# **SIEMENS**

Data sheet 3RV2021-4CA10



Circuit breaker size S0 for motor protection, CLASS 10 A-release 16...22 A N-release 286 A screw terminal 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] for rated value of the current	
<ul> <li>at AC in hot operating state</li> </ul>	10.5 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	3.5 W
insulation voltage with degree of pollution 3 at AC rated value	690 V
surge voltage resistance rated value	6 kV
shock resistance according to IEC 60068-2-27	25g / 11 ms
mechanical service life (operating cycles)	
<ul> <li>of the main contacts typical</li> </ul>	100 000
<ul> <li>of auxiliary contacts typical</li> </ul>	100 000
electrical endurance (operating cycles) typical	100 000
type of protection according to ATEX directive 2014/34/EU	Ex II (2) GD
certificate of suitability according to ATEX directive 2014/34/EU	DMT 02 ATEX F 001
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<ul><li>during operation</li></ul>	-20 +60 °C
<ul><li>during storage</li></ul>	-50 +80 °C
<ul> <li>during transport</li> </ul>	-50 +80 °C
relative humidity during operation	10 95 %
Main circuit	
number of poles for main current circuit	3
adjustable current response value current of the current-dependent overload release	16 22 A
operating voltage	
rated value	20 690 V
<ul> <li>at AC-3 rated value maximum</li> </ul>	690 V
<ul> <li>at AC-3e rated value maximum</li> </ul>	690 V
operating frequency rated value	50 60 Hz
operational current rated value	22 A

operational current	00.4
<ul> <li>at AC-3 at 400 V rated value</li> <li>at AC-3e at 400 V rated value</li> </ul>	22 A 22 A
	ZZ A
operating power  • at AC-3	
— at 230 V rated value	5.5 kW
— at 400 V rated value	11 kW
— at 500 V rated value	11 kW
— at 690 V rated value	18.5 kW
• at AC-3e	IO.S RVV
— at 230 V rated value	5.5 kW
— at 400 V rated value	11 kW
— at 500 V rated value	11 kW
— at 690 V rated value	18.5 kW
operating frequency	
at AC-3 maximum	15 1/h
at AC-3e 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 for auxiliary contacts	0
Protective and monitoring functions	
product function	
ground fault detection	No
phase failure detection	Yes
trip class	CLASS 10
design of the overload release	thermal
maximum short-circuit current breaking capacity (Icu)	thornal .
• at AC at 240 V rated value	100 kA
at AC at 400 V rated value	55 kA
at AC at 500 V rated value	10 kA
at AC at 690 V rated value	4 kA
operating short-circuit current breaking capacity (Ics)	
at AC	
<ul> <li>at 240 V rated value</li> </ul>	100 kA
<ul> <li>at 400 V rated value</li> </ul>	25 kA
<ul> <li>at 500 V rated value</li> </ul>	5 kA
<ul> <li>at 690 V rated value</li> </ul>	2 kA
response value current of instantaneous short-circuit trip unit	286 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	22 A
● at 600 V rated value	22 A
yielded mechanical performance [hp]	
for single-phase AC motor	
— at 110/120 V rated value	1.5 hp
— at 230 V rated value	3 hp
• for 3-phase AC motor	
<ul> <li>at 200/208 V rated value</li> </ul>	7.5 hp
<ul> <li>at 220/230 V rated value</li> </ul>	7.5 hp
— at 460/480 V rated value	15 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 400 V	gL/gG 63 A
• at 500 V	gL/gG 50 A
● at 690 V	gL/gG 50 A
Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN

	60715
height	97 mm
height width	97 mm 45 mm
depth	97 mm
required spacing	37 111111
with side-by-side mounting at the side	0 mm
• for grounded parts at 400 V	O TIMIT
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
• for live parts at 400 V	O TIMIT
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
• for grounded parts at 500 V	O TIMIT
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
• for live parts at 500 V	J IIIIII
— 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	O TIMIT
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
Connections/ Terminals	
type of electrical connection	
for main current circuit	screw-type terminals
arrangement of electrical connectors for main current circuit	Top and bottom
type of connectable conductor cross-sections	
for main contacts	
— solid or stranded	2x (1 2.5 mm²), 2x (2.5 10 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
at AWG cables for main contacts	2x (16 12), 2x (14 8)
tightening torque	
<ul> <li>for main contacts with screw-type terminals</li> </ul>	2 2.5 N·m
design of screwdriver shaft	Diameter 5 to 6 mm
size of the screwdriver tip	Pozidriv size 2
design of the thread of the connection screw	
• for main contacts	M4
Safety related data	
B10 value	
<ul> <li>with high demand rate according to SN 31920</li> </ul>	5 000
proportion of dangerous failures	
<ul> <li>with low demand rate according to SN 31920</li> </ul>	50 %
<ul> <li>with high demand rate according to SN 31920</li> </ul>	50 %
failure rate [FIT]	
<ul> <li>with low demand rate according to SN 31920</li> </ul>	50 FIT
	40
T1 value for proof test interval or service life according to	10 y
IEC 61508 protection class IP on the front according to IEC	IP20
protection class IP on the front according to IEC 60529	IP20
IEC 61508 protection class IP on the front according to IEC	

## Certificates/ approvals

# **General Product Approval**





Confirmation



<u>KC</u>



For use in hazardous locations

**Declaration of Conformity** 

**Test Certificates** 









**Special Test Certific-**<u>ate</u>

Type Test Certificates/Test Report

## Marine / Shipping













Marine / Shipping

other

Railway



Confirmation



Confirmation

Vibration and Shock

## **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=3RV2021-4CA10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4CA10

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4CA10

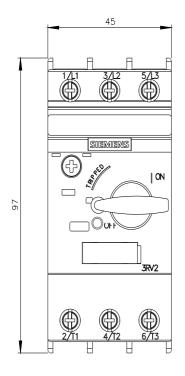
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

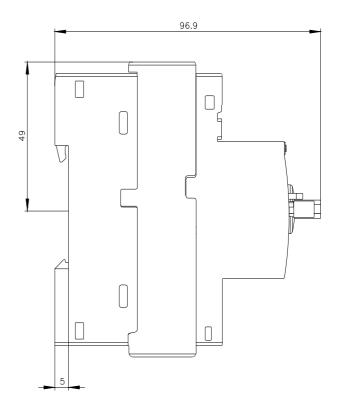
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RV2021-4CA10&lang=en

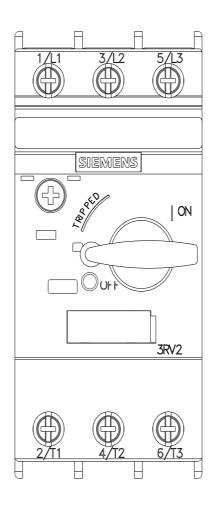
Characteristic: Tripping characteristics, I2t, Let-through current

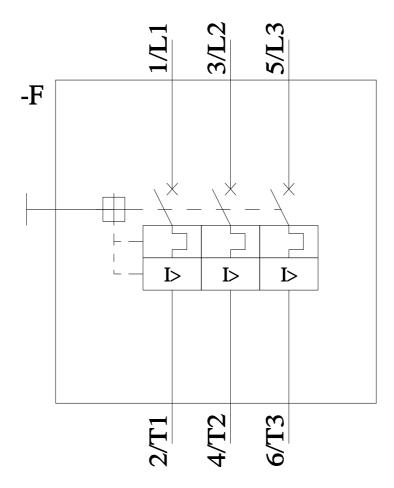
https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4CA10/char

Further characteristics (e.g. electrical endurance, switching frequency) <a href="http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-4CA10&objecttype=14&gridview=view1">http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-4CA10&objecttype=14&gridview=view1</a>









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