## **SIEMENS**

Data sheet 3RV2021-4FA10



Circuit breaker size S0 for motor protection, CLASS 10 A-release 34...40 A N-release 480 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>	16.25 W
at AC in hot operating state per pole	5.4 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
of auxiliary contacts typical	100 000
electrical endurance (operating cycles) typical	100 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009
SVHC substance name	Lead titanium zirconium oxide - 12626-81-2
Weight	0.38 kg
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<ul> <li>during operation</li> </ul>	-20 +40 °C
during storage	-50 +80 °C
during transport	-50 +80 °C
relative humidity during operation	10 95 %
Environmental footprint	
Environmental Product Declaration(EPD)	Yes
global warming potential [CO2 eq] total	75.078 kg
global warming potential [CO2 eq] during manufacturing	2.68 kg
global warming potential [CO2 eq] during sales	0.143 kg
global warming potential [CO2 eq] during operation	72.7 kg
global warming potential [CO2 eq] after end of life	-0.445 kg
Siemens Eco Profile (SEP)	Siemens EcoTech

Main circuit	
number of poles for main current circuit	3
adjustable current response value current of the current- dependent overload release	34 40 A
type of voltage for main current circuit	AC
operating voltage	
• rated value	20 690 V
• at AC-3 rated value maximum	690 V
operating frequency rated value	50 60 Hz
operational current rated value	40 A
operational current	
• at AC-3 at 400 V rated value	40 A
operating power	
• at AC-3	
— at 230 V rated value	11 kW
— at 400 V rated value	18.5 kW
— at 500 V rated value	22 kW
— at 690 V rated value	39 kW
operating frequency	
• at AC-3 maximum	15 1/h
Auxiliary circuit	
type of voltage for auxiliary and control circuit	AC/DC
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	
<ul> <li>ground fault detection</li> </ul>	No
phase failure detection	Yes
trip class	CLASS 10
design of the overload release	thermal
maximum short-circuit current breaking capacity (Icu)	
• at AC at 240 V rated value	100 kA
• at AC at 400 V rated value	20 kA
• at AC at 500 V rated value	6 kA
at AC at 690 V rated value	3 kA
operating short-circuit current breaking capacity (lcs) at AC	400.14
at 240 V rated value	100 kA
• at 400 V rated value	10 kA
at 500 V rated value	3 kA
at 690 V rated value	2 kA
response value current of instantaneous short-circuit trip unit	480 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	40.0
<ul> <li>at 480 V rated value</li> <li>at 600 V rated value</li> </ul>	40 A 40 A
	40 A
yielded mechanical performance [hp]  • for single-phase AC motor	
ior single-phase AC motor         — at 110/120 V rated value	3 hp
— at 110/120 V rated value  — at 230 V rated value	7.5 hp
• for 3-phase AC motor	1.0.19
— at 200/208 V rated value	10 hp
— at 220/230 V rated value  — at 220/230 V rated value	10 hp
— at 460/480 V rated value	30 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	25310
• at 400 V	gG 63 A
• at 500 V	gG 63 A

Image:   I	● at 690 V	gG 63 A
Interesting method		95 05 A
Fastering method		any
height         97 mm           dopth         45 mm           dopth         97 mm           required spacing         97 mm           • or grounded parts at 40 V         -0 mm           - downwards         30 mm           - at the side         9 mm           • for ve parts at 400 V         -0 mm           - downwards         30 mm           - at the side         9 mm           • for younded parts at 500 V		
Width   45 mm   97 mm   97 mm   98 m		
Memory   M		
Part		
with side-ty-eide mounting at the side   9 mm	·	97 mm
downwards	-	9 mm
- upwards		
- at the side		
• for live parts at 400 V	·	
- downwards - upwards - at the side 9 mm  - for grounded parts at 500 V - downwards 30 mm - upwards 30 mm - upwards 30 mm - at the side 9 mm  - for live parts at 500 V - downwards 30 mm - upwards 30 mm - upwards 30 mm - upwards 30 mm - upwards 30 mm - at the side 9 mm  - for grounded parts at 690 V - downwards 70 mm - upwards 10 mm - at the side 9 mm  - for wards 0 mm - the side 10 mm - backwards 0 mm - to fire live parts at 690 V - downwards 70 mm - backwards 0 mm - to fire live parts at 690 V - downwards 70 mm - backwards 0 mm - to fire live parts at 690 V - downwards 70 mm - to fire live parts at 690 V - downwards 70 mm - to fire live parts at 690 V - downwards 0 mm - to fire live parts at 690 V - downwards 0 mm - to fire live parts at 690 V - downwards 0 mm - to fire live parts at 690 V - downwards 0 mm - at the side 30 mm - ownections/ ferminals  type of electrical connection - for main current circuit  type of electrical connections - for main contacts - solid or stranded - firely stranded with core end processing - for AWC solbes for main contacts - safety-related switching on - safety-related switching of - saf		9 mm
- upwards	•	
- at the side		
	·	
downwards 30 mm		9 mm
- upwards		
- st the side		
• for live parts at 500 V	·	
downwards		9 mm
- upwards	• for live parts at 500 V	
● for grounded parts at 690 V  - downwards 70 mm  - upwards 70 mm  - backwards 0 mm  - at the side 30 mm  • for live parts at 690 V  - downwards 70 mm  • for live parts at 690 V  - downwards 70 mm  • for live parts at 690 V  - downwards 70 mm  - upwards 70 mm  - backwards 0 mm  - onnections/ Terminals  **Top of electrical connection **  • for main cornection  • for main cornection 2 x (1 2.5 mm²), 2x (2.5 10 mm²)  • for main cornacts 10 x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  • for AWG cables for main contacts 2 x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  • for AWG cables for main contacts 2 x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  • for amin contacts with screw-type terminals 2 2.5 N·m  design of screwdriver shaft 0 imaneter 5 to 6 mm  size of the screwdriver tip Pozidriv size 2  design of the thread of the connection screw  • for main contacts M4  * for main contacts M4  * size of the screwdriver tip Pozidriv size 2  design of the thread of the connection screw  • for main contacts M4  * size of the screwdriver tip Pozidriv size 2  design of the thread of the connection screw  • for main contacts M4  * size of the screwdriver tip Pozidriv size 2  design of the thread of the connection screw  • safety-related switching on No  • safety-related switching OFF Yes  **Size-related switching OFF Yes  **Size-related switching OFF Yes  **Size-related switching on Hone start with size on the screward with siz	— downwards	
for grounded parts at 690 V     downwards     dupwards     dupwar	— upwards	30 mm
- downwards 70 mm - upwards 70 mm - backwards 0 mm - at the side 30 mm - forwards 0 mm - forwards 0 mm - forwards 70 mm - forwards 70 mm - downwards 70 mm - upwards 70 mm - upwards 70 mm - upwards 70 mm - backwards 0 mm - backwards 0 mm - backwards 0 mm - backwards 0 mm - forwards 0 mm - forwards 10 mm - for an in current circuit 10 mm - for an in contacts 10 mm - for main contacts 10 mm - finely stranded with core end processing 2x (1 2.5 mm²), 2x (2.5 10 mm²) - finely stranded with core end processing 2x (1 2.5 mm²), 2x (2.5 10 mm²) - for AWG cables for main contacts 10 mm - for main contacts with screw-type terminals 10 mm - for main contacts with screw-type terminals 10 mm - for main contacts with screw-type terminals 10 mm - for main contacts with screw-type terminals 10 mm - for main contacts with screw-type terminals 10 mm - for main contacts with screw-type terminals 10 mm - for main contacts with screw-type terminals 10 mm - for main contacts with screw-type terminals 10 mm - for main contacts with screw-type terminals 10 mm - for main contacts with screw-type terminals 10 mm - for main contacts 10 mm² - for	— at the side	9 mm
- upwards	<ul> <li>for grounded parts at 690 V</li> </ul>	
- backwards	— downwards	70 mm
- at the side	— upwards	70 mm
• for live parts at 690 V  - downwards	— backwards	0 mm
for live parts at 690 V         downwards	— at the side	30 mm
- downwards 70 mm - upwards 70 mm - backwards 0 mm - at the side 30 mm - forwards 0 mm - formain current circuit screw-type terminals - side with screw-type terminals - for AWG cables for main contacts 2 x (1 2.5 mm²), 2x (2.5 10 mm²) - for AWG cables for main contacts 2 x (1 2.5 mm²), 2x (2.5 10 mm²) - for AWG cables for main contacts 2 x (1 2.5 mm²), 2x (2.5 10 mm²) - for awin contacts 2 x (1 2.5 mm²), 2x (2.5 10 mm²) - for AWG cables for main contacts 2 x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² - for awin contacts 2 x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² - for awin contacts with screw-type terminals 2 x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² - for main contacts with screw-type terminals 2 x 2.5 N·m  design of screwdriver shaft 5 in 6 mm size of the screwdriver tip 9 pozidriv size 2  design of the thread of the connection screw - for main contacts with screw-type terminals 4 x 2 x 4	— forwards	0 mm
- upwards 70 mm - backwards 0 mm - at the side 30 mm - forwards 0 mm  **To pand bottom  **To pand bott	<ul> <li>for live parts at 690 V</li> </ul>	
- backwards - at the side - forwards 0 mm  connections/ Terminals  type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit  of or main contacts - solid or stranded - finely stranded with core end processing • for AWG cables for main contacts  1 type in main contacts - for main contacts - solid or stranded - finely stranded with core end processing • for awG cables for main contacts  1 type in main contacts - for main contacts - for main contacts - solid or stranded - finely stranded with core end processing • for AWG cables for main contacts  1 type in main contacts - for main contacts - for main contacts with screw-type terminals - for main contacts -	— downwards	70 mm
- at the side	— upwards	70 mm
Top and bottom  of or main current circuit  arrangement of electrical connectors  of or main contacts  of or MWG cables for main contacts  of or main contacts with screw-type terminals  2 x (1 2.5 mm²), 2x (2.5 10 mm²)  after AWG cables for main contacts  of or main contacts with screw-type terminals  2 x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  2 x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  2 x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  2 x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  2 x (16 12), 2x (14 8)  tightening torque  of or main contacts with screw-type terminals  2 2.5 N·m  design of screwdriver shaft  plameter 5 to 6 mm  size of the screwdriver tip  pozidriv size 2  design of the thread of the connection screw of or main contacts  M4  afety-related data  product function suitable for safety function  Yes  suitability for use osafety-related switching on osafety-related switching OFF  Yes  service life maximum  10 a  test wear-related service life necessary  Yes	— backwards	0 mm
type of electrical connection  • for main current circuit  arrangement of electrical connectors for main current circuit  type of connectable conductor cross-sections  • for main contacts  — solid or stranded — finely stranded with core end processing • for AWG cables for main contacts  2x (1 2.5 mm²), 2x (2.5 10 mm²) — finely or stranded with core end processing • for AWG cables for main contacts  2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  2x (1 2.5 mm²), 2x (14 8)  tightening torque • for main contacts with screw-type terminals  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  afety-related data  product function suitable for safety function Yes  suitability for use • safety-related switching on • safety-related switching OFF Yes  service life maximum 10 a  test wear-related service life necessary Yes	— at the side	30 mm
type of electrical connection	— forwards	0 mm
of r main current circuit  arrangement of electrical connectors for main current circuit  type of connectable conductor cross-sections     of or main contacts	Connections/ Terminals	
arrangement of electrical connectors for main current circuit  type of connectable conductor cross-sections  • for main contacts  — solid or stranded — finely stranded with core end processing • for AWG cables for main contacts  • for main contacts  • for Min contacts  • for AWG cables for main contacts  • for main contacts with screw-type terminals  • for main contacts with screw-type terminals  2 2.5 N·m  design of screwdriver shaft  size of the screwdriver tip  • for main contacts  • solid or stranded  • for main contacts	type of electrical connection	
arrangement of electrical connectors for main current circuit  type of connectable conductor cross-sections		screw-type terminals
type of connectable conductor cross-sections  • for main contacts  — solid or stranded — finely stranded with core end processing • for AWG cables for main contacts  tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts		
<ul> <li>for main contacts         — solid or stranded         — finely stranded with core end processing         — finely stranded with core end processing         — for AWG cables for main contacts         — for AWG cables for main contacts         — for main contacts with screw-type terminals         — for main contacts with screw-type terminals         — solid or strewdriver shaft         — Diameter 5 to 6 mm         — Pozidriv size 2  design of the screwdriver tip         — For main contacts         — For main contacts</li></ul>		
- solid or stranded 2x (1 2.5 mm²), 2x (2.5 10 mm²) - finely stranded with core end processing 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  • for AWG cables for main contacts 2x (16 12), 2x (14 8)  tightening torque • for main contacts with screw-type terminals 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  infety related data  product function suitable for safety function Yes  suitability for use • safety-related switching on No • safety-related switching OFF Yes  service life maximum 10 a  test wear-related service life necessary Yes	type of connectable conductor cross-sections	
- finely stranded with core end processing  • for AWG cables for main contacts  2x (16 12), 2x (14 8)  tightening torque  • for main contacts with screw-type terminals  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  • for main contacts  M4  afety related data  product function suitable for safety function  • safety-related switching on  • safety-related switching OFF  Service life maximum  10 a  test wear-related service life necessary  2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  2x (16 12), 2x (14 8)   The maximum, 10 a  1x (16 12), 2x (14 8)  1x (16 12), 2x (14 18)  1x (16 12), 2x (14 18)  1x (16 12	for main contacts	
• for AWG cables for main contacts  tightening torque  • for main contacts with screw-type terminals  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  defety related data  product function suitable for safety function  suitability for use  • safety-related switching on  • safety-related switching OFF  Yes  service life maximum  10 a  test wear-related service life necessary   2 x. 16 12), 2x (14 8)  2 x. (16 12), 2x (14 8)  10 x. (1	— solid or stranded	2x (1 2.5 mm²), 2x (2.5 10 mm²)
tightening torque  • for main contacts with screw-type terminals  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  defety related data  product function suitable for safety function  yes  suitability for use  • safety-related switching on  • safety-related switching OFF  yes  service life maximum  10 a  test wear-related service life necessary  Yes	<ul> <li>finely stranded with core end processing</li> </ul>	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
• for main contacts with screw-type terminals  design of screwdriver shaft  Diameter 5 to 6 mm  Pozidriv size 2  design of the thread of the connection screw     • for main contacts  M4  defety related data  product function suitable for safety function  suitability for use     • safety-related switching on     • safety-related switching OFF  Service life maximum  test wear-related service life necessary  Pozidriv size 2  M4  M4  No  No  Yes  10 a  test wear-related service life necessary  Yes	<ul> <li>for AWG cables for main contacts</li> </ul>	2x (16 12), 2x (14 8)
design of screwdriver shaft size of the screwdriver tip Pozidriv size 2  design of the thread of the connection screw of or main contacts M4  afety related data  product function suitable for safety function yes suitability for use of safety-related switching on of safety-related switching OFF yes  service life maximum 10 a  test wear-related service life necessary  Diameter 5 to 6 mm Pozidriv size 2  M4  N4  N6  N6  Yes	tightening torque	
size of the screwdriver tip  design of the thread of the connection screw	<ul> <li>for main contacts with screw-type terminals</li> </ul>	2 2.5 N·m
design of the thread of the connection screw  • for main contacts  M4  safety related data  product function suitable for safety function  suitability for use  • safety-related switching on • safety-related switching OFF  Yes  service life maximum  10 a  test wear-related service life necessary  M4	design of screwdriver shaft	Diameter 5 to 6 mm
for main contacts  Index of the product function suitable for safety function  Froduct function suitable for safety function  Froduct function suitable for safety function  Yes  Suitability for use  Safety-related switching on Safety-related switching OFF  Yes  Service life maximum  10 a  Stept wear-related service life necessary  Yes	size of the screwdriver tip	Pozidriv size 2
product function suitable for safety function  suitability for use  safety-related switching on safety-related switching OFF  service life maximum  test wear-related service life necessary  Yes  Yes	design of the thread of the connection screw	
product function suitable for safety function  suitability for use  • safety-related switching on • safety-related switching OFF  Yes  service life maximum  test wear-related service life necessary  Yes	• for main contacts	M4
product function suitable for safety function  suitability for use  • safety-related switching on • safety-related switching OFF  Yes  service life maximum  test wear-related service life necessary  Yes	afety related data	
suitability for use  • safety-related switching on • safety-related switching OFF Yes  service life maximum 10 a  test wear-related service life necessary Yes		Yes
<ul> <li>safety-related switching on</li> <li>safety-related switching OFF</li> <li>service life maximum</li> <li>test wear-related service life necessary</li> <li>No</li> <li>Yes</li> <li>Yes</li> </ul>	· · · · · · · · · · · · · · · · · · ·	
• safety-related switching OFF Yes service life maximum 10 a test wear-related service life necessary Yes	-	No
service life maximum 10 a test wear-related service life necessary Yes		
test wear-related service life necessary  Yes		
	proportion of dangerous failures	

<ul> <li>with low demand rate according to SN 31920</li> </ul>	40 %
<ul> <li>with high demand rate according to SN 31920</li> </ul>	50 %
B10 value with high demand rate according to SN 31920	5 000
failure rate [FIT] with low demand rate according to SN 31920	50 FIT
ISO 13849	
device type according to ISO 13849-1	3
overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
safety device type according to IEC 61508-2	Type A
T1 value	
<ul> <li>for proof test interval or service life according to IEC 61508</li> </ul>	10 a
Electrical Safety	
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
Display	
display version for switching status	Handle
Approvals Certificates	
General Product Approval	









<u>KC</u>



General Product Approval

For use in hazardous locations

**Test Certificates** 

Maritime application

**BIS CRS** 



IECEx



Type Test Certificates/Test Report

Special Test Certificate



Maritime application











Miscellaneous

other

other

Railway

Environment

Confirmation



Special Test Certificate

Confirmation



Siemens EcoTech



## **Environment**

Environmental Confirmations

## Further information

Information on the packaging

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

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=3RV2021-4FA10

## Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4FA10

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4FA10

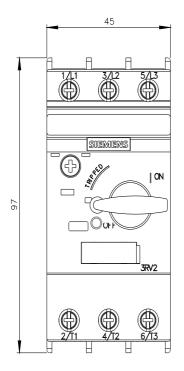
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) <a href="http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RV2021-4FA10&lang=en">http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RV2021-4FA10&lang=en</a>

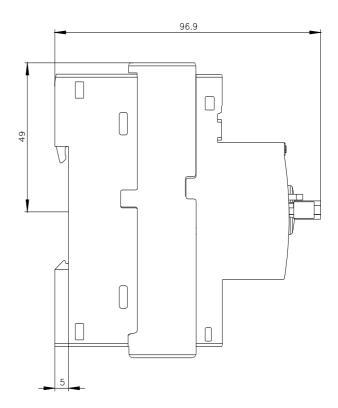
Characteristic: Tripping characteristics, I2t, Let-through current

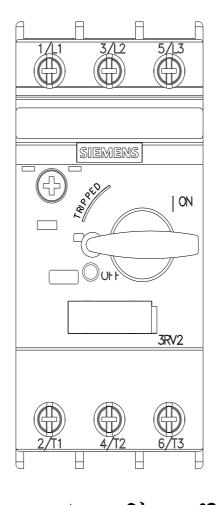
https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4FA10/char

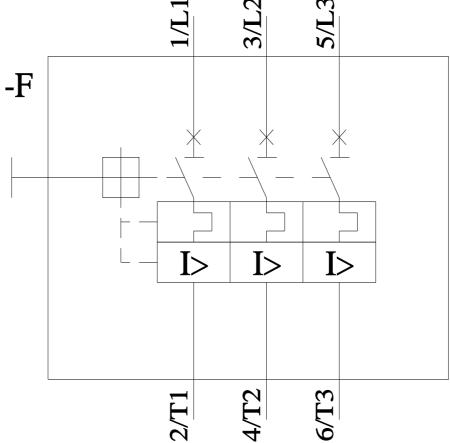
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-4FA10&objecttype=14&gridview=view1









last modified: 5/16/2025 🖸