]	
• with low demand rate acc. to SN 31920	50 FIT
T1 value for proof test interval or service life acc. to IEC 61508	10 y
Display version	
• for switching status	Handle

Certificates/approvals

General Product Approval	For use in hazardous locations
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[KC](#)



For use in hazardous locations	Declaration of Conformity	Test Certificates	Marine / Shipping
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[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Marine / Shipping	other
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[Confirmation](#)

other	Railway
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[Vibration and Shock](#)

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?mlfb=3RV2021-4CA40>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4CA40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4CA40>

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

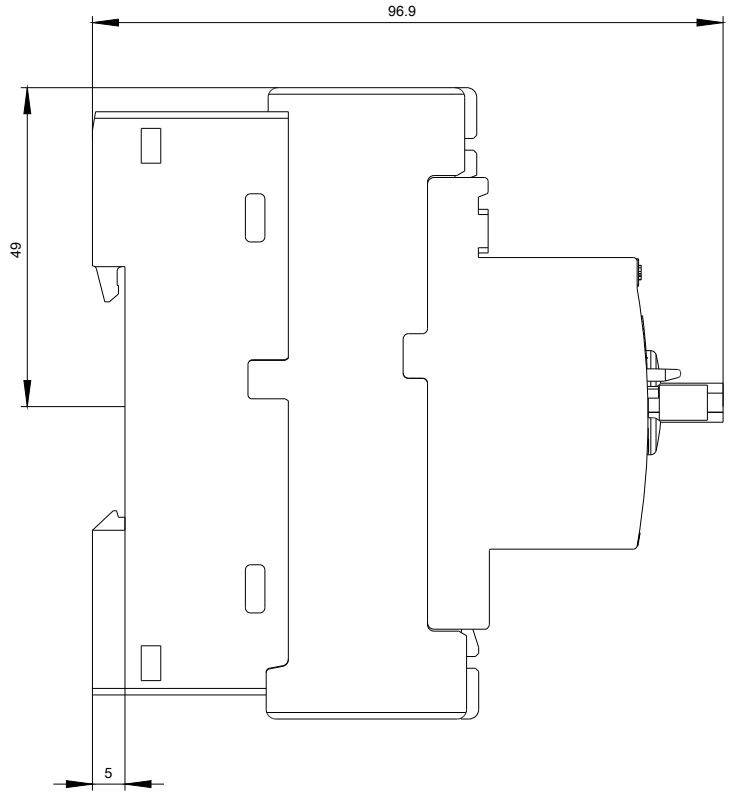
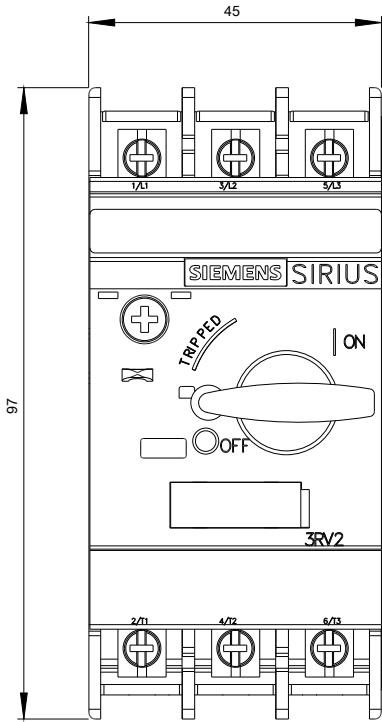
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-4CA40&lang=en

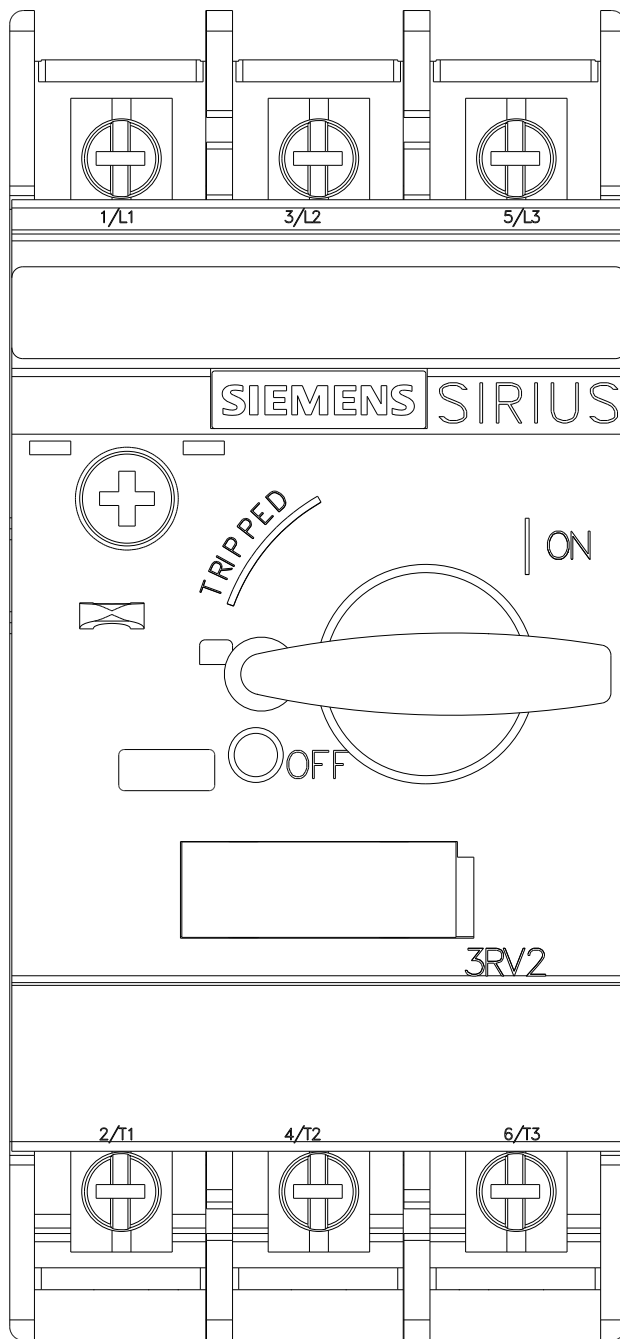
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4CA40/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-4CA40&objecttype=14&gridview=view1>







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