## **SIEMENS**

Data sheet 3RV2411-1KA20



Circuit breaker size S00 for transformer protection A-release 9...12.5 A N-release 260 A Spring-type terminal Standard switching capacity

Design of the product   For transformer protection   STRV2	product brand name	SIRIUS
Seneral technical data	product designation	Circuit breaker
size of the circuit-breaker size of contactor can be combined company-specific product extension auxiliary switch 1	design of the product	For transformer 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 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 aubient 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 operation frequency rated value operational current • at AC-3 rated value operational current rated 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 • 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 • at AC-3 rated value maximum 690 V operating frequency rated value operational current operational current rated value operational current rated value operational current rated value operational current rated value operational current	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 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 60088-2-27 get possible per pole of the main contacts typical of the main contacts typical of auxiliary contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical preference code according to IEC 81346-2 Substance Prohibitance (Date)  Ambient conditions installation altitude at height above sea level maximum ambient temperature during operation -20 +60 °C -30 +80 °C -40 uring 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 endured the current according frequency rated value operational current rated value	size of the circuit-breaker	S00
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 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 letectrical endurance (switching cycles) 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 storage during transport 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 arated value maximum apperation current rated value operational current care operational current rated value operational current of the current rated value operational current rated value	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 shock resistance according to IEC 60068-2-27 25g / 11 ms mechanical service life (switching cycles) of the main 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 2000 m ambient temperature during operation -20 +60 °C during storage -50 +80 °C eduring transport -50 +80 °C relative humidity during operation 10 95 %  Main circuit 1 adjustable current response value current of the current-dependent overload release operating voltage a rated value 20 690 V at AC-3e rated value maximum 690 V at AC-3e rated value maximum 690 V operational current rated value operation operational current rated value operation operational current rated value operation operation	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 get the main contacts typical of the main contacts typical of auxiliary contacts typical lectrical endurance (switching cycles) 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 oldring storage oldring storage oldring storage oldring transport relative humidity during operation  Main circuit adjustable current response value current of the current-dependent overload release operating voltage at AC-3e rated value maximum operation let value operational current rated value operational current rated value operational current rated value operational current of the current operational current rated value operational current rated value operational current rated value operational current of the current operational current rated value operational current rated value operational current of the current operational current rated value operational current of the current operational current rated value operational current of the current operational current rated value operational current operational current of the current operational current	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  electrical endurance (switching cycles) typical  reference code according to IEC 81346-2  Questiance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperature  of during operation  of during storage  of during transport  relative humidity during operation  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage  orated value  at AC-3 rated value maximum  operational current rated value  operational current  100 000	<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 lelectrical 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 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 operation geration current rated value operational current	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 e of auxiliary contacts typical lectrical endurance (switching cycles) typical reference code according to IEC 81346-2 Qusustance Prohibitance (Date)  Ambient conditions installation altitude at height above sea level maximum ambient temperature e during operation e 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 e rated value e at AC-3 rated value maximum e operating frequency 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  Qu 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  operating frequency rated value  operational current	surge voltage resistance rated value	6 kV
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     ouring operation     ouring storage     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     orated value	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 adjustable current response value current of the current-dependent overload release operating voltage     rated value     at AC-3 rated value maximum     e at AC-3 rated value maximum operational current rated value operational current  100 000 100 00	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 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  operational current rated value  operational current rated value  100 000  -20 +60 °C -20 +60 °C -20 +80 °C -2	<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  • rated value maximum  690 V  • at AC-3 rated value maximum  operating frequency rated value  operational current rated value  operational current rated value  12.5 A  operational current rated value  12.5 A	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  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  690 V  operating frequency rated value  operational current rated value  10/01/2009  10/01/2	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  operating frequency rated value  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 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 operational current rated value  operational current rated value  operational current rated value  1 2 0 460 °C  - 50 +80 °C  - 60 V  - 6	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  operating frequency rated value  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>so +80 °C</li> <li>during transport</li> <li>-50 +80 °C</li> <li>relative humidity during operation</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>690 V</li> </ul> </li> <li>operating frequency 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> </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>operational current rated value</li> <li>12.5 A</li> </ul>	ambient temperature	
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  operating frequency rated value  operational current rated value  12.5 A  operational current  -50 +80 °C  10 95 %  9 12.5 A	<ul> <li>during operation</li> </ul>	-20 +60 °C
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  operating frequency rated value  operational current rated value  12.5 A  operational current	during storage	-50 +80 °C
Main circuit  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  • rated value maximum  • at AC-3 rated value maximum  • at AC-3e rated value maximum  operating frequency rated value  operational current rated value  12.5 A  operational current	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  operational current	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  operational current	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  operational current	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>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	
<ul> <li>at AC-3e rated value maximum</li> <li>690 V</li> <li>operating frequency rated value</li> <li>operational current rated value</li> <li>operational current</li> </ul>	• 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

-t AO Ot 400 \/tt \	40.5 A
at AC-3e at 400 V rated value	12.5 A
operating power	
• at AC-3	0.114
— 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	
<ul><li>at AC-3 maximum</li></ul>	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 240 V rated value	100 kA
<ul> <li>at AC at 400 V rated value</li> </ul>	100 kA
<ul> <li>at AC at 500 V rated value</li> </ul>	42 kA
at AC at 690 V rated value	6 kA
breaking capacity operating short-circuit current (Ics)	
at AC	
<ul> <li>at 240 V rated value</li> </ul>	100 kA
<ul> <li>at 400 V rated value</li> </ul>	100 kA
<ul> <li>at 500 V rated value</li> </ul>	42 kA
at 690 V rated value	4 kA
response value current of instantaneous short-circuit trip unit	260 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
design of the short-circuit trip	magnetic
design of the short-circuit trip  design of the fuse link for IT network for short-circuit protection of the main circuit	agouo
• at 400 V	gL/gG 63 A
• at 500 V	gL/gG 50 A
• at 690 V	gL/gG 40 A
Installation/ mounting/ dimensions	3-3-10.
motanation/ mounting/ difficulties	

mounting position	any
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail
	according to DIN EN 60715
height	106 mm
width	45 mm
depth	97 mm
required spacing	
<ul> <li>for grounded parts at 400 V</li> </ul>	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
<ul> <li>for live parts at 400 V</li> </ul>	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
<ul> <li>for grounded parts at 500 V</li> </ul>	
— 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
<ul> <li>for grounded parts at 690 V</li> </ul>	
— 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	
• for main current circuit	spring-loaded terminals
arrangement of electrical connectors for main current	Top and bottom
circuit	rop and socion
type of connectable conductor cross-sections	
for main contacts	
— solid or stranded	2x (0,5 4 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 2.5 mm²)
finely stranded without core end processing	2x (0.5 2.5 mm²)
at AWG cables for main contacts	2x (20 12)
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	10 y
IEC 61508	· · · ·
protection class IP on the front according to IEC	IP20
60529	
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

Confirmation Vibration and Shock

## **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=3RV2411-1KA20

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2411-1KA20

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2411-1KA20

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

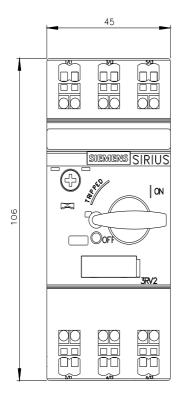
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RV2411-1KA20&lang=en

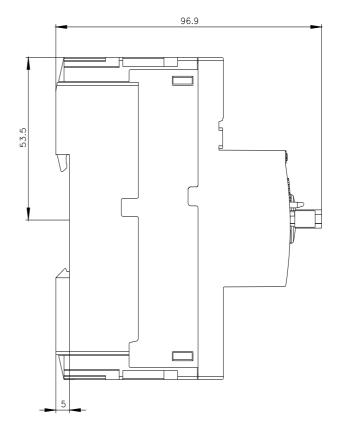
Characteristic: Tripping characteristics, I2t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RV2411-1KA20/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2411-1KA20&objecttype=14&gridview=view1





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