## **SIEMENS**

Data sheet 3RV2031-4EB15



Circuit breaker size S2 for motor protection, Class 20 A-release 22...32 A N-release 416 A screw terminal Standard switching capacity with transverse auxiliary switches 1 NO+1 NC

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 the main contacts typical • of auxiliary contacts typical • of code code according to IEC 81346-2 Q Substance Prohibitance (Date)  Ambient conditions installation altitude at height above sea level maximum ablent temperature • during operation • during storage • during torage • during transport relative humidity durin operation  Main circuit number of poles for main current circuit 3 adjustable current response value current of the current-dependent overload release operating voltage • at AC-3 rated value maximum • at AC-3 rated value maximum • operating frequency rated value • at AC-3 rated value maximum • at AC-3 rated value maximum • operating frequency rated value • at AC-3 rated value maximum • operational current rated value • operational current • of AC-3 rated value maximum • operational current rated value • operational current • at AC-3 rated value	product brand name	SIRIUS		
General technical data size of the circuit-breaker size of contactor can be combined company-specific product extension auxiliary switch power loss [W] for rated value of the current • at AC in hot operating state • 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 mechanical service life (switching cycles) • of the main contacts typical electrical endurance (switching cycles) typical feference code according to IEC 81346-2 Substance Prohibitance (Dato) preference code according to IEC 81346-2 Quiting storage installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation  multiput during operation  value (according to IEC 81346-2  - Substance Prohibitance (Dato)  installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport - 50 +80 °C - 50 +80 °C  relative humidity during operation  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	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 • 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 forerence 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 elative 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	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	General technical data		
product extension auxiliary switch power loss [M] 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 contact typical • of auxiliary contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Q Substance Prohibitance (Dato) Ambient conditions installation altitude at height above sea level maximum ambient emperature • 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-3 rated value maximum • operational current rated value operational current ated value operational current of value operational current ated value operational current ated value operational current	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 awailiary contacts typical for of auxiliary contacts typical selectrical endurance (switching cycles) typical for our of the main contacts (switching cycles) typical electrical endurance (switching cycles) typical for of auxiliary contacts typical electrical endurance (switching cycles) typical placetrical endurance (switching cycles) typical for our of the main contacts typical placetrical endurance (switching cycles) placetrical endurance (swit	size of contactor can be combined company-specific	S2		
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   55g / 11 ms Sinus   mechanical service life (switching cycles)  of the main contacts typical   electrical endurance (switching cycles)   to of usulilary contacts typical   50 000   electrical endurance (switching cycles) typical   feference code according to IEC 81346-2   Substance Prohibitance (Date)    Ambient conditions   installation altitude at height above sea level maximum   ambient temperature   oduring 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 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 or at AC-3a rated value maximum operational current rated value operational current rated value operational current of the KV  sky  def WV  sky  sky  sky  sky  sky  sky  sky  sk	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 auxiliary 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  of uring operation  of uring storage  of uring 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 rated value  operational current  of the MV  operationa	<ul> <li>at AC in hot operating state</li> </ul>	18 W		
surge voltage resistance rated value  shock resistance according to IEC 60068-2-27  perhanical service life (switching cycles)  of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical freference code according to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions  Installation allitude at height above sea level maximum ambient temperature oluring operation oluring storage oluring 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	at AC in hot operating state per pole	6 W		
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 reference code according to IEC 81346-2 Quultification altitude at height above sea level maximum ambient temperature olduring storage during storage during transport relative humidity during operation adjustable current response value current of the current-dependent overload release operating voltage or at AC-3 rated value maximum operation lurrent rated value operational current	ŭ i	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 of during storage 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 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 of auxiliary contacts typical 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 of during operation during storage of during transport elative 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	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     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      number of poles for main current circuit     adjustable current response value current of the current-dependent overload release     operating voltage	mechanical service life (switching cycles)			
electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date)  Installation altitude at height above sea level maximum ambient temperature during operation during storage during transport relative humidity during operation  Insumber 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 operational current rated value operational current	<ul> <li>of the main contacts typical</li> </ul>	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  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 operational current rated value 32 A operational current rated value 32 A operational current rated value 32 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 • at AC-3e rated value maximum  operational current rated value  operational current rated value  32 A  operational current rated value  32 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  32 000 m  20 +60 °C  -50 +80 °C  -50 +80 °C  -50 +80 °C  22 32 A  22 32 A  22 32 A  23 A  24 690 V  -60 V	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  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  32 000 m  -20 +60 °C  -50 +80 °C  -50 +80 °C  -50 +80 °C  -2095 %  Main circuit  3  22 32 A  22 32 A  22 32 A  23 690 V  -60 V	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  32 460 °C  -50 +80	Ambient conditions			
<ul> <li>during operation</li> <li>during storage</li> <li>during transport</li> <li>50 +80 °C</li> <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>690 V</li> <li>at AC-3e rated value maximum</li> <li>690 V</li> <li>operating frequency rated value</li> <li>50 60 Hz</li> <li>operational current rated value</li> <li>32 A</li> </ul>	installation altitude at height above sea level maximum	2 000 m		
<ul> <li>during storage</li> <li>during transport</li> <li>folumentary</li> <li>during transport</li> <li>folumentary</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>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 operational current	<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  operational current  10 95 %  22 32 A  22 32 A  20 690 V  • at AC-3 rated value maximum  690 V  operational current rated value  32 A	<ul><li>during storage</li></ul>	-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  32 32 A  22 32 A  20 690 V  • at AC-3 rated value maximum  690 V  operational current rated value  32 A	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  32 32 A  22 32 A  20 690 V  • at AC-3 rated value maximum  690 V  operational current rated value  32 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  32 A  22 32 A  20 690 V  • at AC-3 rated value maximum  690 V  operational current rated value  32 A	Main circuit			
current-dependent overload release  operating voltage  • rated value  • at AC-3 rated value maximum  • at AC-3e rated value maximum  690 V  operating frequency rated value  operational current rated value  32 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>690 V</li> <li>operating frequency rated value</li> <li>operational current rated value</li> <li>32 A</li> </ul>	•	22 32 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     operational current rated value     operational current	• rated value	20 690 V		
operating frequency rated value 50 60 Hz operational current rated value 32 A operational current	<ul> <li>at AC-3 rated value maximum</li> </ul>	690 V		
operational current rated value 32 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	32 A		
• at AC-3 at 400 V rated value 32 A	operational current			
	at AC-3 at 400 V rated value	32 A		

at AC-3e at 400 V rated value	32 A
operating power	
• at AC-3	
— at 230 V rated value	7.5 kW
— at 400 V rated value	15 kW
— at 500 V rated value	18.5 kW
— at 690 V rated value	30 kW
• at AC-3e	30 KVV
— at 230 V rated value	7.5 kW
— at 400 V rated value	7.5 kW
— at 500 V rated value	18.5 kW
— at 690 V rated value	30 kW
operating frequency	45 4 lb
• at AC-3 maximum	15 1/h
at AC-3e maximum	15 1/h
Auxiliary circuit	
design of the auxiliary switch	transverse
number of NC contacts for auxiliary contacts	1
number of NO contacts for auxiliary contacts	1
operational current of auxiliary contacts at AC-15	
• at 24 V	2 A
● at 230 V	0.5 A
operational current of auxiliary contacts at DC-13	
• at 24 V	1 A
● at 60 V	0.15 A
• at 110 V	0 A
● at 125 V	0 A
● at 220 V	0 A
Protective and monitoring functions	
product function	
ground fault detection	No
<ul> <li>phase failure detection</li> </ul>	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
<ul> <li>at AC at 400 V rated value</li> </ul>	65 kA
<ul> <li>at AC at 500 V rated value</li> </ul>	10 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
<ul> <li>at 400 V rated value</li> </ul>	30 kA
<ul> <li>at 500 V rated value</li> </ul>	5 kA
• at 690 V rated value	2 kA
response value current of instantaneous short-circuit trip	416 A
unit	
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	32 A
at 600 V rated value	32 A
yielded mechanical performance [hp]	
<ul> <li>for single-phase AC motor</li> </ul>	
— at 110/120 V rated value	3 hp
— at 230 V rated value	5 hp
<ul> <li>for 3-phase AC motor</li> </ul>	
— at 200/208 V rated value	10 hp
— at 220/230 V rated value	10 hp
— at 460/480 V rated value	25 hp
— at 575/600 V rated value	30 hp

contest vation of condition, contests according to III	C200 / D200
contact rating of auxiliary contacts according to UL	C300 / R300
Short-circuit protection	
product function short circuit protection	Yes
design of the short-circuit trip	magnetic
design of the fuse link	
<ul> <li>for short-circuit protection of the auxiliary switch required</li> </ul>	fuse gG: 10 A, miniature circuit breaker C 6 A (short-circuit current lk < 400 A)
design of the fuse link for IT network for short-circuit protection of the main circuit	
• at 240 V	none required
• at 400 V	125
• at 500 V	100
• at 690 V	80
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	
• 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
	50 mm
— upwards	
— at the side	10 mm
• for grounded parts at 500 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
<ul> <li>for live parts at 500 V</li> </ul>	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
<ul> <li>for grounded parts at 690 V</li> </ul>	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
• for live parts at 690 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
Connections/ Terminals	
type of electrical connection	
for main current circuit	screw-type terminals
for auxiliary and control circuit	screw-type terminals
arrangement of electrical connectors for main current circuit	Top and bottom
type of connectable conductor cross-sections	
• for main contacts	
— solid or stranded	2x (1 25 mm²), 1x (1 35 mm²)
— finely stranded with core end processing	2x (1 25 mm²), 1x (1 25 mm²)
at AWG cables for main contacts	
	2x (18 3), 1x (18 2)
type of connectable conductor cross-sections	
for auxiliary contacts  applied or stranded.	2v (0.5 1.5 mm²) 2v (0.75 0.5 mm²)
— solid or stranded	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
— finely stranded with core end processing	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
at AWG cables for auxiliary contacts	2x (20 16), 2x (18 14)

tightening torque	
<ul> <li>for main contacts with screw-type terminals</li> </ul>	3 4.5 N⋅m
<ul> <li>for auxiliary contacts with screw-type terminals</li> </ul>	0.8 1.2 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>	M6
<ul> <li>of the auxiliary and control contacts</li> </ul>	M3
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]	
<ul> <li>with low demand rate according to SN 31920</li> </ul>	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



Type Test Certificates/Test Report

Special Test Certificate





Marine / Shipping





LRS







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=3RV2031-4EB15

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4EB15

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

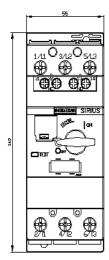
https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4EB15

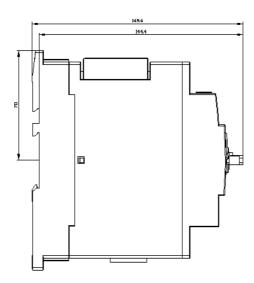
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) <a href="http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RV2031-4EB15&lang=en">http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RV2031-4EB15&lang=en</a>

Characteristic: Tripping characteristics, I2t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4EB15/char

Further characteristics (e.g. electrical endurance, switching frequency)
<a href="http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4EB15&objecttype=14&gridview=view1">http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4EB15&objecttype=14&gridview=view1</a>







last modified:

6/25/2022