# **SIEMENS**

Data sheet 3RV2021-4PA10

Circuit breaker size S0 for motor protection, CLASS 10 A-release 30...36 A N-release 432 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] total typical	14 W
Insulation voltage with degree of pollution 3 rated	690 V
value	
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
<ul> <li>in networks with grounded star point between</li> </ul>	400 V
main and auxiliary circuit	
<ul> <li>in networks with grounded star point between</li> </ul>	400 V
main and auxiliary circuit	
Protection class IP	

• on the front	IP20
of the terminal	IP20
Shock resistance	
• acc. to IEC 60068-2-27	25g / 11 ms
Mechanical service life (switching cycles)	
<ul> <li>of the main contacts typical</li> </ul>	100 000
<ul> <li>of auxiliary contacts typical</li> </ul>	100 000
Electrical endurance (switching cycles)	
• typical	100 000
Type of protection	Increased safety
Certificate of suitability ATEX	Yes
Protection against electrical shock	finger-safe
Reference code acc. to DIN EN 81346-2	Q
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
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-	30 36 A
dependent overload release	
Operating voltage	
• rated value	690 V
<ul> <li>at AC-3 rated value maximum</li> </ul>	690 V
Operating frequency rated value	50 60 Hz
Operating current rated value	36 A
Operating current	
• at AC-3	
— at 400 V rated value	36 A
Operating power	
• at AC-3	
— at 230 V rated value	7 500 W
— at 400 V rated value	18 500 W
— at 500 V rated value	22 000 W
— at 690 V rated value	30 000 W
Operating frequency	
• 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		
• 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	
Operational short-circuit current breaking capacity (Ics) at AC		
● 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	
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	
Breaking capacity short-circuit current (Icn)		
• at 1 current path at DC at 150 V rated value	10 kA	
<ul> <li>with 2 current paths in series at DC at 300 V rated value</li> </ul>	10 kA	
<ul> <li>with 3 current paths in series at DC at 450 V rated value</li> </ul>	10 kA	
Response value current		
• of instantaneous short-circuit trip unit	432 A	
UL/CSA ratings		
Full-load current (FLA) for three-phase AC motor		
• at 480 V rated value	36 A	
• at 600 V rated value	36 A	
Yielded mechanical performance [hp]		
• for single-phase AC motor		
— at 110/120 V rated value	3 hp	
— at 230 V rated value	5 hp	
• for three-phase AC motor		
— at 200/208 V rated value	10 hp	
— at 220/230 V rated value	10 hp	

— at 460/480 V rated value	25 hp
— at 460/480 V rated value	25

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	gG 63 A	
● at 500 V	gG 63 A	
● at 690 V	gG 63 A	

nstallation/ 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		
<ul><li>with side-by-side mounting</li></ul>		
— forwards	0 mm	
— Backwards	0 mm	
— upwards	70 mm	
— downwards	70 mm	
— at the side	9 mm	
<ul><li>for grounded parts</li></ul>		
— forwards	0 mm	
— Backwards	0 mm	
— upwards	70 mm	
— at the side	30 mm	
— downwards	70 mm	
• for live parts		
— forwards	0 mm	
— Backwards	0 mm	
— upwards	70 mm	
— downwards	70 mm	
— at the side	30 mm	

Connections/Terminals		
Product function		
<ul> <li>removable terminal for auxiliary and control circuit</li> </ul>	No	
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		
<ul> <li>single or multi-stranded</li> </ul>	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	
<ul> <li>at AWG conductors for main contacts</li> </ul>	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 2	
Design of the thread of the connection screw		
• for main contacts	M4	

Safety related data	
B10 value	
<ul> <li>with high demand rate acc. to SN 31920</li> </ul>	5 000
Proportion of dangerous failures	
<ul> <li>with low demand rate acc. to SN 31920</li> </ul>	50 %
<ul> <li>with high demand rate acc. to SN 31920</li> </ul>	50 %
Failure rate [FIT]	
<ul> <li>with low demand rate acc. to SN 31920</li> </ul>	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













For use in	Declaration of	Test Certificates	Marine / Shipping
hazardous	Conformity		
locations			





Type Test
Certificates/Test
Report

Special Test
Certificate





other

# Marine / Shipping



LRS









Confirmation

## other Railway



Miscellaneous

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=3RV2021-4PA10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4PA10

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4PA10

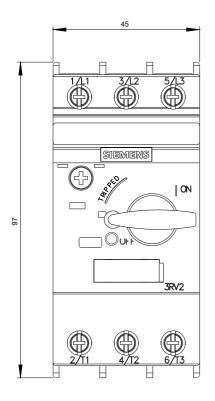
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RV2021-4PA10&lang=en

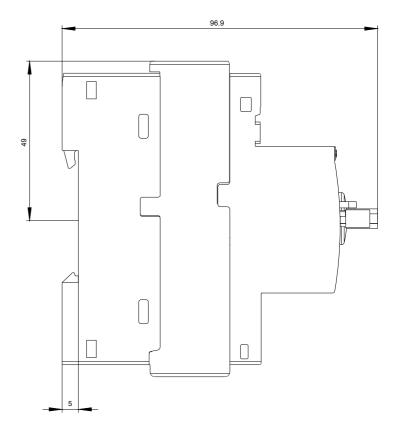
Characteristic: Tripping characteristics, I2t, Let-through current

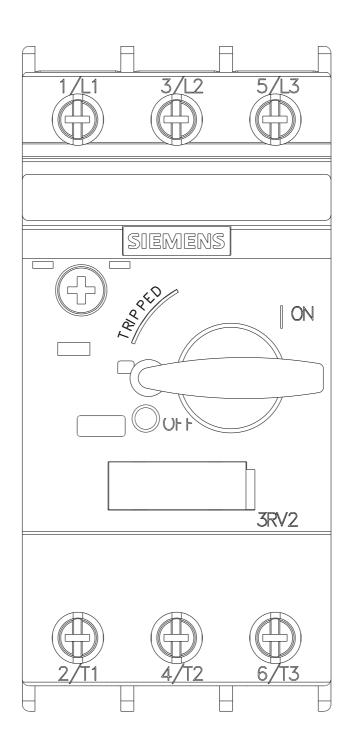
https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4PA10/char

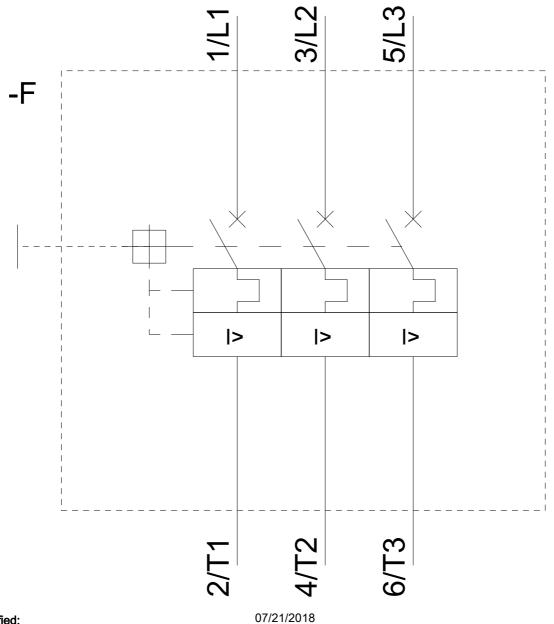
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-4PA10&objecttype=14&gridview=view1









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