## **SIEMENS**

Data sheet 3RV2421-1EA10



Circuit breaker size S0 For transformer protection A-release 2.8...4 A Short-circuit release 82 A Screw terminal Standard switching capacity

product brand name	SIRIUS
product designation	Circuit breaker
design of the product	For transformer 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>	5.5 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	1.8 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
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
during operation	-20 +60 °C
<ul> <li>during storage</li> </ul>	-50 +80 °C
during transport	-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	2.8 4 A
operating voltage	
rated value	20 690 V
<ul> <li>at AC-3 rated value maximum</li> </ul>	690 V
at AC-3e rated value maximum	690 V
operating frequency rated value	50 60 Hz
operational current rated value	4 A
operational current	
operational current	
at AC-3 at 400 V rated value	4 A

operating power	
• at AC-3	
— at 230 V rated value	0.8 kW
— at 400 V rated value	1.5 kW
— at 500 V rated value	2.2 kW
— at 690 V rated value	3 kW
• at AC-3e	
— at 230 V rated value	0.8 kW
— at 400 V rated value	1.5 kW
— at 500 V rated value	2.2 kW
— at 690 V rated value	3 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)	
• at AC at 240 V rated value	100 kA
at AC at 400 V rated value	100 kA
at AC at 500 V rated value	100 kA
at AC at 690 V rated value	6 kA
operating short-circuit current breaking capacity (lcs) at AC	
• at 240 V rated value	100 kA
at 400 V rated value	100 kA
at 500 V rated value	100 kA
at 690 V rated value	4 kA
response value current of instantaneous short-circuit trip unit	82 A
UL/CSA ratings	OE /
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	4 A
at 400 V rated value     at 600 V rated value	4 A
yielded mechanical performance [hp]	70
• for single-phase AC motor	
— at 110/120 V rated value	0.13 hp
— at 230 V rated value	0.33 hp
• for 3-phase AC motor	0.00 np
— at 200/208 V rated value	0.8 hp
— at 220/230 V rated value  — at 220/230 V rated value	0.5 hp
— at 460/480 V rated value	2 hp
— at 450/460 V rated value  — at 575/600 V rated value	3 hp
Short-circuit protection	O TIP
	Voc
product function short circuit protection	Yes
design of the fuse link for IT network for chart circuit	magnetic
design of the fuse link for IT network for short-circuit protection of the main circuit	
• at 400 V	gL/gG 32 A
• at 500 V	gL/gG 32 A
• at 690 V	gL/gG 25 A
Installation/ mounting/ dimensions	5-5- <del>5-1</del>
mounting position	any
fastening method	any screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	97 mm
	45 mm
width	40 111111

depth	97 mm
required spacing	V
with side-by-side mounting at the side	0 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
<ul> <li>for grounded parts at 500 V</li> </ul>	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
<ul> <li>for live parts at 500 V</li> </ul>	
— 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	F0
— downwards	50 mm
— upwards — backwards	0 mm
— at the side	30 mm
— at the side	30 111111
— forwards	0 mm
— forwards  Connections/ Terminals	0 mm
— forwards  Connections/ Terminals  type of electrical connection	0 mm
Connections/ Terminals	0 mm screw-type terminals
type of electrical connection  • for main current circuit  arrangement of electrical connectors for main current	
type of electrical connection  • for main current circuit  arrangement of electrical connectors for main current circuit	screw-type terminals
type of electrical connection  • for main current circuit  arrangement of electrical connectors for main current circuit  type of connectable conductor cross-sections	screw-type terminals
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	screw-type terminals Top and bottom
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	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²)
type of electrical connection	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²)  2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
type of electrical connection	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²)
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  tightening torque	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²)  2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  2x (16 12), 2x (14 8)
type of electrical connection	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²)  2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  2x (16 12), 2x (14 8)  2 2.5 N·m
type of electrical connection	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²)  2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  2x (16 12), 2x (14 8)
type of electrical connection	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²)  2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  2x (16 12), 2x (14 8)  2 2.5 N·m  Diameter 5 to 6 mm
type of electrical connection	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²)  2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  2x (16 12), 2x (14 8)  2 2.5 N·m  Diameter 5 to 6 mm
type of electrical connection	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²)  2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  2x (16 12), 2x (14 8)  2 2.5 N·m  Diameter 5 to 6 mm  Pozidriv size 2
type of electrical connection	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²)  2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  2x (16 12), 2x (14 8)  2 2.5 N·m  Diameter 5 to 6 mm  Pozidriv size 2
type of electrical connection	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²)  2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  2x (16 12), 2x (14 8)  2 2.5 N·m  Diameter 5 to 6 mm  Pozidriv size 2
type of electrical connection	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8)  2 2.5 N·m  Diameter 5 to 6 mm  Pozidriv size 2  M4
type of electrical connection	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8)  2 2.5 N·m  Diameter 5 to 6 mm  Pozidriv size 2  M4
type of electrical connection	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8)  2 2.5 N·m  Diameter 5 to 6 mm  Pozidriv size 2  M4  5 000
type of electrical connection	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8)  2 2.5 N·m  Diameter 5 to 6 mm  Pozidriv size 2  M4  5 000
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type of electrical connection	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8)  2 2.5 N·m  Diameter 5 to 6 mm  Pozidriv size 2  M4  5 000  50 % 50 % 50 FIT 10 a
type of electrical connection	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8)  2 2.5 N·m  Diameter 5 to 6 mm  Pozidriv size 2  M4  5 000  50 % 50 %  50 FIT 10 a  IP20
type of electrical connection	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8)  2 2.5 N·m  Diameter 5 to 6 mm  Pozidriv size 2  M4  5 000  50 % 50 % 50 FIT 10 a  IP20  finger-safe, for vertical contact from the front
type of electrical connection	screw-type terminals  Top and bottom  2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8)  2 2.5 N·m  Diameter 5 to 6 mm  Pozidriv size 2  M4  5 000  50 % 50 %  50 FIT 10 a  IP20



Confirmation



<u>KC</u>





Declaration of Conformity

**Test Certificates** 

Marine / Shipping



Type Test Certificates/Test Report

Special Test Certificate







Marine / Shipping

other

Railway







Confirmation



Confirmation

## Railway

Vibration and Shock

## Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=3RV2421-1EA10

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RV2421-1EA10}$ 

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2421-1EA10

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

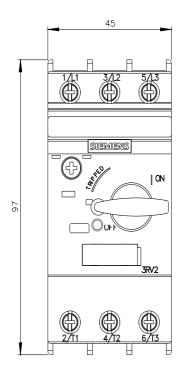
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RV2421-1EA10&lang=en

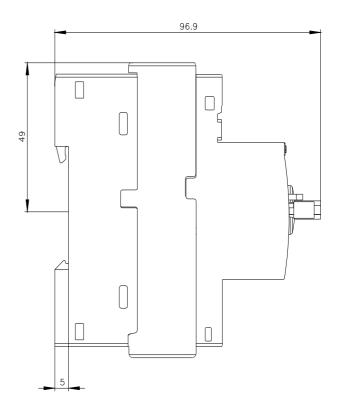
Characteristic: Tripping characteristics, I²t, Let-through current

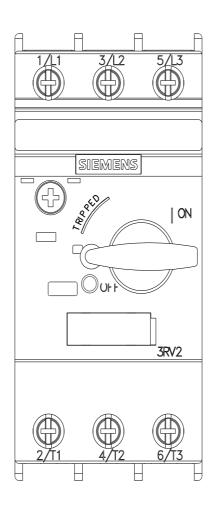
https://support.industry.siemens.com/cs/ww/en/ps/3RV2421-1EA10/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2421-1EA10&objecttype=14&gridview=view1









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