SIEMENS

Data sheet 3RV2031-4BB10



Circuit breaker size S2 for motor protection, Class 20 A-release 14...20 A N-release 260 A screw terminal Standard switching capacity

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 size of contactor can be combined company-specific product extension auxiliary switch yes power loss [W] for rated value of the current at AC in hot operating state that AC in hot operating state surge voltage resistance rated value of the main contacts typical of the main contacts typical electrical endurance (switching cycles) of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81348-2 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 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 requency rated value at AC-3 rated value maximum expectations at AC-3 rated value maximum expectations at AC-3 at 400 V rated value operational current at AC-3 at 400 V rated value operational current at AC-3 at 400 V rated value operational current at AC-3 at 400 V rated value operational current at AC-3 at 400 V rated value operational current at AC-3 at 400 V rated value operational current at AC-3 at 400 V rated value at AC-3 at 400 V rated value operational current at AC-3 at 400 V rated value operational current at AC-3 at 400 V rated value operational current at AC-3 at 400 V rated value operational current at AC-3 at 400 V rated value operational current at AC-3 at 400 V rated value	product brand name	SIRIUS
product type designation General technical data size of the circuit-breaker size of contactor can be combined company-specific product extension auxiliary switch eat AC in hot operating state • at AC in hot operating state per pole insulation voltage with degree of poliution 3 at AC rated value surge voltage resistance rated value surge voltage resistance rated value 6 kV shock resistance according to IEC 60068-2-27 mechanical service life (switching cycles) • of the main contacts typical electrical endurance (switching cycles) (ypical of auxiliary contacts typical perference code according to IEC 81346-2 Q Substance Prohibitance (Date) (10/15/2014 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 • at AC-3e rated value maximum • at AC-3e rated value operational current rated value	product designation	Circuit breaker
Size of the circuit-breaker S2	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 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 • 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-3e rated value maximum • operating frequency 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	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 60068-2-27 mechanical service life (switching cycles) • of the main contact typical • of auxiliary contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical so of ode 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 adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3e rated value maximum operation al current rated value operational current rated value	size of the circuit-breaker	S2
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 for of auxiliary contacts typical so 000 electrical endurance (switching cycles) typical pollution and titude at height above sea level maximum 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 • at AC-3e rated value operational current 14.5 W 4.8 W 4 20 A 4 20	size of contactor can be combined company-specific	S2
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 get y 11 ms Sinus mechanical service life (switching cycles) of the main contacts typical of auxiliary contacts typical so 000 electrical endurance (switching cycles) typical so 000 reference code according to IEC 81346-2 Questional 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 at AC-3e rated value maximum operation length of the current rated value operational current of the current rated value operational current of table value maximum operational current rated value operational current rated value operational current	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 surge voltage resistance rated value shock resistance according to IEC 60068-2-27 get a main contacts typical of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical electrical endurance (switching cycles) typical electrical endurance (switching cycles) typical freference code according to IEC 81346-2 Q Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature of during operation 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 rated value at AC-3e rated value maximum est at AC-3e rated value maximum est according to IEC 809 V operational current rated value operational current openation sate of the current operation sate of t	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 ference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature oduring operation oduring storage oduring 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 of the KV stouch sinus sinus	 at AC in hot operating state 	14.5 W
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 lelectrical endurance (switching cycles) typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) Intelligent to a limit to a service life (switching cycles) typical substance Prohibitance (Date) Intelligent to a life t	at AC in hot operating state per pole	4.8 W
shock resistance according to IEC 60068-2-27 mechanical service life (switching cycles) of the main contacts typical of auxiliary contacts typical felectrical 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 storage of during transport relative humidity during operation mumber of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage		690 V
mechanical service life (switching cycles) • of the main contacts typical • of auxiliary contacts typical so 000 electrical endurance (switching cycles) typical freference 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 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 of control of the current rated value operational current rated value operational current rated value operational current rated value	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 Q Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature ouring operation ouring storage ouring storage ouring 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 end of AC-3 rated value maximum operational current rated value operational current	shock resistance according to IEC 60068-2-27	25g / 11 ms Sinus
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 ouring 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 electrical endurance (switching cycles) typical 50 000 10 000	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	 of the main contacts typical 	50 000
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 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 operational current rated value 20 A	of auxiliary contacts typical	50 000
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 • appearating frequency rated value operational current rated value operational current rated value operational current rated value 20 A operational current rated value 20 A operational current rated value	electrical endurance (switching cycles) typical	50 000
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 operational current rated value operational current rated value operational current 2 000 m 20 +60 °C -20 +80 °C -50 +80 °	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 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 operational current rated value 20 690 V operational current rated value 20 A operational current rated value	Substance Prohibitance (Date)	10/15/2014
ambient temperature • during operation • during storage • during transport • during transport -50 +80 °C • during transport -50 +80 °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 690 V • at AC-3e rated value maximum 690 V operating frequency rated value operational current rated value 20 60 Hz operational current	Ambient conditions	
 during operation during storage during transport -50 +80 °C telative 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 at AC-3e rated value maximum operating frequency rated value operational current rated value operational current 	installation altitude at height above sea level maximum	2 000 m
 • during storage • during transport -50 +80 °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 operational current 	ambient temperature	
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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 20 690 V	 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 20 690 V 0 40 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	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 operational current 3 14 20 A 20 690 V 690 V 690 V 20 690 V 20 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 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 20 690 V 690 V operating frequency rated value 50 60 Hz operational current	number of poles for main current circuit	3
 rated value at AC-3 rated value maximum at AC-3e rated value maximum 690 V operating frequency rated value operational current rated value operational current 		14 20 A
 at AC-3 rated value maximum at AC-3e rated value maximum operating frequency rated value operational current rated value operational current 	operating voltage	
 at AC-3e rated value maximum 690 V operating frequency rated value operational current rated value operational current 20 A 	rated value	20 690 V
operating frequency rated value 50 60 Hz operational current rated value 20 A operational current	 at AC-3 rated value maximum 	690 V
operational current rated value 20 A operational current	at AC-3e rated value maximum	690 V
operational current	operating frequency rated value	50 60 Hz
	operational current rated value	20 A
• at AC-3 at 400 V rated value 20 A	operational current	
	at AC-3 at 400 V rated value	20 A

 at AC-3e at 400 V rated value 	20 A
operating power	
• at AC-3	
— at 230 V rated value	5.5 kW
— at 400 V rated value	7.5 kW
— at 500 V rated value	11 kW
— at 690 V rated value	15 kW
at AC-3e	13 KVV
	E E IAM
— at 230 V rated value	5.5 kW 7.5 kW
— at 400 V rated value	
— at 500 V rated value	11 kW
— at 690 V rated value	15 kW
operating frequency	4F 4/L
• at AC-3 maximum	15 1/h
at AC-3e maximum	15 1/h
Protective and monitoring functions	
product function	
ground fault detection	No
phase failure detection	Yes
trip class	CLASS 20
design of the overload release	thermal
breaking capacity maximum short-circuit current (Icu)	
 at AC at 240 V rated value 	100 kA
 at AC at 400 V rated value 	65 kA
 at AC at 500 V rated value 	12 kA
 at AC at 690 V rated value 	5 kA
breaking capacity operating short-circuit current (lcs)	
at AC	
 at 240 V rated value 	100 kA
 at 400 V rated value 	30 kA
 at 500 V rated value 	6 kA
at 690 V rated value	3 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	20 A
at 600 V rated value	20 A
yielded mechanical performance [hp]	
for single-phase AC motor	
— at 110/120 V rated value	1.5 hp
— at 230 V rated value	3 hp
• for 3-phase AC motor	·
— at 200/208 V rated value	7.5 hp
— at 220/230 V rated value	7.5 hp
— at 460/480 V rated value	15 hp
— at 575/600 V rated value	20 hp
Short-circuit protection	
product function short circuit protection	Yes
design of the short-circuit trip	magnetic
design of the fuse link for IT network for short-circuit protection of the main circuit	
• at 240 V	none required
• at 400 V	100
• at 500 V	80
• at 690 V	63
Installation/ mounting/ dimensions	
	2mV
mounting position	any
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715

height	140 mm
width	55 mm
depth	149 mm
required spacing	
• for grounded parts at 400 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
• for live parts at 400 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
• for grounded parts at 500 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
• for live parts at 500 V	10 111111
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
for grounded parts at 690 V	10 111111
Hor grounded parts at 690 v Hor grounded parts at 690 v Hor grounded parts at 690 v	50 mm
— upwards	50 mm
— upwards — at the side	10 mm
at the side for live parts at 690 V	10 111111
for live parts at 690 v downwards	50 mm
— downwards — upwards	50 mm
— at the side	10 mm
Connections/ Terminals	10 111111
type of electrical connection	
for main current circuit	screw-type terminals
arrangement of electrical connectors for main current	Top and bottom
circuit	1 op and 2000.
type of connectable conductor cross-sections	
 for main contacts 	
— solid or stranded	2x (1 25 mm²), 1x (1 35 mm²)
 finely stranded with core end processing 	2x (1 16 mm²), 1x (1 25 mm²)
 at AWG cables for main contacts 	2x (18 3), 1x (18 2)
tightening torque	
 for main contacts with screw-type terminals 	3 4.5 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	M6
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
and play it of the control of the co	
Certificates/ approvals	





Confirmation



<u>KC</u>



Declaration of Conformity

Test Certificates

Marine / Shipping





Special Test Certificate Type Test Certificates/Test Report





Marine / Shipping











Confirmation

other

other

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=3RV2031-4BB10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4BB10

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

 $\underline{https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4BB10}$

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

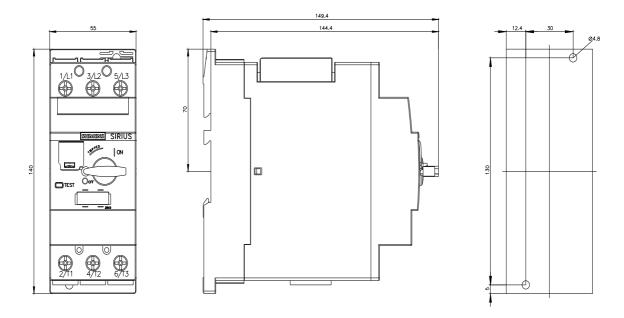
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4BB10&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4BB10/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4BB10&objecttype=14&gridview=view1



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