SIEMENS

Data sheet

3RV2021-1FA10



Circuit breaker size S0 for motor protection, CLASS 10 A-release 3.5...5 A N release 65 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	SO			
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 	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				
 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			
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			
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			
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	3.5 5 A			

ourrent dependent overland relates	
current-dependent overload release	
operating voltage rated value 	690 V
rated value	20 690 V
at AC-3 rated value maximum	690 V
operating frequency rated value	50 60 Hz 5 A
operational current rated value operational current at AC-3 at 400 V rated value	5A
•	54
operating power at AC-3	1.1 kW
 at 230 V rated value at 400 V rated value 	1.5 kW
at 500 V rated value	2.2 kW
at 690 V rated value	4 kW 15 1/h
operating frequency at AC-3 maximum	13 1/11
Auxiliary circuit	0
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
breaking capacity operating short-circuit current (Ics) 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
breaking capacity maximum short-circuit current (lcu)	
 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
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]	
 for single-phase AC motor 	
— at 110/120 V rated value	0.17 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
Short-circuit protection	
product function short circuit protection	Yes
design of the short-circuit trip	magnetic
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	
 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
 for grounded parts at 500 V 	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
• for live parts at 500 V	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
 for grounded parts at 690 V 	
— downwards	50 mm
— upwards	50 mm
— upwards — backwards	0 mm
— at the side	30 mm
— at the side — forwards	0 mm
	0 mm
for live parts at 690 V	50 mm
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
Connections/ Terminals	
	N I
product component removable terminal for auxiliary and control circuit	No
product component removable terminal for auxiliary and control circuit type of electrical connection	No
and control circuit	
and control circuit type of electrical connection • for main current circuit	No screw-type terminals Top and bottom
and control circuit type of electrical connection	screw-type terminals
and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current	screw-type terminals
and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit	screw-type terminals
and control circuit 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
and control circuit 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
and control circuit 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)
and control circuit 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	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
and control circuit 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 • at AWG cables for main contacts	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
and control circuit 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 • at AWG cables for main contacts tightening torque	screw-type terminals Top and bottom 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)
and control circuit 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 • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals	screw-type terminals Top and bottom 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) 2 2.5 N·m
and control circuit 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 • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft	screw-type terminals Top and bottom 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) 2 2.5 N·m Diameter 5 to 6 mm
and control circuit 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 • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip	screw-type terminals Top and bottom 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) 2 2.5 N·m Diameter 5 to 6 mm
and control circuit 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 • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw	screw-type terminals Top and bottom 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) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2
and control circuit 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 • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts	screw-type terminals Top and bottom 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) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2
and control circuit 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 • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts Safety related data B10 value	screw-type terminals Top and bottom 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) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2
and control circuit 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 • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts Safety related data B10 value • with high demand rate acc. to SN 31920	screw-type terminals Top and bottom 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) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 M4
and control circuit 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 • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures	screw-type terminals Top and bottom 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) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 M4 5 000
and control circuit 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 • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with low demand rate acc. to SN 31920	screw-type terminals Top and bottom 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) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 M4 5 000 50 %
and control circuit 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 • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts Safety related data B10 value • with high demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920	screw-type terminals Top and bottom 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) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 M4 5 000
and control circuit 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 • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts Safety related data B10 value • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 i with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920	screw-type terminals Top and bottom 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) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 M4 5 000 50 %
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and control circuit 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 • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver shaft size of the thread of the connection screw • for main contacts Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with high demand rate acc. to SN 31920 failure rate [FIT] • with low demand rate acc. to SN 31920 T1 value for proof test interval or service life acc. to	screw-type terminals Top and bottom 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) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 M4 5 000 50 % 50 FIT
and control circuit 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 • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with low demand rate acc. to SN 31920 failure rate [FIT] • with low demand rate acc. to SN 31920 T1 value for proof test interval or service life acc. to IEC 61508	screw-type terminals Top and bottom 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) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 M4 5 000 50 % 50 % 50 %
and control circuit 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 • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with low demand rate acc. to SN 31920 failure rate [FIT] • with low demand rate acc. to SN 31920 T1 value for proof test interval or service life acc. to lEC 61508 protection class IP on the front acc. to IEC 60529	screw-type terminals Top and bottom 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) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 M4 5 000 50 % 50 % 50 FIT 10 y IP20

Certificates/ approval	s				
General Product Ap	proval				
		<u>Confirmation</u>		<u>KC</u>	EHC
For use in hazardou	us locations	Declaration of Con	formity	Test Certificates	
	K ATEX	CE EG-Konf.	<u>UK Declaration of</u> <u>Conformity</u>	Special Test Certific- ate	<u>Type Test Certific-</u> ates/Test Report
Marine / Shipping					
ABS	BUREAU VERITAS		Lloyds Register uis	PRS	RINA
Marine / Shipping	other		Railway		
RMRS	<u>Confirmation</u>		Vibration and Shock	<u>Confirmation</u>	
Further information Information- and Do https://www.siemens.	wnloadcenter (Catalo	ogs, Brochures,)			

https://www.siemens.com/ic10 Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2021-1FA10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-1FA10

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1FA10

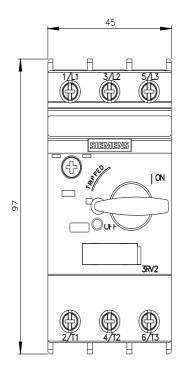
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

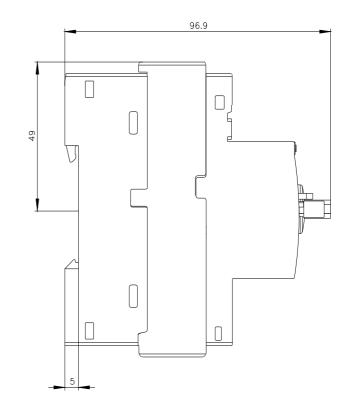
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-1FA10&lang=en

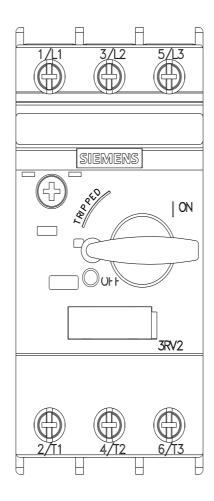
Characteristic: Tripping characteristics, I²t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1FA10/char

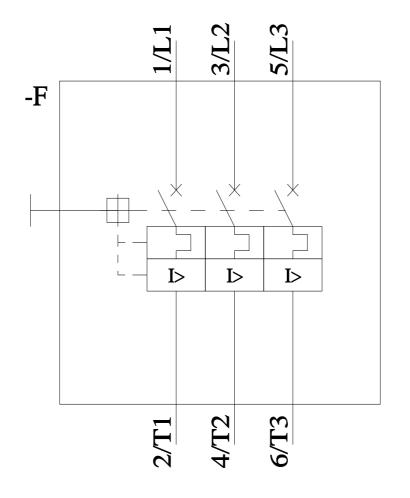
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-1FA10&objecttype=14&gridview=view1







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