SIEMENS

Data sheet 3RV2031-4WB10



Circuit breaker size S2 for motor protection, Class 20 A-release 42...52 A N-release 741 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 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 per pole insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value surge voltage resistance rated value of the main contacts typical electrical endurance (switching cycles) of dauxiliary 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 of uduring storage of uduring storage of uduring transport relative humidity during operation of uduring transport relative humidity during operation at AC-3 at 400 V rated value 50 60 Hz operational current 4 at AC-3 at 400 V rated value 50 60 Hz operational current 4 at AC-3 at 400 V rated value 50 60 Hz	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 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 poliution 3 at AC rated value surge voltage resistance rated value 6 kW surge voltage resistance rated value 6 kW shock resistance according to IEC 60068-2-27 mechanical service life (switching cycles) • of the main contacts typical electrical endurance (switching cycles) lypical electrical endurance (switching cycles) lypical electrical endurance (switching cycles) lypical plectrical endurance (switching cycles) lypical sinstallation 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 operational current rated value • at AC-3e rated value maximum • 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 • 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 24.5 W • at AC in hot operating state per pole 8.2 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 Sinus mechanical service life (switching cycles) • of the main contacts typical 50 000 • of auxiliary contacts typical 50 000 electrical endurance (switching cycles) typical 50 000 reference 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 -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 operating frequency rated value operational current rated value	General technical data	
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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 titled 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-3 rated value maximum operational current rated value operational current rated value operational current 24.5 W 8.2 W 8. W	size of contactor can be combined company-specific	S2
at AC in hot operating state 24.5 W at AC in hot operating state per pole 8.2 W insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value 6kV shock resistance according to IEC 60068-2-27 25g / 11 ms Sinus mechanical service life (switching cycles) of the main contacts typical 50 000 electrical endurance (switching cycles) typical 50 000 electrical endurance (switching cycles) typical 50 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/15/2014 Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature of during operation -20 +60 °C of during storage -50 +80 °C eduring transport -50 +80 °C relative humidity during operation 10 95 % Main circuit 1 number of poles for main current circuit 3 adjustable current response value current of the current-dependent overload release operating voltage art act Value 20 690 V at AC-3e rated value maximum 690 V at AC-3e rated value maximum 690 V operating frequency rated value 50 60 Hz operational current rated value 52 A operational current rated value 52 A 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 shock resistance according to IEC 60068-2-27 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 electrical endurance (switching cycles) typical perference 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 orated value at AC-3e rated value maximum events in the conditions operational current rated value operational current of the 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 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 Main circuit 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 source of the No operational current of poles for main current of the current-dependent overload release operating frequency rated value operational current rated value operational current rated value operational current rated value	 at AC in hot operating state 	24.5 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 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 ambient temperature oduring operation oduring storage oduring storage oduring transport relative humidity during operation minimiter of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage orated value at AC-3e rated value maximum operational current rated value operational current of the main current value operational current rated value operational current rated value operational current rated value operational current of the main current value of the current of the correction of the current of the current of the current value operation of the current value value operation of the current value value operational current rated value operational current rated value operational current rated value	at AC in hot operating state per pole	8.2 W
shock resistance according to IEC 60068-2-27 mechanical service life (switching cycles) of the main contacts typical of auxiliary contacts typical feference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature of during storage during transport elative humidity during operation adjustable current response value current of the current-dependent overload release operating voltage rated value at AC-3 rated value maximum at 10 m. 95 W. show the first firs		690 V
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 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-3 rated value maximum operating frequency 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 so 000 reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature oldring operation during storage oldring storage oldring 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 operating voltage ot at AC-3 rated value maximum operation frequency rated value operational current rated value operational current rated value operational current rated value 52 A operational current rated value operational current 50 000 ov operational current rated value 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 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 rated value at AC-3 rated value maximum electrical endurance (switching cycles) typical 50 000 50 000 50 000 60 000	mechanical service life (switching cycles)	
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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 operational current rated value operational current rated value operational current rated value 50 60 Hz operational current rated value 52 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 50 60 Hz operational current rated value 52 A operational current rated value 53 A operational current rated value 54 AC-3 rated value 55 A	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 52 A operational current rated value 53 A operational current rated value 54 A 55 A operational current rated value 55 A operational current rated value	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 operational current rated value operational current rated value 50 60 Hz operational current rated value 52 A	Substance Prohibitance (Date)	10/15/2014
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 50 60 Hz operational current 52 A	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 operating frequency rated value operational current rated value 50 60 Hz operational current 52 A 	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 52 A 	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 52 A 	 during operation 	-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 50 60 Hz operational current	 during storage 	-50 +80 °C
mumber 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 42 52 A 20 690 V 690 V 690 V 50 690 V 50 60 Hz	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 52 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 50 60 Hz 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 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 50 60 Hz operational current 		42 52 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 52 A 	rated value	20 690 V
operating frequency rated value 50 60 Hz operational current rated value 52 A operational current	 at AC-3 rated value maximum 	690 V
operational current rated value 52 A operational current	at AC-3e rated value maximum	690 V
operational current	operating frequency rated value	50 60 Hz
	operational current rated value	52 A
• at AC-3 at 400 V rated value 52 A	operational current	
	at AC-3 at 400 V rated value	52 A

a at A.C. 2a at 400 V rated value	52 A
at AC-3e at 400 V rated value	52 A
operating power	
• at AC-3	AE DAM
— at 230 V rated value	15 kW
— at 400 V rated value	22 kW
— at 500 V rated value	30 kW
— at 690 V rated value	45 kW
• at AC-3e	
— at 230 V rated value	15 kW
— at 400 V rated value	22 kW
— at 500 V rated value	30 kW
— at 690 V rated value	45 kW
operating frequency	
• 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 	8 kA
at AC at 690 V rated value	4 kA
breaking capacity operating short-circuit current (Ics)	
at AC	
 at 240 V rated value 	100 kA
 at 400 V rated value 	30 kA
 at 500 V rated value 	4 kA
at 690 V rated value	2 kA
response value current of instantaneous short-circuit trip unit	741 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
 at 480 V rated value 	52 A
 at 600 V rated value 	52 A
yielded mechanical performance [hp]	
 for single-phase AC motor 	
 at 110/120 V rated value 	5 hp
— at 230 V rated value	10 hp
 for 3-phase AC motor 	
— at 200/208 V rated value	15 hp
— at 220/230 V rated value	20 hp
— at 460/480 V rated value	40 hp
— at 575/600 V rated value	50 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	160
• at 500 V	125
• at 690 V	100
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	140 mm
width	55 mm
depth	149 mm
required spacing	140 111111
• for grounded parts at 400 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
• for live parts at 400 V	10 111111
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
• for grounded parts at 500 V	10 111111
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
• for live parts at 500 V	10 111111
— downwards	50 mm
— downwards — upwards	50 mm
— upwards — at the side	10 mm
at the side for grounded parts at 690 V	10 Hilli
— downwards	50 mm
— downwards — upwards	50 mm
— at the side	10 mm
for live parts at 690 V	10 111111
— downwards	50 mm
— 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	Top and bottom
type of connectable conductor cross-sections	
for main contacts	
 solid or stranded 	2x (1 35 mm²), 1x (1 50 mm²)
 finely stranded with core end processing 	2x (1 25 mm²), 1x (1 35 mm²)
 at AWG cables for main contacts 	2x (18 2), 1x (18 1)
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
Certificates/ approvals	
General Product Approval	





Confirmation



<u>KC</u>



Declaration of Conformity

Test Certificates

Marine / Shipping



Special Test Certificate

Type Test Certificates/Test Report





Marine / Shipping

other











Confirmation

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=3RV2031-4WB10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4WB10

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4WB10

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4WB10&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4WB10/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4WB10&objecttype=14&gridview=view1

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