

Siemens
EcoTech



Circuit breaker size S0 for transformer protection A-release 13...20 A N-release 325 A Screw terminal Standard switching capacity with transverse auxiliary switches 1 NO+1 NC



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	
• at AC in hot operating state	10.5 W
• at AC in hot operating state per pole	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)	
• of the main contacts typical	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 - 7439-92-1
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
• during operation	-20 ... +60 °C
• during storage	-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	13 ... 20 A
operating voltage	
• rated value	20 ... 690 V
• at AC-3 rated value maximum	690 V
• at AC-3e rated value maximum	690 V
operating frequency rated value	50 ... 60 Hz

operational current rated value	20 A
operational current	
• at AC-3 at 400 V rated value	20 A
• at AC-3e at 400 V rated value	20 A
operating power	
• at AC-3	
— at 230 V rated value	5.5 kW
— at 400 V rated value	7.5 kW
— at 500 V rated value	11 kW
— at 690 V rated value	15 kW
• at AC-3e	
— at 230 V rated value	5.5 kW
— at 400 V rated value	7.5 kW
— at 500 V rated value	11 kW
— at 690 V rated value	15 kW
operating frequency	
• at AC-3 maximum	15 1/h
• at AC-3e maximum	15 1/h
Auxiliary circuit	
design of the auxiliary switch	transverse
number of NC contacts for auxiliary contacts	1
number of NO contacts for auxiliary contacts	1
number of CO contacts for auxiliary contacts	0
operational current of auxiliary contacts at AC-15	
• at 24 V	2 A
• at 120 V	0.5 A
• at 125 V	0.5 A
• at 230 V	0.5 A
operational current of auxiliary contacts at DC-13	
• at 24 V	1 A
• at 60 V	0.15 A
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	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	
• at 240 V rated value	100 kA
• at 400 V rated value	25 kA
• at 500 V rated value	5 kA
• at 690 V rated value	2 kA
response value current of instantaneous short-circuit trip unit	325 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	20 A
• at 600 V rated value	20 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	
— at 200/208 V rated value	7.5 hp
— at 220/230 V rated value	5 hp
— at 460/480 V rated value	10 hp

contact rating of auxiliary contacts according to UL	C300 / R300
Short-circuit protection	
product function short circuit protection	Yes
design of the short-circuit trip	magnetic
design of the fuse link <ul style="list-style-type: none"> for short-circuit protection of the auxiliary switch required 	Fuse gL/gG: 10 A, miniature circuit breaker C 6 A (short-circuit current $I_k < 400$ A)
design of the fuse link for IT network for short-circuit protection of the main circuit <ul style="list-style-type: none"> 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
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	97 mm
width	45 mm
depth	97 mm
required spacing <ul style="list-style-type: none"> with side-by-side mounting at the side for grounded parts at 400 V <ul style="list-style-type: none"> downwards upwards at the side for live parts at 400 V <ul style="list-style-type: none"> downwards upwards at the side for grounded parts at 500 V <ul style="list-style-type: none"> downwards upwards at the side for live parts at 500 V <ul style="list-style-type: none"> downwards upwards at the side for grounded parts at 690 V <ul style="list-style-type: none"> downwards upwards backwards at the side forwards for live parts at 690 V <ul style="list-style-type: none"> downwards upwards backwards at the side forwards 	0 mm 30 mm 30 mm 9 mm 30 mm 30 mm 9 mm 30 mm 30 mm 9 mm 50 mm 50 mm 0 mm 30 mm 0 mm 50 mm 50 mm 0 mm 30 mm 0 mm
Connections/ Terminals	
type of electrical connection <ul style="list-style-type: none"> for main current circuit for auxiliary and control circuit 	screw-type terminals screw-type terminals
arrangement of electrical connectors for main current circuit	Top and bottom
type of connectable conductor cross-sections <ul style="list-style-type: none"> for main contacts <ul style="list-style-type: none"> solid or stranded finely stranded with core end processing for AWG cables for main contacts 	2x (1 ... 2.5 mm ²), 2x (2.5 ... 10 mm ²) 2x (1 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²), 1x 10 mm ² 2x (16 ... 12), 2x (14 ... 8)
type of connectable conductor cross-sections <ul style="list-style-type: none"> for auxiliary contacts 	

— solid or stranded	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²)
— finely stranded with core end processing	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²)
• for AWG cables for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14)
tightening torque	
• for main contacts with screw-type terminals	2 ... 2.5 N·m
• for auxiliary contacts with screw-type terminals	0.8 ... 1.2 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
• of the auxiliary and control contacts	M3

Safety 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
proportion of dangerous failures	
• with low demand rate according to SN 31920	40 %
• with high demand rate according to SN 31920	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	
• for proof test interval or service life according to IEC 61508	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
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Approvals Certificates

General Product Approval



[Confirmation](#)



[KC](#)

General Product Approval	Test Certificates	Marine / Shipping
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[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping	other
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[Miscellaneous](#)

[Confirmation](#)



Railway	Environment
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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=3RV2421-4BA15>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2421-4BA15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2421-4BA15>

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

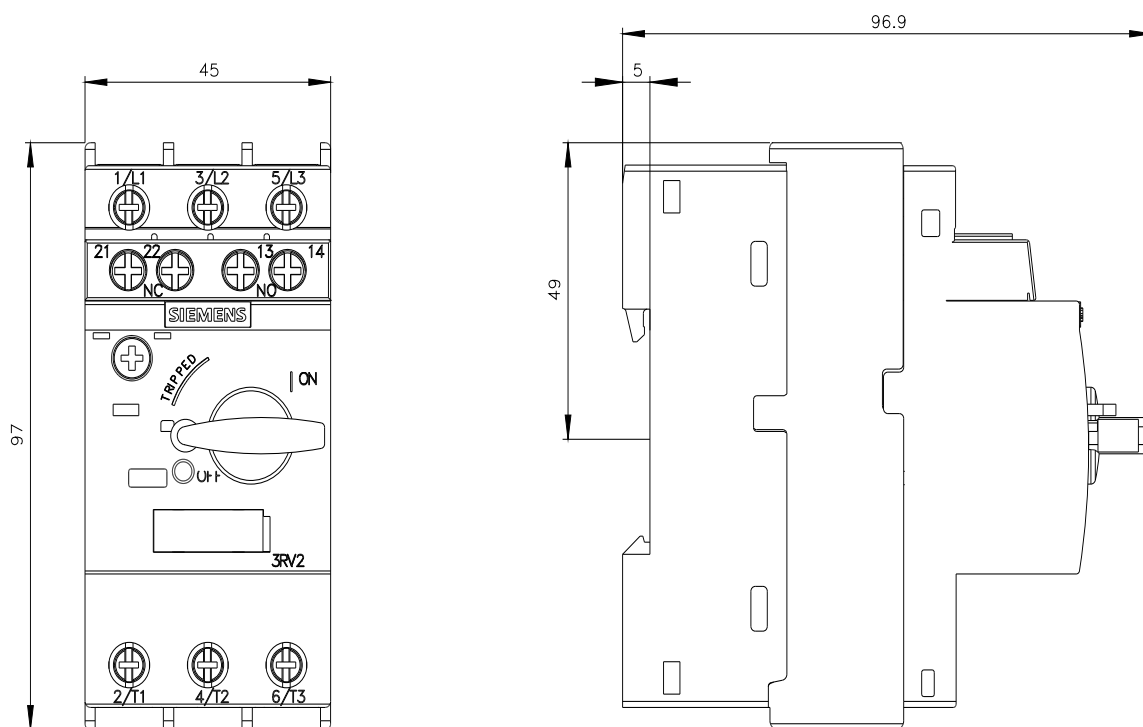
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2421-4BA15&lang=en

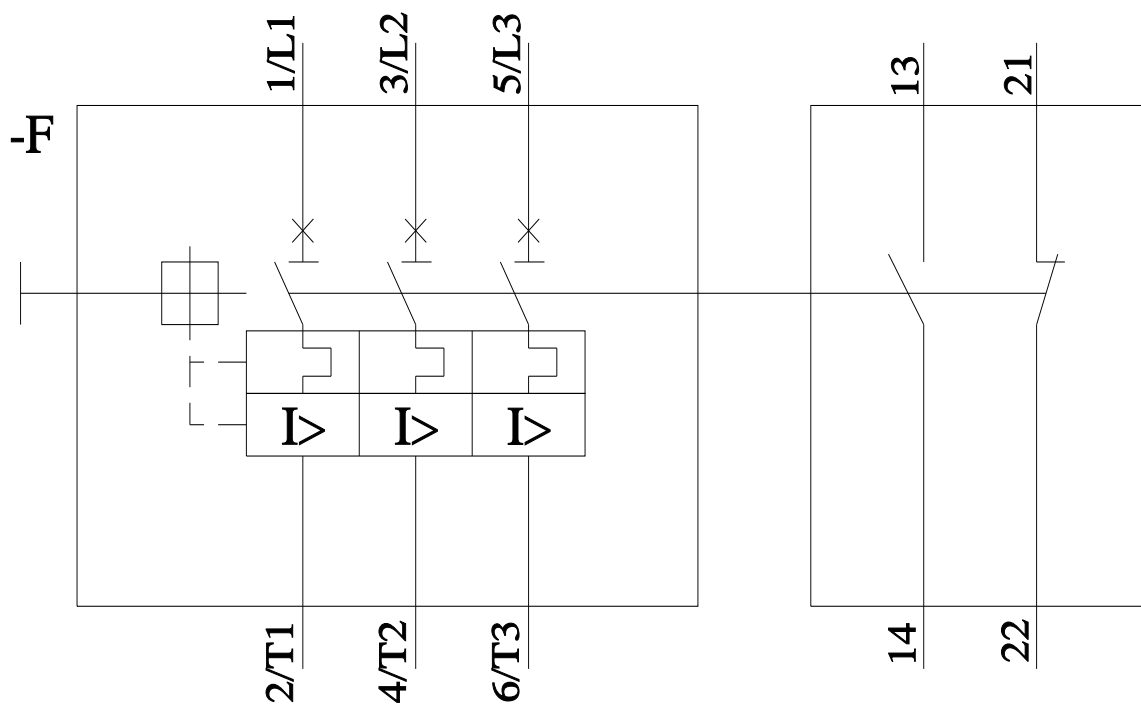
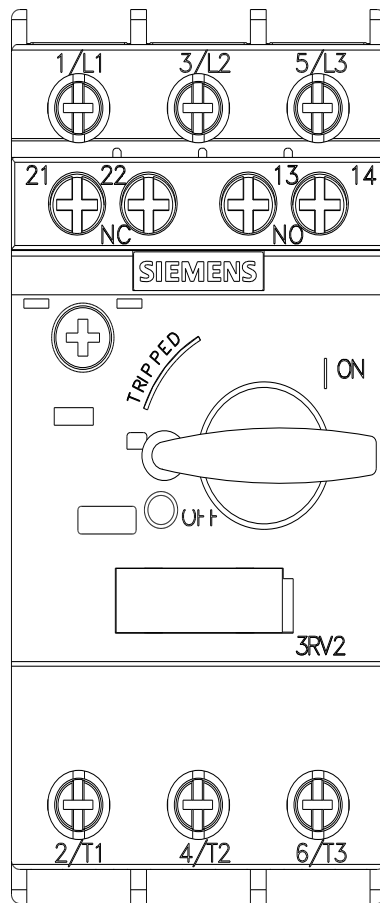
Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2421-4BA15/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2421-4BA15&objecttype=14&gridview=view1>





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