## **SIEMENS**

Data sheet 3RV2023-1KA10



Circuit breaker size S0 for motor protection, CLASS 10 A-release 9...12 A N-release 163 A screw 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 • of auxiliary contacts typical • of auxiliary contacts typical • of auxiliary contacts typical electrical endurance (switching cycles)  • of the main contacts typical • of auxiliary contacts typical electrical endurance (switching cycles)  • of which is a code according to IEC 81346-2 Substance Prohibitance (Date)  Ambient conditions installation altitude at height above sea level maximum • during operation • during operation • during storage • during transport relative humidity during operation  wain circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • at AC-3 rated value maximum • oparating frequency rated value • at AC-3 rated value maximum • oparating frequency rated value • operational current rated value • of at AC-3 at 400 V rated value • at AC-3 at 400 V rated value • ot AC-3 at 400 V rated value	product brand name	SIRIUS
Separate   Separation   SRV2	product designation	Circuit breaker
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 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 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 Quustance 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-3 rated value maximum operational current rated value operational current value operational current value operational current rated value operational current value operational current rated value operational current value operational current value value operational current rated value operational current value	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 • 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 according to IEC 60068-2-27 geomethanical 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 Q 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 operation current rated value • operational current rated value operational current value operational current value	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 680 V  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) 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  adjustable current response value current of the current-dependent overload release operating voltage  • rated value at AC-3 rated value maximum 690 V  • at AC-3 rated value maximum 690 V  operational current rated value ope	General technical data	
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 get / 11 ms  mechanical service life (switching cycles) • of the main contacts typical • of auxiliary contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical 100 000  reference code according to IEC 81346-2 Q Substance Prohibitance (Dato) Ambient conditions installation altitude at height above sea level maximum ambient temperature electrical endurance (switching cycles) typical electrical endurance (switching cycles)  electrical endurance (switching cycles)  peration altitude at height above sea level maximum electrical endurance (switching cycles)  peration altitude at height above sea level maximum electrical endurance (switching cycles)  peration altitude at height above sea level maximum electrical endurance (switching cycles) electrical endurance (switching cycles)  peration altitude at height above sea level maximum electrical endurance (switching cycles)  peration altitude at height above sea level maximum electrical endurance (switching cycles)  peration altitude at height above sea level maximum electrical endurance (switching cycles)  peration altitude at height ab	size of the circuit-breaker	S0
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 shock resistance according to IEC 60068-2-27  mechanical service life (switching cycles) • of the main contacts typical of awailiary contacts typical lelectrical endurance (switching cycles) typical 100 000  reference code according to IEC 81346-2 Q 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 95 %  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-3e rated value maximum operational current rated value operational current rated value operational current rated value operational current operational current rated value operational current operational current rated value operational current	size of contactor can be combined company-specific	S00, S0
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 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/10/2009  Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature oduring operation 20 +60 °C oduring storage 5.0 +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 operating voltage operating voltage operating frequency rated value 50 690 V operating frequency rated value 50 690 V operational current rated value 50 690 V	product extension auxiliary switch	Yes
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  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 Q Substance Prohibitance (Date)  Ambient conditions installation altitude at height above sea level maximum ambient temperature of during storage of 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 operational current rated value operational current rated value operational current rated value operational current of the current voltage operation of the current voltage operation operational current rated value operational current rated value operational current rated value operational current rated value operational current of the current voltage operational current rated value operational current rated value operational current rated value operational current of the current voltage operational current rated value operational current rated value operational current voltage operational voltage operational voltage operational voltage operational voltage operational voltage operation	power loss [W] for rated value of the current	
insulation voltage with degree of pollution 3 at AC 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  lectrical 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  of during operation  of during storage  of during storage  of during torage  of during torasport  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  or rated value  operating frequency rated value  operational current  operational current rated value  operational current  10 60 Hz  operational current  25g / 11 ms  100.000  10	<ul> <li>at AC in hot operating state</li> </ul>	9.25 W
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 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-3e rated value maximum  690 V  • at AC-3e rated value maximum  operational current rated value  operational current  25g / 11 ms  86	<ul> <li>at AC in hot operating state per pole</li> </ul>	3.1 W
shock resistance according to IEC 60068-2-27  mechanical service life (switching cycles)  of the main 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 oduring operation oduring storage oduring 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  o at AC-3 rated value maximum of the ment of the current rated value operational current		690 V
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 Q Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature olduring operation olduring storage olduring 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 or at AC-3 rated value maximum operational current rated value operational current	surge voltage resistance rated value	6 kV
of the main contacts typical of auxiliary contacts typical lectrical endurance (switching cycles) typical lectrical 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  of during operation of during operation of during storage of 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 orated value orated value maximum operating frequency rated value operational current over the current rated value operational current rated value operational current rated value operational current rated value operational current over the current of the current rated value operational current over the current of the current of the current of the current of the current value operational current rated value operational current over the current over the value over the value operational current over the current value over the value over the value over the value operational current over the value over	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     ouring operation     during storage     during transport relative humidity during operation  Industrial adjustable current response value current of the current-dependent overload release  operating voltage     at AC-3 rated value maximum     at AC-3e rated value maximum operational current rated value  100 000  100 0	mechanical service life (switching cycles)	
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 • during operation • during storage • 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 • at AC-3e rated value operational current rated value operational current rated value operational current rated value operational current rated value 12.5 A	<ul> <li>of the main contacts typical</li> </ul>	100 000
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  10 95 %  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 operational current rated value operational current rated value operational current rated value operational current rated value  12.5 A operational current rated value operational current rated value operational current rated value operational current	of auxiliary contacts typical	100 000
Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperature  • during operation • during storage • during transport • during transport  relative humidity during operation  10 95 %  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  operational current rated value  operational current rated value  10/01/2009  10/01/2009  - 20 +60 °C  - 50 +80 °C  - 60 V  - 6	electrical endurance (switching cycles) typical	100 000
installation altitude at height above sea level maximum  ambient temperature  • during operation • during storage • during transport relative humidity during operation  10 95 %  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  operational current rated value  operational current rated value  12.5 A  operational current rated value  12.5 A  operational current rated value  12.5 A	reference code according to IEC 81346-2	Q
installation altitude at height above sea level maximum  ambient temperature  • during operation • during storage • during transport • during transport  relative humidity during operation  10 95 %  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  operational current rated value  operational current rated value  12.5 A  operational current  2 0 690 V  operational current rated value  12.5 A	Substance Prohibitance (Date)	10/01/2009
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  operational current rated value  operational current rated value  12.5 A  operational current rated value  12.5 A	Ambient conditions	
<ul> <li>during operation</li> <li>during storage</li> <li>during transport</li> <li>storage</li> <li>telative humidity during operation</li> <li>mumber of poles for main current circuit</li> <li>adjustable current response value current of the current-dependent overload release</li> <li>operating voltage</li> <li>rated value</li> <li>at AC-3 rated value maximum</li> <li>at AC-3e rated value maximum</li> <li>operating frequency rated value</li> <li>operational current rated value</li> <li>operational current rated value</li> <li>12.5 A</li> </ul>	installation altitude at height above sea level maximum	2 000 m
<ul> <li>during storage</li> <li>during transport</li> <li>-50 +80 °C</li> <li>relative humidity during operation</li> <li>10 95 %</li> <li>Main circuit</li> <li>number of poles for main current circuit</li> <li>adjustable current response value current of the current-dependent overload release</li> <li>operating voltage <ul> <li>rated value</li> <li>at AC-3 rated value maximum</li> <li>at AC-3e rated value maximum</li> <li>operating frequency rated value</li> <li>operational current rated value</li> <li>12.5 A</li> </ul> </li> <li>operational current</li> <li>operational current</li> </ul>	ambient temperature	
<ul> <li>during transport</li> <li>relative humidity during operation</li> <li>10 95 %</li> </ul> Main circuit <ul> <li>number of poles for main current circuit</li> <li>adjustable current response value current of the current-dependent overload release</li> <li>operating voltage</li> <li>rated value</li> <li>at AC-3 rated value maximum</li> <li>at AC-3e rated value maximum</li> <li>operating frequency rated value</li> <li>operating frequency rated value</li> <li>operational current</li> </ul> 50 60 Hz operational current 12.5 A	<ul><li>during operation</li></ul>	-20 +60 °C
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  operating frequency rated value  operational current rated value  12.5 A	during storage	-50 +80 °C
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  operating frequency rated value  operational current  operational current  3  20 690 V  690 V  690 V  100 OPERATING TREED TREE	during transport	-50 +80 °C
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  operating frequency rated value  operational current rated value  12.5 A  12.5 A	relative humidity during operation	10 95 %
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  operating frequency rated value  operational current rated value  12.5 A  12.5 A	Main circuit	
current-dependent overload release  operating voltage  • rated value  • at AC-3 rated value maximum  • at AC-3e rated value maximum  operating frequency rated value  operational current rated value  12.5 A	number of poles for main current circuit	3
<ul> <li>rated value</li> <li>at AC-3 rated value maximum</li> <li>at AC-3e rated value maximum</li> <li>at AC-3e rated value maximum</li> <li>operating frequency rated value</li> <li>operational current rated value</li> <li>operational current</li> </ul>		9 12.5 A
<ul> <li>at AC-3 rated value maximum</li> <li>at AC-3e rated value maximum</li> <li>operating frequency rated value</li> <li>operational current rated value</li> <li>operational current</li> </ul>	operating voltage	
at AC-3e rated value maximum     690 V     operating frequency rated value     50 60 Hz     operational current rated value     12.5 A	rated value	20 690 V
operating frequency rated value 50 60 Hz operational current rated value 12.5 A operational current	<ul> <li>at AC-3 rated value maximum</li> </ul>	690 V
operational current rated value 12.5 A operational current	<ul> <li>at AC-3e rated value maximum</li> </ul>	690 V
operational current	operating frequency rated value	50 60 Hz
	operational current rated value	12.5 A
• at AC-3 at 400 V rated value 12.5 A	operational current	
	• 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 690 V rated value	7.5 kW
• at AC-3e	
— at 690 V rated value	7.5 kW
operating frequency	
<ul> <li>at AC-3 maximum</li> </ul>	15 1/h
<ul> <li>at AC-3e maximum</li> </ul>	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 (lcs)	
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	
<ul> <li>at 480 V rated value</li> </ul>	12.5 A
at 600 V rated value	12.5 A
yielded mechanical performance [hp]	
<ul> <li>for single-phase AC motor</li> </ul>	
<ul> <li>— at 110/120 V rated value</li> </ul>	0.5 hp
— at 230 V rated value	2 hp
<ul> <li>for 3-phase AC motor</li> </ul>	
<ul> <li>— at 200/208 V rated value</li> </ul>	3 hp
<ul> <li>at 220/230 V rated value</li> </ul>	3 hp
<ul> <li>— at 460/480 V rated value</li> </ul>	8 hp
— at 575/600 V rated value	10 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 standard mounting rail
	according to DIN EN 60715
height	97 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
— forwards	0 mm
• for live parts at 690 V	
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm

	00
— 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	
<ul><li>— solid or stranded</li></ul>	2x (1 2.5 mm²), 2x (2.5 10 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
at 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	
<ul> <li>for main contacts</li> </ul>	M4
Safety related data	
B10 value	
<ul> <li>with high demand rate according to SN 31920</li> </ul>	5 000
proportion of dangerous failures	
<ul> <li>with low demand rate according to SN 31920</li> </ul>	50 %
<ul> <li>with high demand rate according to SN 31920</li> </ul>	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

## **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=3RV2023-1KA10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2023-1KA10

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2023-1KA10

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

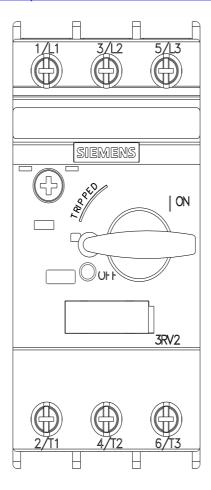
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RV2023-1KA10&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RV2023-1KA10/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2023-1KA10&objecttype=14&gridview=view1



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