SIEMENS

Data sheet 3RV2021-1EA25





Circuit breaker size S0 for motor protection, CLASS 10 A-release 2.8...4 A N release 52 A Spring-type 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	
 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
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	2.8 4 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 4 A operational current • at AC-3 at 400 V rated value 4 A • at AC-3e at 400 V rated value 4 A	
 at AC-3 at 400 V rated value at AC-3e at 400 V rated value 4 A 4 A 	
at AC-3e at 400 V rated value 4 A	
operating power	
• at AC-3	
— at 230 V rated value 0.8 kW	
— at 400 V rated value 1.5 kW	
— at 500 V rated value 2.2 kW	
— at 690 V rated value 3 kW	
• at AC-3e	
— at 230 V rated value 0.8 kW	
— at 400 V rated value 1.5 kW	
— at 500 V rated value 2.2 kW	
— at 690 V rated value 3 kW	
operating frequency	
• at AC-3 maximum 15 1/h	
• at AC-3e 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 1A	
• 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	
maximum short-circuit current breaking capacity (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	
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 52 A	
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value 4 A	
• at 600 V rated value 4 A	
yielded mechanical performance [hp]	
Vicined inectialical perioritatice filbi	
• for single-phase AC motor	
for single-phase AC motor — at 110/120 V rated value 0.13 hp	
 for single-phase AC motor — at 110/120 V rated value — at 230 V rated value 0.13 hp 0.33 hp 	
 for single-phase AC motor — at 110/120 V rated value — at 230 V rated value 0.13 hp 0.33 hp for 3-phase AC motor 	
 for single-phase AC motor — at 110/120 V rated value — at 230 V rated value 0.13 hp 0.33 hp for 3-phase AC motor — at 200/208 V rated value 0.8 hp 	
 for single-phase AC motor — at 110/120 V rated value — at 230 V rated value 0.13 hp 0.33 hp for 3-phase AC motor 	

— at 575/600 V rated value	3 hp
contact rating of auxiliary contacts according to UL	C300 / R300
Short-circuit protection	
product function short circuit protection	Yes
design of the short-circuit trip	magnetic
design of the short-circuit trip	
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 DIN rail according to DIN EN 60715
height	119 mm
width	45 mm
depth required spacing	97 mm
with side-by-side mounting at the side	0 mm
• for grounded parts at 400 V	O IIIIII
— 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 	
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
Connections/ Terminals	
type of electrical connection	anring leaded terminals
for main current circuit for auxiliany and control circuit	spring-loaded terminals
for auxiliary and control circuit arrangement of electrical connectors for main current	spring-loaded terminals Top and bottom
circuit	Top and bottom
type of connectable conductor cross-sections	
• for main contacts	
— solid or stranded	2x (1 10 mm²)
 finely stranded with core end processing 	2x (1 6 mm²)
 finely stranded without core end processing 	2x (1 6 mm²)
for AWG cables for main contacts	2x (18 8)
type of connectable conductor cross-sections	
 for auxiliary contacts 	
— solid or stranded	2x (0.5 2.5 mm²)
 finely stranded with core end processing 	2x (0.5 1.5 mm²)
 finely stranded without core end processing 	2x (0.5 1.5 mm²)

 for AWG cables for auxiliary contacts 	2x (20 14)
design of screwdriver shaft	Diameter 3 mm
size of the screwdriver tip	3,0 x 0,5 mm
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	
General Product Approval	







Confirmation



<u>KC</u>

General Product Approval

For use in hazardous locations

Test Certificates

Marine / Shipping







Special Test Certificate

Type Test Certificates/Test Report



Marine / Shipping











Miscellaneous

other

other

Railway

Environment

Confirmation



Special Test Certificate

Confirmation



Siemens EcoTech



Environment

Further information

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=3RV2021-1EA25

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-1EA25

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1EA25

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

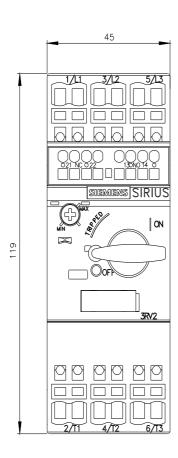
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-1EA25&lang=en

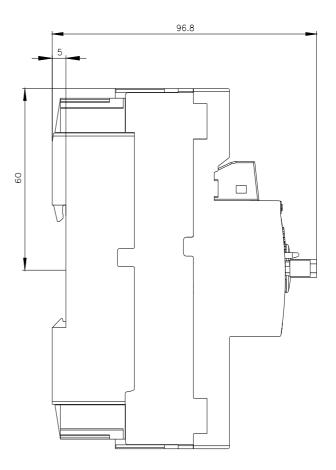
Characteristic: Tripping characteristics, I²t, Let-through current

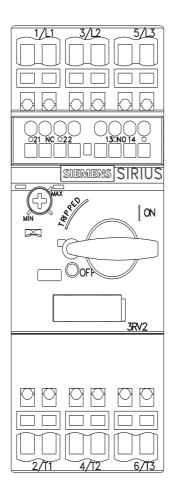
https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1EA25/char

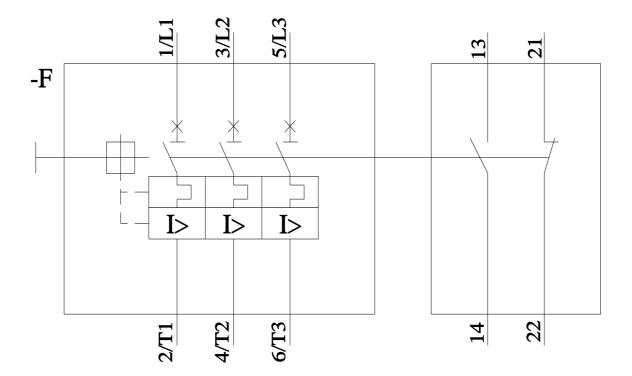
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-1EA25&objecttype=14&gridview=view1









last modified: 4/12/2024 🖸