## **SIEMENS**

Data sheet 3RV2021-1FA15



Circuit breaker size S0 for motor protection, CLASS 10 A-release 3.5...5 A N release 65 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 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>	7.25 W	
at AC in hot operating state per pole	2.4 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		
<ul> <li>between main and auxiliary circuit</li> </ul>	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)		
<ul> <li>of the main contacts typical</li> </ul>	100 000	
of auxiliary contacts typical	100 000	
electrical endurance (switching cycles) typical	100 000	
type of protection according to ATEX directive 2014/34/EU	Ex II (2) GD	
certificate of suitability according to ATEX directive 2014/34/EU	DMT 02 ATEX F 001	
reference code acc. to IEC 81346-2	Q	
Substance Prohibitance (Date)	01.10.2009 00:00:00	
Ambient conditions		
installation altitude at height above sea level maximum	2 000 m	
<ul> <li>ambient temperature during operation</li> </ul>	-20 +60 °C	
<ul> <li>ambient temperature during storage</li> </ul>	-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	3.5 5 A
<ul> <li>operating voltage rated value</li> </ul>	690 V
<ul> <li>operating voltage at AC-3 rated value maximum</li> </ul>	690 V
operating frequency rated value	50 60 Hz
operational current rated value	5 A
operational current at AC-3 at 400 V rated value	5 A
operating power at AC-3	
<ul> <li>at 230 V rated value</li> </ul>	1 100 W
<ul> <li>at 400 V rated value</li> </ul>	1 500 W
<ul> <li>at 500 V rated value</li> </ul>	2 200 W
at 690 V rated value	4 000 W
operating frequency at AC-3 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
breaking capacity operating short-circuit current (lcs) at AC	
<ul> <li>at 240 V rated value</li> </ul>	100 kA
<ul> <li>at 400 V rated value</li> </ul>	100 kA
<ul> <li>at 500 V rated value</li> </ul>	100 kA
<ul><li>at 690 V rated value</li></ul>	4 kA
breaking capacity maximum short-circuit current (Icu)	
<ul> <li>at AC at 240 V rated value</li> </ul>	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
response value current of instantaneous short-circuit trip unit	65 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	5 A
• at 600 V rated value	5 A
yielded mechanical performance [hp]	
<ul> <li>for single-phase AC motor</li> </ul>	
— at 110/120 V rated value	0.167 hp
— at 230 V rated value	0.5 hp
• for 3-phase AC motor	
— at 200/208 V rated value	1 hp
— at 220/230 V rated value	1 hp
— at 460/480 V rated value	3 hp
— at 575/600 V rated value	3 hp

contact rating of auxiliary contacts according to UL	C300 / R300
	C300 / R300
Short-circuit protection	V
product function short circuit protection	Yes
design of the short-circuit trip	magnetic
design of the fuse link	5 1/0 40 A
for short-circuit protection of the auxiliary switch required	Fuse gL/gG: 10 A, miniature circuit breaker C 6 A (short-circuit current lk < 400 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	45 mm
depth	97 mm
required spacing	
<ul> <li>for grounded parts at 400 V</li> </ul>	
— 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
• for grounded parts at 500 V	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
• for live parts at 500 V	J IIIIII
·	30 mm
— downwards	
— upwards	30 mm
— at the side	9 mm
• for grounded parts at 690 V	50
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
<ul> <li>for live parts at 690 V</li> </ul>	
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
Connections/ Terminals	
product function removable terminal for auxiliary and control circuit	No
type of electrical connection	
for main current circuit	screw-type terminals
<ul> <li>for auxiliary and control circuit</li> </ul>	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	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) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
at AWG cables for main contacts	
	2x (16 12), 2x (14 8)
type of connectable conductor cross-sections	
for auxiliary contacts	21/0 F 4 F mare?) 21/0 75 0 F mare?)
— solid or stranded	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²)

<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
at 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
<ul> <li>tightening torque for auxiliary contacts with screw- type terminals</li> </ul>	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	
<ul> <li>for main contacts</li> </ul>	M4
<ul> <li>of the auxiliary and control contacts</li> </ul>	M3
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]	
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	11 0
display version for switching status	Handle

Certificates/ approvals

## **General Product Approval**

For use in hazardous locations













**Declaration of Conformity** 

**Test Certificates** 

Marine / Shipping



**Miscellaneous** 

**Special Test** Certificate

Type Test Certificates/Test Report





Marine / Shipping

other











Confirmation

other

Railway



Confirmation

Vibration and Shock

## 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?mlfb=3RV2021-1FA15

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-1FA15

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1FA15

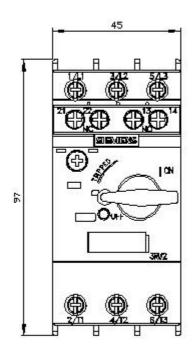
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RV2021-1FA15&lang=en

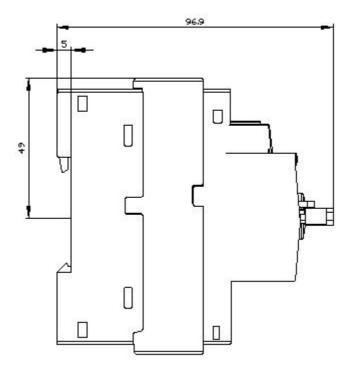
Characteristic: Tripping characteristics, I2t, Let-through current

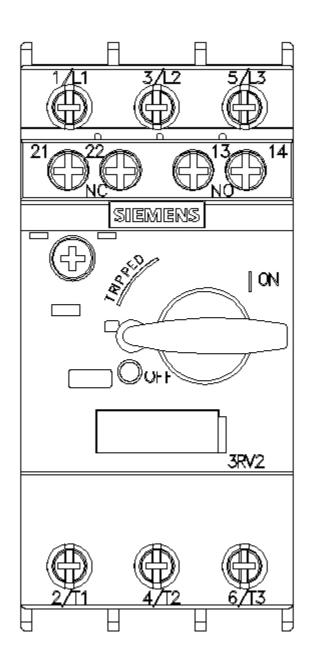
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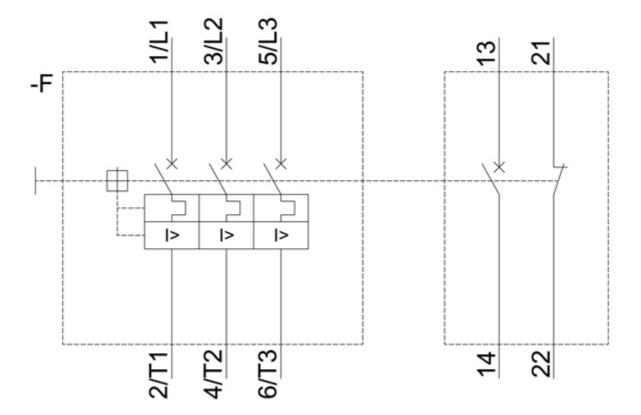
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-1FA15&objecttype=14&gridview=view1









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