SIEMENS

Data sheet 3RV2023-1KA20



Circuit breaker size S0 for motor protection, CLASS 10 A-release 9...12 A N-release 163 A Spring-type terminal switching capacity 30 kA at 600 V according to UL/CSA

product designation design of the product product type designation 3RV2 General technical data size of the circuit-breaker size of contactor can be combined company-specific product extension auxiliary switch power loss [W] for rated value of the current • at AC in hot operating state per pole insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value shock resistance according to IEC 60068-2-27 • of the main contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical electrical endurance (switching to IEC 81346-2 Quity Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • duringt transport relative humidity during operation Main circuit number of poles for main current circuit additional additional current response value current of the	product brand name	SIRIUS
general technical data size of the circuit-breaker size of contactor can be combined company-specific product extension auxiliary switch 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 surge voltage resistance rated value shock resistance according 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 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/01/2009 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 relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3	product designation	Circuit breaker
Size of the circuit-breaker Size of contactor can be combined company-specific Size of contactor can be company-specific Size of can be contactor can be contactor can be company-specific Size of can be contactor can	design of the product	For motor protection
size of the circuit-breaker size of contactor can be combined company-specific product extension auxiliary switch power loss [W] for rated value of the current • at AC in hot operating state • at AC in hot operating state per pole insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value surge voltage resistance rated value shock resistance according to IEC 60068-2-27 mechanical service life (switching cycles) • of the main contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 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 3	product type designation	3RV2
size of contactor can be combined company-specific product extension auxiliary switch 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 surge voltage resistance rated value 6 kV shock resistance according 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 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/01/2009 Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature • during operation -20 +60 °C • during transport -50 +80 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3	General technical data	
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surge voltage resistance rated value shock resistance according to IEC 60068-2-27 25g / 11 ms mechanical service life (switching cycles) of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature olduring storage olduring storage olduring transport relative humidity during operation Main circuit number of poles for main current circuit a 100 000 100 000	at AC in hot operating state per pole	3.1 W
shock resistance according to IEC 60068-2-27 shock resistance according to IEC 60068-2-27 e of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum of during operation during storage during storage during transport relative humidity during operation Main circuit number of poles for main current circuit 25g / 11 ms 25g / 11 ms 100 000		690 V
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 of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Involve and the result of the properties of the pro	shock resistance according to IEC 60068-2-27	25g / 11 ms
of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature oduring operation during storage during transport relative humidity during operation Main circuit number of poles for main current circuit 100 000 10	mechanical service life (switching cycles)	
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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 10/01/2009 10/01/2009 10/01/2009 10 m 2 000 m -20 +60 °C -50 +80 °C -50 +80 °C 3	electrical endurance (switching cycles) typical	100 000
Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport -50 +80 °C relative humidity during operation Main circuit number of poles for main current circuit 2 000 m -20 +60 °C -50 +80 °C -50 +80 °C 3	reference code according to IEC 81346-2	Q
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 during storage during transport -50 +80 °C relative humidity during operation Main circuit number of poles for main current circuit 3 	ambient temperature	
● during transport -50 +80 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3	during operation	-20 +60 °C
relative humidity during operation 10 95 % Main circuit 3	 during storage 	-50 +80 °C
Main circuit number of poles for main current circuit 3	during transport	-50 +80 °C
number of poles for main current circuit 3	relative humidity during operation	10 95 %
·	Main circuit	
adjustable current response value current of the 9 12.5 A	number of poles for main current circuit	3
current-dependent overload release	adjustable current response value current of the current-dependent overload release	9 12.5 A
operating voltage	operating voltage	
• rated value 20 690 V	• rated value	20 690 V
• at AC-3 rated value maximum 690 V	 at AC-3 rated value maximum 	690 V
• at AC-3e rated value maximum 690 V	 at AC-3e rated value maximum 	690 V
operating frequency rated value 50 60 Hz	operating frequency rated value	50 60 Hz
operational current rated value 12.5 A	operational current rated value	12.5 A
operational current	operational current	
• at AC-3 at 400 V rated value 12.5 A	at AC-3 at 400 V rated value	12.5 A

a at AC 20 at 400 V rated value	12 5 1
at AC-3e at 400 V rated value	12.5 A
operating power	
• at AC-3	7.5.120
— at 690 V rated value	7.5 kW
• at AC-3e	7.5.120
— at 690 V rated value	7.5 kW
operating frequency	45.40
• 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
phase failure detection	Yes
trip class	CLASS 10
design of the overload release	thermal
breaking capacity maximum short-circuit current (Icu)	
at AC at 690 V rated value	6 kA
breaking capacity operating short-circuit current (Ics)	
at AC	
at 690 V rated value	4 kA
response value current of instantaneous short-circuit trip	163 A
unit	
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 violded mechanical performance [hp]	12.5 A
yielded mechanical performance [hp]	
 for single-phase AC motor — at 110/120 V rated value 	0.5 hp
	0.5 hp
— at 230 V rated value	2 hp
• for 3-phase AC motor	2 hn
— 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	V
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	119 mm
width	45 mm
depth	97 mm
required spacing	
• for grounded parts at 690 V	
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	30 mm
— at the side — forwards	0 mm
for live parts at 690 V	VIIIII
downwards	50 mm
— downwards — upwards	50 mm
— upwarus — backwards	0 mm
— packwaiu3	VIIIII

— at the side	30 mm
— forwards	0 mm
Connections/ Terminals	V
type of electrical connection	
 for main current circuit 	spring-loaded 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 10 mm²)
 finely stranded with core end processing 	2x (1 6 mm²)
 finely stranded without core end processing 	2x (1 6 mm²)
at AWG cables for main contacts	2x (18 8)
design of screwdriver shaft	Diameter 3 mm
size of the screwdriver tip	3,0 x 0,5 mm
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 y
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 version for switching status	Handle
Certificates/ approvals	

General Product Approval

Declaration of Conformity





Confirmation







Declaration of Conformity

Test Certificates

Marine / Shipping



Type Test Certificates/Test Report

Special Test Certificate







Marine / Shipping

other









Confirmation



Railway

Vibration and Shock

Confirmation

Further information

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=3RV2023-1KA20

Cax online generator

 $\underline{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RV2023-1KA20}$

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2023-1KA20

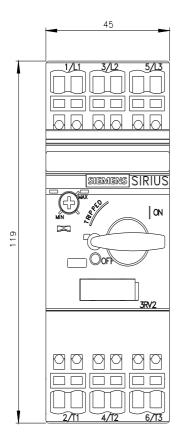
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax de.aspx?mlfb=3RV2023-1KA20&lang=en

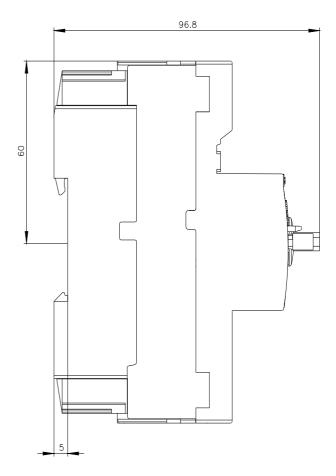
Characteristic: Tripping characteristics, I2t, Let-through current

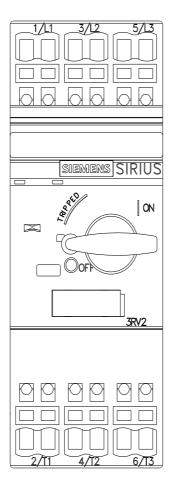
https://support.industry.siemens.com/cs/ww/en/ps/3RV2023-1KA20/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2023-1KA20&objecttype=14&gridview=view1







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