SIEMENS

3RV2021-1FA10 **Data sheet**



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	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
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009
SVHC substance name	Lead - 7439-92-1
Weight	0.358 kg
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 %
Environmental footprint	
Environmental Product Declaration(EPD)	Yes
global warming potential [CO2 eq] total	75.078 kg
global warming potential [CO2 eq] during manufacturing	2.68 kg
global warming potential [CO2 eq] during sales	0.143 kg
global warming potential [CO2 eq] during operation	72.7 kg
global warming potential [CO2 eq] after end of life	-0.445 kg
Siemens Eco Profile (SEP)	Siemens EcoTech

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
type of voltage for main current circuit	AC
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	
type of voltage for auxiliary and control circuit	AC/DC
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
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 ooo v rated value	
• at 690 V rated value	4 kA
	4 kA 65 A
at 690 V rated value	
at 690 V rated value response value current of instantaneous short-circuit trip unit JL/CSA ratings	
at 690 V rated value response value current of instantaneous short-circuit trip unit	
at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor	65 A
at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value	65 A 5 A
at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value yielded mechanical performance [hp]	65 A 5 A
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— 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 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	F0
— downwards	50 mm
— upwards — backwards	50 mm 0 mm
— at the side	30 mm
— at the side — forwards	0 mm
• for live parts at 690 V	O IIIIII
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
Connections/ Terminals	
type of electrical connection	
for main current circuit	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 6 mm²), 1x 10 mm²
• for AWG cables for main contacts	2x (16 12), 2x (14 8)
tightening torque	
• for main contacts with screw-type terminals	2 2.5 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
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
Approvals Certificates	
Company Drawland American	

General Product Approval









<u>KC</u>



General Product Approval

For use in hazardous locations

Test Certificates

Maritime application









Special Test Certificate

Type Test Certificates/Test Report



Maritime application











Miscellaneous

other

other



Confirmation



Special Test Certificate

Railway

Confirmation



Environment

Environment



Environmental Confirmations

Further information

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

Information for data generation and storage

https://support.industry.siemens.com/cs/ww/en/view/109995012

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

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

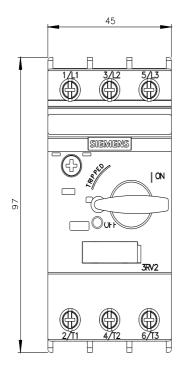
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-1FA10&lang=en

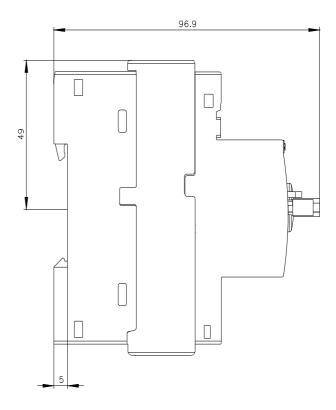
Characteristic: Tripping characteristics, I2t, Let-through current

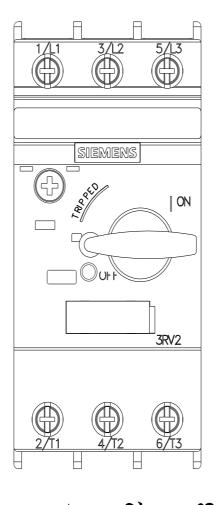
https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1FA10/char

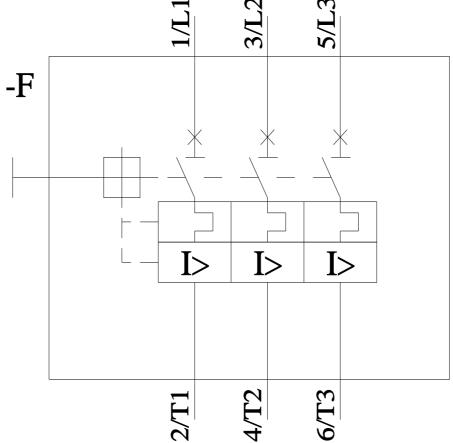
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-1FA10&objecttype=14&gridview=view1









last modified: 5/16/2025 🖸