



Circuit breaker size S0 for motor protection, CLASS 10 with overload relay function A-release 10...16 A N-release 208 A screw terminal Standard switching capacity

product brand name	SIRIUS
product designation	Circuit breaker
design of the product	For motor protection with overload relay function
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	9.25 W
• at AC in hot operating state per pole	3.1 W
insulation voltage with degree of pollution 3 at AC rated value	690 V
surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation in networks with grounded star point	
• between main and auxiliary circuit	400 V
• between main and auxiliary circuit	400 V
shock resistance acc. to IEC 60068-2-27	25g / 11 ms
mechanical service life (switching cycles)	
• of the main contacts typical	100 000
• of auxiliary contacts typical	100 000
electrical endurance (switching cycles) typical	100 000
reference code acc. to IEC 81346-2	Q
Substance Prohibance (Date)	01.10.2009 00:00:00
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
• ambient temperature during operation	-20 ... +60 °C
• ambient temperature during storage	-50 ... +80 °C
• ambient temperature 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 current response value current of the current-dependent overload release	10 ... 16 A
• operating voltage rated value	690 V
• operating voltage at AC-3 rated value maximum	690 V

operating frequency rated value	50 ... 60 Hz
operational current rated value	16 A
operational current at AC-3 at 400 V rated value	16 A
operating power at AC-3	
• at 230 V rated value	4 000 W
• at 400 V rated value	7 500 W
• at 500 V rated value	7 500 W
• at 690 V rated value	11 000 W
operating frequency at AC-3 maximum	15 1/h
Auxiliary circuit	
design of the auxiliary switch	laterally
number of NC contacts for auxiliary contacts	0
number of NO contacts for auxiliary contacts	0
number of CO contacts for auxiliary contacts	0
operational current of auxiliary contacts at AC-15	
• at 24 V	1.5 A
• at 230 V	1.5 A
operational current of auxiliary contacts at DC-13	
• at 24 V	1 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
breaking capacity operating short-circuit current (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
breaking capacity maximum short-circuit current (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
response value current of instantaneous short-circuit trip unit	208 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	16 A
• at 600 V rated value	16 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	1 hp
— at 230 V rated value	2 hp
• for 3-phase AC motor	
— at 200/208 V rated value	3 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	C600 / R300
Short-circuit protection	
product function short circuit protection	Yes
design of the short-circuit trip	magnetic
design of the fuse link	
• for short-circuit protection of the auxiliary switch required	fuse gL/gG: 6 A, quick: 10 A
design of the fuse link for IT network for short-circuit protection of the main circuit	

• at 400 V • at 500 V • at 690 V	gL/gG 63 A gL/gG 50 A gL/gG 40 A
Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
height	97 mm
width	65 mm
depth	97 mm
required spacing	
• for grounded parts at 400 V — downwards — upwards — at the side • for live parts at 400 V — downwards — upwards — at the side • for grounded parts at 500 V — downwards — upwards — at the side • for live parts at 500 V — downwards — upwards — at the side • for grounded parts at 690 V — downwards — upwards — backwards — at the side — forwards • for live parts at 690 V — downwards — upwards — backwards — at the side — forwards	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	
product function removable terminal for auxiliary and control circuit	No
type of electrical connection	
• 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	
• for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts	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 connectable conductor cross-sections	
• for auxiliary contacts — solid or stranded — finely stranded with core end processing • at AWG cables for auxiliary contacts	2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²) 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (20 ... 16), 2x (18 ... 14)
• tightening torque for main contacts with screw-type terminals	2 ... 2.5 N·m

tightening torque 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 2
design of the thread of the connection screw - for main contacts - of the auxiliary and control contacts	M4 M3

Safety related data	
B10 value with high demand rate acc. to SN 31920	5 000
proportion of dangerous failures - with low demand rate acc. to SN 31920 - with high demand rate acc. to SN 31920	50 % 50 %
failure rate [FIT] with low demand rate acc. to SN 31920	50 FIT
T1 value for proof test interval or service life acc. to IEC 61508	10 y
protection class IP on the front acc. to IEC 60529	IP20
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front
display version for switching status	Handle

Certificates/ approvals

General Product Approval	Declaration of Conformity
--------------------------	---------------------------



[KC](#)



[Miscellaneous](#)

Declaration of Conformity	Test Certificates	Marine / Shipping
---------------------------	-------------------	-------------------



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping	other
-------------------	-------



[Confirmation](#)



Railway

[Vibration and Shock](#)

[Confirmation](#)

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?mfb=3RV2121-4AA10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2121-4AA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2121-4AA10>

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

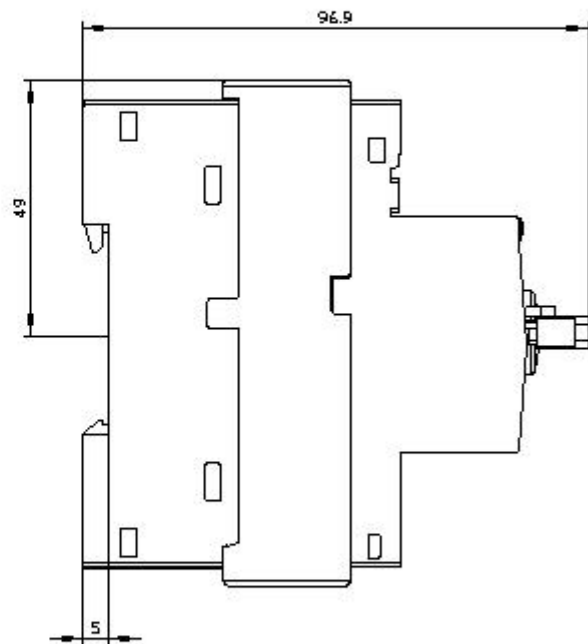
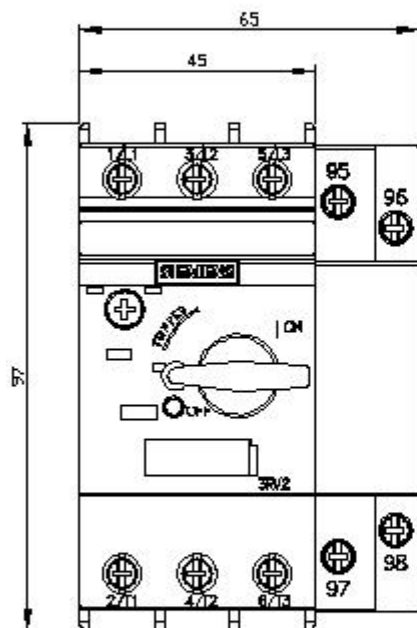
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2121-4AA10&lang=en

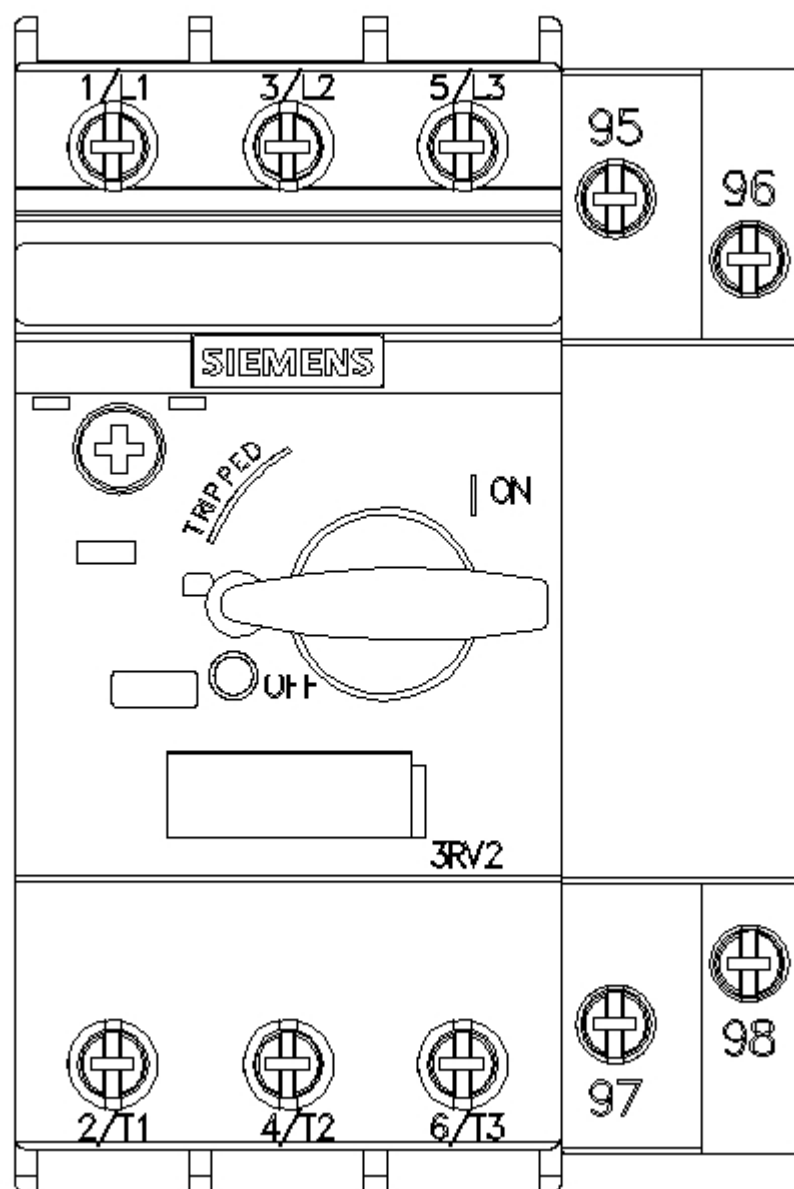
Characteristic: Tripping characteristics, I_t, Let-through current

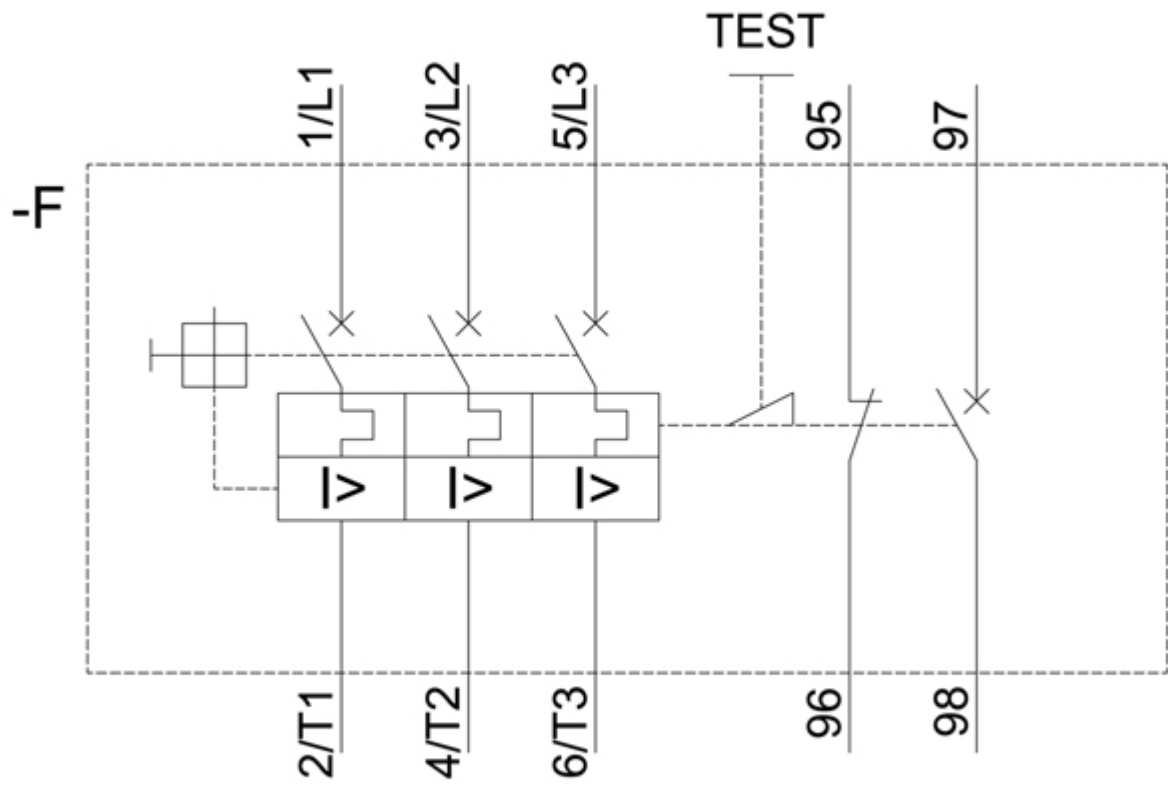
<https://support.industry.siemens.com/cs/ww/en/ps/3RV2121-4AA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2121-4AA10&objecttype=14&gridview=view1>







last modified:

12/15/2020 