



Reference: 3RV2031-4WA10

CIRCUIT BREAKER, SIZE S2, FOR MOTOR PROTECTION, CLASS 10, A-RELEASE 42...52A, N-RELEASE 741A, SCREW TERMINAL, STANDARD BREAKING **CAPACITY** 

**Buy it at Electric Automation Network** 



product brand name	SIRIUS
Product designation	3RV2 circuit breaker
General technical data:	
Size of the circuit-breaker	S2
Size of contactor can be combined company-specific	52
Product extension	
Auxiliary switch	Yes
Power loss [W] total typical	17 W
Insulation voltage with degree of pollution 3 rated value	690 V
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
in networks with grounded star point between main and auxiliary circuit	400 V
in networks with grounded star point between main and auxiliary circuit	400 V
Protection class IP	
on the front	IP20
of the terminal	IP00
Shock resistance	
acc. 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
Protection against electrical shock	finger-safe when touched vertically from front acc. to IEC 60529
Equipment marking acc. to DIN EN 81346-2	Q
Ambient conditions:	
Installation altitude at height above sea level maximum	2 000 m
Ambient temperature	
during operation	-20 +60 °C
during storage	-50 +80 °C
during transport	-50 +80 °C
Temperature compensation	-20 +60 °C
Relative humidity during operation	10 95 %
Main circuit:	
Number of poles for main current circuit	3
Adjustable pick-up value current of the current- dependent overload release	42 52 A
Operating voltage	
rated value	690 V
at AC-3 rated value maximum	690 V
Operating frequency rated value	50 60 Hz
Operating current rated value	52 A
Operating current	
at AC-3	
— at 400 V rated value	52 A
Operating power	
at AC-3	
— at 230 V rated value	15 000 W
— at 500 V rated value	30 000 W
— at 690 V rated value	45 000 W
Operating frequency	
at AC-3 maximum	15 1/h
Protective and monitoring functions:	
Trip class	CLASS 10
Design of the overload release	thermal
Operational short-circuit current breaking capacity (Ics) at AC	

at 240 V rated value	100 A
at 400 V rated value	30 kA
at 500 V rated value	4 kA
at 690 V rated value	2 kA
Maximum short-circuit current breaking capacity (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
UL/CSA ratings:	
Full-load current (FLA) for three-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 three-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	
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
Mounting type	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
Height	140 mm
Witd>	55 mm
Depth	149 mm
Required spacing	
with side-by-side mounting	

- Backwards	— forwards	0 mm
— upwards         50 mm           — downwards         50 mm           — at the side         0 mm           for grounded parts         0 mm           — forwards         0 mm           — backwards         0 mm           — upwards         50 mm           — at the side         10 mm           — downwards         50 mm           — forwards         0 mm           — ackwards         0 mm           — upwards         50 mm           — downwards         50 mm           — at the side         10 mm           Connections/Terminals:         10 mm           Connections/Terminals:         No           Product function         No           removable terminal for auxiliary and control circuit         No           Type of electrical connection         Screw-type terminals           Arrangement of electrical connectors for main current circuit         Top and bottom           Type of connectable conductor cross-sections         For main contacts           For mali contacts         2x (1 35 mm²), 1x (1 50 mm²)           — finely stranded with core end processing         2x (1 25 mm²), 1x (1 50 mm²)           — at AWG conductors for main contacts         2x (1 25 mm²), 1x (1 50 mm²)		
- at the side 0 mm  - at the side 0 mm  for grounded parts  - forwards 0 mm  - Backwards 0 mm  - upwards 50 mm  - at the side 10 mm  - downwards 50 mm  - at the side 10 mm  - downwards 50 mm  for live parts 7 mm  - forwards 0 mm  - at the side 10 mm  - downwards 50 mm  - at the side 10 mm  - at the side 10 mm  - at the side 10 mm  - upwards 50 mm  - upwards 50 mm  - at the side 10 mm  - connections/Terminals:  Product function removable terminal for auxiliary and control circuit No  Type of electrical connection  for main current circuit screw-type terminals  Arrangement of electrical connectors for main current circuit Type of connectable conductor cross-sections  for main contacts  - single or multi-stranded 2x (1 35 mm²), 1x (1 35 mm²)  at AWG conductors for main contacts 2x (1 25 mm²), 1x (1 35 mm²)  at AWG conductors for main contacts 3 4.5 N-m  Design of screw-type terminals 3 4.5 N-m  Design of the thread of the connection screw  for main contacts with screw-type terminals 3 4.5 N-m  Design of the thread of the connection screw  for main contacts with screw-type terminals 3 4.5 N-m  Design of the thread of the connection screw  for main contacts  M6  Safety related data:  B10 value  with high demand rate acc. to SN 31920 5 000		
reat the side 0 mm  for grounded parts  - forwards 0 mm  - Backwards 0 mm  - upwards 50 mm  - at the side 10 mm  - downwards 50 mm  for live parts - forwards 0 mm  - Backwards 0 mm  - at the side 10 mm  - downwards 50 mm  - at the side 10 mm  - backwards 0 mm  - at the side 10 mm  - commands 10 mm  - commands 10 mm  - upwards 10 mm  - downwards 50 mm  - at the side 10 mm  - connections/ferminals:  Forduct function removable terminal for auxiliary and control circuit No  Type of electrical connection  for main current circuit screw-type terminals  Arrangement of electrical connectors for main current circuit Top and bottom  Type of connectable conductor cross-sections  for main contacts 2 x (1 35 mm²), 1x (1 35 mm²)  at AWG conductors for main contacts 2 x (1 25 mm²), 1x (1 35 mm²)  Tightening torque  for main contacts with screw-type terminals 3 4.5 Nm  Design of screwdriver shaft Diameter 5 to 6 mm  Design of the thread of the connection screw  for main contacts M6  Safety related data:  B10 value  with high demand rate acc. to SN 31920 5 000		
For grounded parts  - forwards  - Backwards  - upwards  - at the side  - downwards  - forwards  - main contacts  - forwards  - at the side  - downwards  - backwards  - main contacts  - forwards  - o mm  - at the side  - downwards  - at the side  - 10 mm  - at the side  - 10 mm  - connections/Terminals:  Product function  Type of electrical connection  for main current circuit  - formalin current circuit  - finely stranded  - finely s		
- forwards 0 mm  - Backwards 0 mm  - upwards 50 mm  - at the side 10 mm  - downwards 50 mm  for live parts  - forwards 0 mm  - Backwards 0 mm  - awards 0 mm  - awards 0 mm  - awards 0 mm  - upwards 50 mm  - upwards 50 mm  - downwards 50 mm  - downwards 50 mm  - at the side 10 mm  Connections/Terminals:  Product function removable terminal for auxiliary and control circuit No  Type of electrical connection for main current circuit xerrent circuit xerrent fireuit xerrent finely 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 conductors 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  Design of the thread of the connection screw for main contacts  M6  Safety related data:  B10 value with high demand rate acc. to SN 31920 5 000		0 mm
- Backwards 50 mm		
- upwards 50 mm 10 mm 50		
- at the side 10 mm  - downwards 50 mm  for live parts 0 mm  - Backwards 0 mm  - Backwards 50 mm  - upwards 50 mm  - downwards 50 mm  - at the side 10 mm  Connections/Terminals:  Product function removable terminal for auxiliary and control circuit No  Type of electrical connection  for main current circuit screw-type terminals  Arrangement of electrical connectors for main current circuit ricuit Top and bottom  Type of connectable conductor cross-sections  for main contacts 2x (1 35 mm²), 1x (1 50 mm²)  - finely stranded with core end processing 2x (1 25 mm²), 1x (1 35 mm²)  at AWG conductors 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  Design of the thread of the connection screw  for main contacts M6  Safety related data:  B10 value  with high demand rate acc. to SN 31920 5 000		
For live parts  - forwards - forwards - Backwards - Deschwards - Upwards - U		
- forwards 0 mm - Backwards 0 mm - Upwards 50 mm - downwards 50 mm - at the side 10 mm  Connections/Terminals:  Product function removable terminal for auxiliary and control circuit No  Type of electrical connection for main current circuit screw-type terminals  Arrangement of electrical connectors for main current circuit  Type of connectable conductor cross-sections for main contacts - single or multi-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 conductors 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  Design of the thread of the connection screw for main contacts  M6  Safety related data:  B10 value with high demand rate acc. to SN 31920 5 000		
— Forwards 0 mm  — Backwards 50 mm  — upwards 50 mm  — downwards 50 mm  — at the side 10 mm  Connections/Terminals:  Product function removable terminal for auxiliary and control circuit No  Type of electrical connection for main current circuit screw-type terminals  Arrangement of electrical connectors for main current circuit Top and bottom  Type of connectable conductor cross-sections for main contacts — single or multi-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 conductors 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  Design of the thread of the connection screw for main contacts  M6  Safety related data:  B10 value with high demand rate acc. to SN 31920 5 000		50 mm
— Backwards 50 mm  — upwards 50 mm  — downwards 50 mm  — at the side 10 mm  Connections/Terminals:  Product function removable terminal for auxiliary and control circuit No  Type of electrical connection for main current circuit screw-type terminals  Top and bottom  Type of connectable conductor cross-sections for main contacts — single or multi-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 conductors 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  Design of the thread of the connection screw for main contacts  M6  Safety related data:  B10 value with high demand rate acc. to SN 31920 5 000	for live parts	
- upwards 50 mm  - downwards 50 mm  - at the side 10 mm  Connections/Terminals:  Product function  removable terminal for auxiliary and control circuit No  Type of electrical connection  for main current circuit screw-type terminals  Arrangement of electrical connectors for main current circuit Top and bottom  Type of connectable conductor cross-sections  for main contacts  - single or multi-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 conductors for main contacts 2x (1 25 mm²), 1x (1 35 mm²)  Tightening torque  for main contacts with screw-type terminals 3 4.5 N·m  Design of screwdriver shaft Diameter 5 to 6 mm  Design of the thread of the connection screw  for main contacts  Safety related data:  B10 value  with high demand rate acc. to SN 31920 5 000		0 mm
- downwards 50 mm  - at the side 10 mm  Connections/Terminals:  Product function  removable terminal for auxiliary and control circuit No  Type of electrical connection  for main current circuit screw-type terminals  Arrangement of electrical connectors for main current circuit Top and bottom  Type of connectable conductor cross-sections  for main contacts  - single or multi-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 conductors 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  Design of the thread of the connection screw  for main contacts  Safety related data:  B10 value  with high demand rate acc. to SN 31920 5 000	— Backwards	0 mm
- at the side 10 mm  Connections/Terminals:  Product function  removable terminal for auxiliary and control circuit No  Type of electrical connection  for main current circuit screw-type terminals  Arrangement of electrical connectors for main current circuit Top and bottom  Type of connectable conductor cross-sections  for main contacts  — single or multi-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 conductors 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  Design of the thread of the connection screw  for main contacts M6  Safety related data:  B10 value  with high demand rate acc. to SN 31920 5 000	— upwards	50 mm
Product function  removable terminal for auxiliary and control circuit  Type of electrical connection  for main current circuit  Arrangement of electrical connectors for main current circuit  Top and bottom  Type of connectable conductor cross-sections  for main contacts  — single or multi-stranded  — single or multi-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 conductors for main contacts  Tightening torque  for main contacts with screw-type terminals (3 4.5 N·m)  Design of screwdriver shaft (Diameter 5 to 6 mm)  Design of the thread of the connection screw  for main contacts  M6  Safety related data:  B10 value  with high demand rate acc. to SN 31920 (5 000)	— downwards	50 mm
Product function  removable terminal for auxiliary and control circuit  Type of electrical connection  for main current circuit  Arrangement of electrical connectors for main current circuit  Type of connectable conductor cross-sections  for main contacts  — single or multi-stranded  — finely stranded with core end processing  at AWG conductors for main contacts  — type of main contacts  — single or multi-stranded  — finely stranded with core end processing  at AWG conductors for main contacts  — type of connectable conductors  — single or multi-stranded  — type of connectable conductors  — single or multi-stranded  — type of connectable conductors  — single or multi-stranded  — type of connectable conductors  — single or multi-stranded  — type of connectable conductors  — single or multi-stranded  — type of connectable conductors  — type of connectable conductors  — single or multi-stranded  — type of connectable conductors  Top and bottom  Top and bo	— at the side	10 mm
removable terminal for auxiliary and control circuit  Type of electrical connection  for main current circuit  Arrangement of electrical connectors for main current circuit  Top and bottom  Type of connectable conductor cross-sections  for main contacts  — single or multi-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 conductors for main contacts  2x (18 2), 1x (18 1)  Tightening torque  for main contacts with screw-type terminals  Design of screwdriver shaft  Diameter 5 to 6 mm  Design of the thread of the connection screw  for main contacts  M6  Safety related data:  B10 value  with high demand rate acc. to SN 31920  5 000	Connections/Terminals:	
Type of electrical connection  for main current circuit  Arrangement of electrical connectors for main current circuit  Top and bottom	Product function	
for main current circuit  Arrangement of electrical connectors for main current circuit  Top and bottom  Top and botter  Top a	removable terminal for auxiliary and control circuit	No
Arrangement of electrical connectors for main current circuit  Type of connectable conductor cross-sections  for main contacts  — single or multi-stranded	Type of electrical connection	
Type of connectable conductor cross-sections  for main contacts  — single or multi-stranded  — finely stranded with core end processing  at AWG conductors for main contacts  Tightening torque  for main contacts with screw-type terminals  Design of screwdriver shaft  Design of the thread of the connection screw  for main contacts  M6  Safety related data:  B10 value  with high demand rate acc. to SN 31920  5 000	for main current circuit	screw-type terminals
for main contacts  — single or multi-stranded  — finely stranded with core end processing  at AWG conductors for main contacts  2x (1 25 mm²), 1x (1 35 mm²)  at AWG conductors 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  Design of the thread of the connection screw  for main contacts  M6  Safety related data:  B10 value  with high demand rate acc. to SN 31920  5 000		Top and bottom
<ul> <li>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> <li>— thingly stranded with core end processi</li></ul>	Type of connectable conductor cross-sections	
- finely stranded with core end processing 2x (1 25 mm²), 1x (1 35 mm²)  at AWG conductors 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  Design of the thread of the connection screw  for main contacts M6  Safety related data:  B10 value  with high demand rate acc. to SN 31920 5 000	for main contacts	
at AWG conductors 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  Design of the thread of the connection screw  for main contacts  M6  Safety related data:  B10 value  with high demand rate acc. to SN 31920  5 000	— single or multi-stranded	2x (1 35 mm²), 1x (1 50 mm²)
Tightening torque  for main contacts with screw-type terminals 3 4.5 N·m  Design of screwdriver shaft Diameter 5 to 6 mm  Design of the thread of the connection screw  for main contacts M6  Safety related data:  B10 value  with high demand rate acc. to SN 31920 5 000	— finely stranded with core end processing	2x (1 25 mm²), 1x (1 35 mm²)
for main contacts with screw-type terminals 3 4.5 N·m  Design of screwdriver shaft Diameter 5 to 6 mm  Design of the thread of the connection screw  for main contacts M6  Safety related data:  B10 value  with high demand rate acc. to SN 31920 5 000	at AWG conductors for main contacts	2x (18 2), 1x (18 1)
Design of screwdriver shaft  Design of the thread of the connection screw  for main contacts  M6  Safety related data:  B10 value  with high demand rate acc. to SN 31920  Diameter 5 to 6 mm  M6  Sometimes 5 to 6 mm  M6  Sometimes 5 to 6 mm  M6	Tightening torque	
Design of the thread of the connection screw  for main contacts  M6  Safety related data:  B10 value  with high demand rate acc. to SN 31920  5 000	for main contacts with screw-type terminals	3 4.5 N·m
for main contacts M6  Safety related data:  B10 value  with high demand rate acc. to SN 31920 5 000	Design of screwdriver shaft	Diameter 5 to 6 mm
Safety related data:  B10 value  with high demand rate acc. to SN 31920 5 000	Design of the thread of the connection screw	
B10 value with high demand rate acc. to SN 31920 5 000	for main contacts	М6
with high demand rate acc. to SN 31920 5 000	Safety related data:	
	B10 value	
Proportion of dangerous failures	with high demand rate acc. to SN 31920	5 000
	Proportion of dangerous failures	

with low demand rate acc. to SN 31920	50 %
with high demand rate acc. to SN 31920	50 %
Failure rate [FIT]	
with low demand rate acc. to SN 31920	50 FIT
T1 value for proof test interval or service life acc. to IEC 61508	10 y
Display version	
for switching status	Handle