## **SIEMENS**

Data sheet 3RV2031-4BA15



CIRCUIT BREAKER, SIZE S2, FOR MOTOR PROTECTION, CLASS 10, A-RELEASE 14...20A, N-RELEASE 260A, SCREW TERMINAL, STANDARD BREAKING CAPACITY W. TRANSV. AUX. SWITCH 1NO+1NC

Figure similar

product brand name	SIRIUS
Product designation	3RV2 circuit breaker

General technical data:		
Active power loss total typical	W	12
Insulation voltage		
with degree of pollution 3 Rated value	V	690
Shock resistance		
• acc. to IEC 60068-2-27		25g / 11 ms Sinus
Surge voltage resistance Rated value	kV	6
Mechanical service life (switching cycles)		
<ul> <li>of the main contacts typical</li> </ul>		50 000
<ul> <li>of the auxiliary contacts typical</li> </ul>		50 000
Electrical endurance (switching cycles)		
• typical		50 000
Temperature compensation	°C	-20 <b>+</b> 60
Size of contactor can be combined company-specific		S2
Protection class IP		
• on the front		IP20
of the terminal		IP00
Equipment marking		
• acc. to DIN EN 81346-2		Q

Main circuit:		
Number of poles for main current circuit		3
Adjustable response value current of the current-	Α	14 20
dependent overload release		

	Operating voltage		
Operating frequency Rated value	Rated value	V	690
Operating current         at AC-3           — at 400 V Rated value         A         20           Operating power         • at AC-3         — at 230 V Rated value         W         5 500           — at 230 V Rated value         W         7 500         — at 500 V Rated value         W         11 000           — at 4690 V Rated value         W         15 000         — 15 000           Operating frequency         • at AC-3 maximum         1/h         15           Auxiliary circuit         Number of NC contacts         1         — Note           • for auxiliary contacts         1         — Note         1           Number of NO contacts         1         — Note         1           Product expansion Auxiliary switch         Yes         — 1           Design of the auxiliary switch         Yes         — 1           Design of the auxiliary switch         Yes         — 1           Operating current of the auxiliary contacts at AC-15         — 1 24 V         — 1           • at 24 V         — 1         — 1         — 1           • at 220 V         A         0         — 1           • at 110 V         — A         0         — 1           • at 220 V         A         0         — 1<	<ul> <li>at AC-3 Rated value maximum</li> </ul>	V	690
Operating current	Operating frequency Rated value	Hz	50 60
• at AC-3 — at 400 V Rated value A 20  Operating power • at AC-3 — at 230 V Rated value — at 500 V Rated value — at 500 V Rated value — at 690 V Rated value — at 690 V Rated value — w 15 000  Operating frequency • at AC-3 maximum  1/h 15  Auxiliary circuit:  Number of NC contacts • for auxiliary contacts — Note  1  Number of NC contacts • for auxiliary contacts — Note  1  Product expansion Auxiliary switch Design of the auxiliary switch  Operating current of the auxiliary contacts at AC-15 • at 24 V • at 230 V  Operating current of the auxiliary contacts at DC-13 • at 24 V • at 60 V • at 110 V • at 125 V • at 220 V  Protective and monitoring functions:  Trip class  CLASS 10  Design of the coverload circuit breaker Operational short-circuit current breaking capacity (ics) with AC • at 240 V Rated value  A 100	Operating current Rated value	Α	20
— at 400 V Rated value	Operating current		
Operating power              ■ at AC-3             — at 230 V Rated value             — at 400 V Rated value             — at 590 V Rated value             — w 15 5000             — at 690 V Rated value             — w 15 5000             — w 1	• at AC-3		
• at AC-3  — at 230 V Rated value — at 500 V Rated value — at 500 V Rated value W 7500 — at 500 V Rated value W 11 000  — at 690 V Rated value W 15 000  Operating frequency • at AC-3 maximum 1/h 15  Auxiliary circuit:  Number of NC contacts • for auxiliary contacts — Note 1  Number of NO contacts • for auxiliary contacts • for auxiliary contacts — Note 1  Product expansion Auxiliary switch Design of the auxiliary switch  Operating current of the auxiliary contacts at AC-15 • at 24 V • at 230 V Operating current of the auxiliary contacts at DC-13 • at 24 V • at 60 V • at 110 V • at 125 V • at 220 V • at 220 V • at 220 V • at 220 V • at 240 V • at 220 V • at 240 V • at 220 V • at 220 V • at 240 V • at 250 V • at 260 V • at 270 V • at 280 V	— at 400 V Rated value	Α	20
	Operating power		
at 400 V Rated value	• at AC-3		
at 500 V Rated value	— at 230 V Rated value	W	5 500
— at 690 V Rated value	— at 400 V Rated value	W	7 500
Operating frequency  • at AC-3 maximum  Auxiliary circuit:  Number of NC contacts  • for auxiliary contacts  — Note  Number of NO contacts  • for auxiliary contacts  — Note  1  Product expansion Auxiliary switch  Design of the auxiliary switch  Operating current of the auxiliary contacts at AC-15  • at 24 V  • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 60 V  • at 110 V  • at 110 V  • at 125 V  • at 220 V  A  O  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC  • at 240 V Rated value  A 100	— at 500 V Rated value	W	11 000
Auxiliary circuit:  Number of NC contacts  • for auxiliary contacts  - Note  Number of NO contacts  • for auxiliary contacts  - Note  Number of NO contacts  • for auxiliary contacts  - Note  1  Product expansion Auxiliary switch  Design of the auxiliary switch  Operating current of the auxiliary contacts at AC-15  • at 24 V  • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 60 V  • at 10 V  • at 110 V  • at 125 V  • at 120 V  A  O  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC  • at 24 V V Rated value  A  1  CLASS 10  The remail  A  100	— at 690 V Rated value	W	15 000
Auxiliary circuit:  Number of NC contacts  • for auxiliary contacts  1  Number of NO contacts  • for auxiliary contacts  • for auxiliary contacts  • for auxiliary contacts  1  Product expansion Auxiliary switch  Design of the auxiliary switch  Operating current of the auxiliary contacts at AC-15  • at 24 V  • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 60 V  • at 110 V  • at 110 V  • at 125 V  • at 220 V  A  O  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC  • at 240 V Rated value  A  1  1  A  1  A  2  A  4  4  CLASS 10  The right in the right	Operating frequency		
Number of NC contacts  • for auxiliary contacts  — Note  Number of NO contacts  • for auxiliary contacts  • for auxiliary contacts  — Note  Product expansion Auxiliary switch  Design of the auxiliary switch  Operating current of the auxiliary contacts at AC-15  • at 24 V  • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 60 V  • at 110 V  • at 110 V  • at 125 V  • at 220 V  A  O  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (ics) with AC  • at 240 V Rated value  A  1  1  4  1  4  4  4  5  6  7  7  7  7  7  8  7  8  7  8  7  8  7  8  8	• at AC-3 maximum	1/h	15
for auxiliary contacts         — Note  Number of NO contacts          • for auxiliary contacts         — Note  Product expansion Auxiliary switch  Design of the auxiliary switch  Operating current of the auxiliary contacts at AC-15          • at 24 V         • at 230 V  Operating current of the auxiliary contacts at DC-13          • at 60 V         • at 110 V         • at 115 V         • at 220 V  A 0  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC         • at 24 V Rated value  A 10  1			
— Note  Number of NO contacts  ● for auxiliary contacts  — Note  Product expansion Auxiliary switch  Design of the auxiliary switch  Operating current of the auxiliary contacts at AC-15  ● at 24 V  ● at 230 V  Operating current of the auxiliary contacts at DC-13  ● at 24 V  ● at 60 V  ● at 110 V  ● at 110 V  ● at 125 V  ● at 220 V  A  O  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC  ● at 24 V V Rated value  A  1  A  2  4  4  2  4  4  2  4  0  0  0  0  CLASS 10  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC  ● at 24 0 V Rated value			
Number of NO contacts  • for auxiliary contacts  — Note  Product expansion Auxiliary switch  Design of the auxiliary switch  Operating current of the auxiliary contacts at AC-15  • at 24 V • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V • at 60 V • at 110 V • at 110 V • at 125 V • at 220 V  A  O  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  Operational short-circuit current breaking capacity ((lcs) with AC • at 240 V Rated value  A  1  A  2  A  2  A  2  A  0  5  CLASS 10  The mal			
• for auxiliary contacts     — Note  Product expansion Auxiliary switch  Design of the auxiliary switch  Operating current of the auxiliary contacts at AC-15  • at 24 V • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V • at 60 V • at 110 V • at 110 V • at 125 V • at 220 V  A  O  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC • at 240 V Rated value  A  1  A  2  A  2  A  0  5  CLASS 10  The class  CLASS 10  The contact of the auxiliary contacts at DC-13  A  CLASS 10  The class  A  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC • at 240 V Rated value  A  100			1
Product expansion Auxiliary switch  Design of the auxiliary switch  Operating current of the auxiliary contacts at AC-15  • at 24 V • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V • at 60 V • at 110 V • at 110 V • at 125 V • at 220 V  A  O  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC • at 240 V Rated value  1  Yes  Yes  Yes  1  Yes  1  Yes  1  A  2  0  0  0  0  0  0  0  C  C  C  C  C  A  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC • at 240 V Rated value  A  100			
Product expansion Auxiliary switch  Design of the auxiliary switch  Operating current of the auxiliary contacts at AC-15  • at 24 V • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V • at 60 V • at 110 V • at 110 V • at 125 V • at 220 V  A  O  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC • at 240 V Rated value  A  Yes  Yes  Yes  Call Call Call Call Call Call Call Cal			
Design of the auxiliary switch  Operating current of the auxiliary contacts at AC-15  • at 24 V • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V • at 60 V • at 110 V • at 125 V • at 220 V  A  O  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC • at 240 V Rated value  transverse   C  A  Design of the auxiliary contacts at AC-15  A  O  transverse  C  A  O  transverse  C  C  A  O  transverse  C  C  A  O  transverse  C  A  O  transverse  Transverse  C  A  O  transverse  C  A  O  transverse  C  A  O  transverse  T  A  O  transverse  A  O  T  T  T  T  T  T  T  T  T  T  T  T			
Operating current of the auxiliary contacts at AC-15  • at 24 V • at 230 V  A 0.5  Operating current of the auxiliary contacts at DC-13  • at 24 V • at 60 V • at 110 V • at 110 V • at 125 V • at 220 V  A 0  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC • at 240 V Rated value  A 2  A 1  A 0  A 0  CLASS 10  thermal			Yes
<ul> <li>at 24 V</li> <li>at 230 V</li> <li>A 0.5</li> </ul> Operating current of the auxiliary contacts at DC-13 <ul> <li>at 24 V</li> <li>at 60 V</li> <li>at 110 V</li> <li>at 125 V</li> <li>at 220 V</li> </ul> Protective and monitoring functions: Trip class <ul> <li>CLASS 10</li> </ul> Design of the overload circuit breaker <ul> <li>Operational short-circuit current breaking capacity (los) with AC</li> <li>at 240 V Rated value</li> <li>A 100</li> </ul>			transverse
at 230 V  Operating current of the auxiliary contacts at DC-13  at 24 V  at 60 V  at 110 V  at 125 V  at 220 V  A  O  Protective and monitoring functions:  Trip class  CLASS 10  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC  at 240 V Rated value  A  O  0.5  A  1  0  0.15  A  0  CLASS 10  Thermal			
Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 60 V  • at 110 V  • at 125 V  • at 220 V  A  O  Protective and monitoring functions:  Trip class  CLASS 10  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC  • at 240 V Rated value  A  1  A  1  A  1  CHASS 10  A  1  A  A			
<ul> <li>at 24 V</li> <li>at 60 V</li> <li>at 110 V</li> <li>at 125 V</li> <li>at 220 V</li> <li>A 0</li> <li>at 220 V</li> <li>A 0</li> </ul> Protective and monitoring functions: Trip class <ul> <li>CLASS 10</li> <li>Design of the overload circuit breaker</li> <li>Operational short-circuit current breaking capacity (Ics) with AC</li> <li>at 240 V Rated value</li> <li>A 100</li> </ul>		Α	0.5
at 60 V  at 110 V  at 125 V  at 220 V  A  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC  at 240 V Rated value  A  O  O.15  A  O  CLASS 10  thermal			
at 110 V at 125 V at 220 V  A 0  Protective and monitoring functions:  Trip class  CLASS 10  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC at 240 V Rated value  A 0 0 CLASS 10  The mal 0 The mal	● at 24 V	Α	
at 125 V at 220 V  A  O  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC at 240 V Rated value  A  O  O  A  O  CLASS 10  thermal  Thermal  OPERATION	● at 60 V	Α	0.15
● at 220 V  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC  ● at 240 V Rated value  A  0  CLASS 10  thermal		Α	0
Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC  • at 240 V Rated value  A 100	● at 125 V		0
Trip class  Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC  • at 240 V Rated value  CLASS 10  thermal	● at 220 V	A	0
Design of the overload circuit breaker  Operational short-circuit current breaking capacity (Ics) with AC  • at 240 V Rated value  A 100			
Operational short-circuit current breaking capacity (Ics) with AC  • at 240 V Rated value  A 100			
(Ics) with AC  • at 240 V Rated value  A 100			thermal
● at 400 V Rated value kA 30	● at 240 V Rated value	Α	100
	● at 400 V Rated value	kA	30

● at 500 V Rated value	kA	6
• at 690 V Rated value	kA	3
Maximum short-circuit current breaking capacity (Icu)		
<ul> <li>with AC at 240 V Rated value</li> </ul>	kA	100
• with AC at 400 V Rated value	kA	65
<ul> <li>with AC at 500 V Rated value</li> </ul>	kA	12
<ul> <li>with AC at 690 V Rated value</li> </ul>	kA	5
Response value current of the instantaneous short- circuit release	Α	260
UL/CSA ratings:		
Full-load current (FLA) for three-phase AC motor		
• at 480 V Rated value	Α	20
● at 600 V Rated value	Α	20
yielded mechanical performance [hp]		
<ul> <li>for single-phase AC motor at 110/120 V Rated value</li> </ul>	metric hp	1.5
<ul> <li>for single-phase AC motor at 230 V Rated value</li> </ul>	metric hp	3
<ul> <li>for three-phase AC motor at 200/208 V Rated value</li> </ul>	metric hp	7.5
• for three-phase AC motor at 220/230 V Rated value	metric hp	7.5
<ul> <li>for three-phase AC motor at 460/480 V Rated value</li> </ul>	metric hp	15
<ul> <li>for three-phase AC motor at 575/600 V Rated value</li> </ul>	metric hp	20
Contact rating of the auxiliary contacts acc. to UL		C300 / R300
Short-circuit:		
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 gL/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		100
● at 500 V		80

Installation/ mounting/ dimensions:		
mounting position	any	

• at 690 V

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Mounting type		screw and snap-on mounting onto 35 mm standard
<b>5</b> 7.1		mounting rail according to DIN EN 60715
Height	mm	140
Width	mm	55
Depth	mm	149
Required spacing		
<ul><li>with side-by-side mounting</li></ul>		
— forwards	mm	0
— Backwards	mm	0
— upwards	mm	50
— downwards	mm	50
— at the side	mm	0
• for grounded parts		
— forwards	mm	0
— Backwards	mm	0
— upwards	mm	50
— at the side	mm	10
— downwards	mm	50
• for live parts		
— forwards	mm	0
— Backwards	mm	0
— upwards	mm	50
— downwards	mm	50
— at the side	mm	10

Connections/ Terminals:		
Type of electrical connection		
for main current circuit	screv	w-type terminals
<ul> <li>for auxiliary and control current circuit</li> </ul>	screv	w-type terminals
Arrangement of electrical connectors for main current circuit	Тор	and bottom
Product function		
<ul> <li>removable terminal for auxiliary and control circuit</li> </ul>	No	
Type of connectable conductor cross-section		
• for main contacts		
<ul><li>— single or multi-stranded</li></ul>	2x (1	25 mm²), 1x (1 35 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (1	16 mm²), 1x (1 25 mm²)
<ul> <li>for AWG conductors for main contacts</li> </ul>	2x (1	8 3), 1x (18 2)
<ul> <li>for auxiliary contacts</li> </ul>		
<ul> <li>single or multi-stranded</li> </ul>	2x (0	0,5 1,5 mm²), 2x (0,75 2,5 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0	0.5 1.5 mm²), 2x (0.75 2.5 mm²)
<ul> <li>for AWG conductors for auxiliary contacts</li> </ul>	2x (2	20 16), 2x (18 14)

Tightening torque			
<ul> <li>for main contacts with screw-type terminals</li> </ul>	N·m	3 4.5	
Design of screwdriver shaft		Diameter 5 to 6 mm	
Design of the thread of the connection screw			
• for main contacts		M6	
<ul> <li>of the auxiliary and control contacts</li> </ul>		M3	
Safety related data:			
Protection against electrical shock		finger-safe when touched vertically from front acc. to IEC 60529	

Mechanical data:		
Size of the circuit-breaker	S2	

Ambient conditions:		
Installation altitude at height above sea level	m	2 000
maximum		
Ambient temperature		
<ul><li>during operation</li></ul>	°C	-20 +60
<ul><li>during storage</li></ul>	°C	-50 <b>+</b> 80
during transport	°C	-50 <b>+</b> 80
Relative humidity during operation	%	10 95

Display:	
Display version	
<ul> <li>for switching status</li> </ul>	Handle

## Certificates/ approvals:

General Product Approval other





Confirmation

Environmental Confirmations

## Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system)

http://www.siemens.com/industrymall

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RV20314BA15}$ 

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

http://support.automation.siemens.com/WW/view/en/3RV20314BA15/all

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=3RV20314BA15&lang=en">http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RV20314BA15&lang=en</a>



