SIEMENS

Data sheet 3RV2021-1KA10



Circuit breaker size S0 for motor protection, CLASS 10 A-release 9...12.5~A~N release 163 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	9.25 W
 at AC in hot operating state per pole 	3.1 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
reference code according to IEC 81346-2 Substance Prohibitance (Date)	Q 10/01/2009
Substance Prohibitance (Date)	
Substance Prohibitance (Date) Ambient conditions	10/01/2009
Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum	10/01/2009
Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature	10/01/2009 2 000 m
Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation	10/01/2009 2 000 m -20 +60 °C
Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage	10/01/2009 2 000 m -20 +60 °C -50 +80 °C
Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport	10/01/2009 2 000 m -20 +60 °C -50 +80 °C -50 +80 °C
Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation	10/01/2009 2 000 m -20 +60 °C -50 +80 °C -50 +80 °C
Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation Main circuit	10/01/2009 2 000 m -20 +60 °C -50 +80 °C -50 +80 °C 10 95 %
Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation Main circuit number of poles for main current circuit adjustable current response value current of the current-	10/01/2009 2 000 m -20 +60 °C -50 +80 °C -50 +80 °C 10 95 %
Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release	10/01/2009 2 000 m -20 +60 °C -50 +80 °C -50 +80 °C 10 95 %
Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage	10/01/2009 2 000 m -20 +60 °C -50 +80 °C -50 +80 °C 10 95 % 3 9 12.5 A
Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value	10/01/2009 2 000 m -20 +60 °C -50 +80 °C -50 +80 °C 10 95 % 3 9 12.5 A
Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum	10/01/2009 2 000 m -20 +60 °C -50 +80 °C -50 +80 °C 10 95 % 3 9 12.5 A
Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum • at AC-3e rated value maximum	10/01/2009 2 000 m -20 +60 °C -50 +80 °C -50 +80 °C 10 95 % 3 9 12.5 A 20 690 V 690 V

• at AC-3 at 400 V rated value	12.5 A
• at AC-3e at 400 V rated value	12.5 A
operating power	
• at AC-3	
— at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
— at 500 V rated value	7.5 kW
— at 690 V rated value	7.5 kW
• at AC-3e	
— at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
— at 500 V rated value	7.5 kW
— at 690 V rated value	7.5 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	
ground fault detection	No
-	Yes
phase failure detection trip class	CLASS 10
trip class	
design of the overload release	thermal
maximum short-circuit current breaking capacity (Icu)	100 kA
at AC at 400 V rated value	100 kA
at AC at 400 V rated value	100 kA
at AC at 500 V rated value	42 kA
at AC at 690 V rated value	6 kA
operating short-circuit current breaking capacity (lcs) at AC	
• at 240 V rated value	100 kA
• at 400 V rated value	100 kA
at 500 V rated value	42 kA
at 690 V rated value	4 kA
response value current of instantaneous short-circuit trip unit	163 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	12.5 A
at 600 V rated value	12.5 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	0.5 hp
— at 230 V rated value	2 hp
• for 3-phase AC motor	
 at 200/208 V rated value 	3 hp
 at 220/230 V rated value 	3 hp
— at 460/480 V rated value	8 hp
 at 575/600 V rated value 	10 hp
Short-circuit protection	
product function short circuit protection	Yes
	Yes magnetic
product function short circuit protection	
product function short circuit protection design of the short-circuit trip Installation/ mounting/ dimensions	
product function short circuit protection design of the short-circuit trip Installation/ mounting/ dimensions mounting position	magnetic
product function short circuit protection design of the short-circuit trip Installation/ mounting/ dimensions mounting position fastening method	any screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
product function short circuit protection design of the short-circuit trip Installation/ mounting/ dimensions mounting position fastening method height	any screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 97 mm
product function short circuit protection design of the short-circuit trip Installation/ mounting/ dimensions mounting position fastening method	any screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715

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	
— upwards — backwards	0 mm	
— at the side	30 mm	
— at the side — forwards	0 mm	
	O HIIII	
• for live parts at 690 V	F0 mm	
— 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	Top and bottom	
circuit		
type of connectable conductor cross-sections		
for main contacts	0 (4 05 2) 0 (05 40 2)	
— 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		
B10 value		
• with high demand rate according to SN 31920	5 000	
proportion of dangerous failures		
with low demand rate according to SN 31920	50 %	
with high demand rate according to SN 31920	50 %	
failure rate [FIT]		
 with low demand rate according to SN 31920 	50 FIT	
T1 value for proof test interval or service life according to IEC 61508	10 a	
	IDOO	
protection class IP on the front according to IEC 60529	IP20	
protection class IP on the front according to IEC 60529 touch protection on the front according to IEC 60529		
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front	
touch protection on the front according to IEC 60529 display version for switching status		
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front	For use in hazard-





FA



For use in hazardous locations

Declaration of Conformity

Test Certificates

Marine / Shipping







Type Test Certificates/Test Report

<u>KC</u>

Special Test Certificate



Marine / Shipping











Confirmation

other

other

Railway



Confirmation

Vibration and Shock

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=3RV2021-1KA10

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RV2021-1KA10}$

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1KA10

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

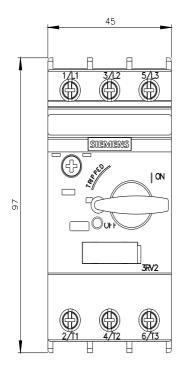
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-1KA10&lang=en

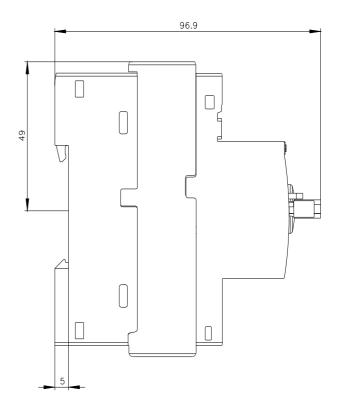
Characteristic: Tripping characteristics, I2t, Let-through current

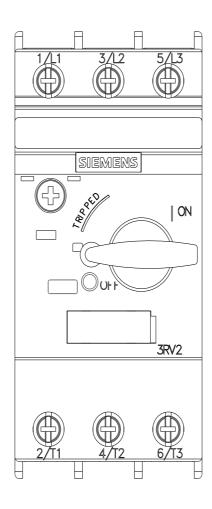
https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1KA10/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-1KA10&objecttype=14&gridview=view1









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