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

4/11 4/12 6/13	
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	
 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
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
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 according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009
SVHC substance name	Blei - 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	3.5 5 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	5 A

operational current	
 at AC-3 at 400 V rated value 	5 A
 at AC-3e at 400 V rated value 	5 A
operating power	
• at AC-3	
— at 230 V rated value	1.1 kW
— at 400 V rated value	1.5 kW
— at 500 V rated value	2.2 kW
— at 690 V rated value	4 kW
• at AC-3e	
— at 230 V rated value	1.1 kW
— at 400 V rated value	1.5 kW
— at 500 V rated value	2.2 kW
— at 690 V rated value	4 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	Νο
ground fault detection	
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 (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
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	
	Vee
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 DIN rail according to DIN EN 60715
height	97 mm
width	45 mm
depth	97 mm

required spacing	
 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
 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
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
• for live parts at 690 V	U HIH
- downwards	50 mm
— upwards	50 mm
— upwards — backwards	0 mm
— at the side	30 mm
— at the side — forwards	
	0 mm
Connections/ Terminals	
type of electrical connection for main current circuit 	screw-type terminals
arrangement of electrical connectors for main current	Top and bottom
circuit	
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 mm ²), 2x (2.5 6 mm ²), 1x 10 mm ²
for AWG cables for main contacts	2x (1 2.5 mm ²), 2x (2.5 6 mm ²), 1x 10 mm ² 2x (16 12), 2x (14 8)
for AWG cables for main contacts	
for AWG cables for main contacts tightening torque	2x (16 12), 2x (14 8)
for AWG cables for main contacts tightening torque for main contacts with screw-type terminals	2x (16 12), 2x (14 8) 2 2.5 N·m
for AWG cables for main contacts tightening torque for main contacts with screw-type terminals design of screwdriver shaft	2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm
for AWG cables for main contacts tightening torque for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip	2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm
for 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	2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv size 2
for 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	2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv size 2
for 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 proportion of dangerous failures	2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv size 2 M4
for 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 proportion of dangerous failures with low demand rate according to SN 31920	2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv size 2 M4 50 %
for 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 proportion of dangerous failures with low demand rate according to SN 31920 with high demand rate according to SN 31920	2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv size 2 M4 50 % 50 %
for 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 proportion of dangerous failures with low demand rate according to SN 31920	2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv size 2 M4 50 %
for 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 proportion of dangerous failures with low demand rate according to SN 31920 with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN	2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv size 2 M4 50 % 50 %
for 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 proportion of dangerous failures with low demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920	2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv size 2 M4 50 % 50 % 50 % 50 FIT
for 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 proportion of dangerous failures with low demand rate according to SN 31920 with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 B10 value with high demand rate according to SN 31920 IEC 61508 T1 value for proof test interval or service life according to	2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv size 2 M4 50 % 50 % 50 % 50 FIT
for 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 proportion of dangerous failures with low demand rate according to SN 31920 with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 IEC 61508 T1 value for proof test interval or service life according to IEC 61508	2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv size 2 M4 50 % 50 % 50 FIT 5 000
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for 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 proportion of dangerous failures with low demand rate according to SN 31920 with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 B10 value with high demand rate according to SN 31920 IEC 61508 T1 value for proof test interval or service life according to IEC 61508 Electrical Safety protection class IP on the front according to IEC 60529	2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv size 2 M4 50 % 50 % 50 % 50 FIT 5 000
 for 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 proportion of dangerous failures with low demand rate according to SN 31920 with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 B10 value with high demand rate according to SN 31920 IEC 61508 T1 value for proof test interval or service life according to IEC 61508 Electrical Safety	2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv size 2 M4 50 % 50 % 50 FIT 5 000 10 a
 for 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 proportion of dangerous failures with low demand rate according to SN 31920 with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 B10 value with high demand rate according to SN 31920 IEC 61508 T1 value for proof test interval or service life according to IEC 61508 Electrical Safety	2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv size 2 M4 50 % 50 % 50 % 50 FIT 5 000 10 a IP20
 for 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 proportion of dangerous failures with low demand rate according to SN 31920 with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 B10 value with high demand rate according to SN 31920 IEC 61508 T1 value for proof test interval or service life according to IEC 61508 Electrical Safety	2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv size 2 M4 50 % 50 % 50 % 50 % 50 % 50 % 10 a IP20 finger-safe, for vertical contact from the front

General Product Approval UK <u>KC</u> Confirmation **General Product Ap-**For use in hazardous locations **Test Certificates** Marine / Shipping proval Special Test Certific-Type Test Certific-ates/Test Report FAL IFC Έv ate **IECEx** Marine / Shipping other **Miscellaneous** Railway other Confirmation Confirmation 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=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

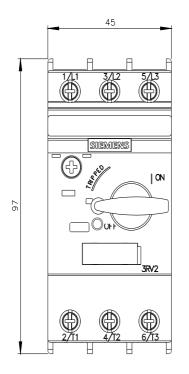
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

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

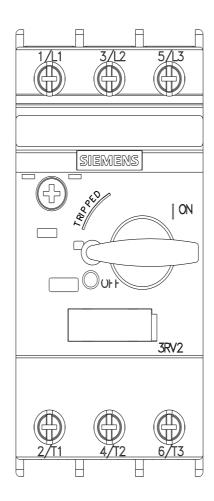
Characteristic: Tripping characteristics, I²t, Let-through current

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

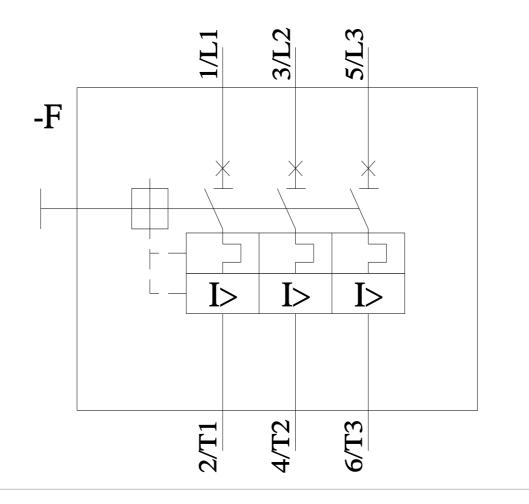
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-1FA10&objecttype=14&gridview=view1







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