SIEMENS

Data sheet 3RV2031-4WA10



Circuit breaker size S2 for motor protection, CLASS 10 A-release 42...52 A N-release 741 A screw terminal Standard switching capacity

Circuit breaker For motor protection For motor protection For motor protection SRV2	product brand name	SIRIUS
general technical data size of the circuit-breaker size of contactor can be combined company-specific product extension auxiliary switch	product designation	Circuit breaker
size of the circuit-breaker S2 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 24.5 W • at AC in hot operating state P00 V surge voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value P00 V waximum permissible voltage for safe isolation in networks with grounded star point P00 V between main and auxiliary circuit P00 V shock resistance acc. to IEC 60068-2-27 25g / 11 ms Sinus mechanical service life (switching cycles) • of the main contacts typical S0 000 electrical endurance (switching cycles) typical S0 000 electrical endurance (switching cycles) typical S0 000 electrical endurance (switching cycles) typical S0 000 electrical endurance (switching cycles) typical S0 000 electrical endurance (switching cycles) typical S0 000 electrical endurance (switching cycles) typical S0 000 electrical endurance (switching cycles) typical S0 000 fype of protection according to ATEX directive S0 000 S0	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 maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • of the main contacts typical • of auxiliary contacts typical • of protection according to ATEX directive 2014/3/4/EU reference code acc. to IEC 81346-2 Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport • ambient temperature during poperation • ambient temperature during transport • ambient temperature during operation • ambient temperature during transport • ambient temperature during operation • ambient temperature during transport • ambient temperature during operation • ambient temperature during operation • ambient temperature during transport • 50 +80 °C • 50 +80 °C relative humidity during operation • 720 +60 °C relative humidity during operation • 720 +60 °C relative humidity during operation • 20 +60 °C relative humidity during operation • 720 +60 °C relative humidity during operation • 720 +60 °C	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 per pole • at AC in hot operating state per pole insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • of the main contacts typical • of auxiliary contacts typical • of auxiliary contacts typical • of protection according to ATEX directive 2014/3/4/EU certificate of suitability according to ATEX directive 200 m • ambient temperature during operation • ambient temperature during storage • ambient temperature during storage • ambient temperature during transport • 50 +80 °C • ambient temperature during transport • 20 +60 °C relative humidity during operation 10 95 %	General technical data	
product extension auxiliary switch power loss [W] for rated value of the current • at AC in hot operating state • at AC in hot operating state per pole • at AC in hot operating state per pole insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • of the main contacts typical • of auxiliary contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/	size of the circuit-breaker	S2
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 690 V surge voltage resistance rated value 6 kV maximum permissible voltage for safe isolation in networks with grounded star point 400 V • between main and auxiliary circuit 400 V • of the main contacts typical 50 000 • of auxiliary contacts typical 50 000 • of auxiliary contacts typical 50 000 • of auxiliary contacts typical 50 000 electrical endurance (switching cycles) typical 50 000 type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU ambient conditions installation altitude at height above sea level maximum 2000 m • ambient temperature during operation -20 +60 °C • ambient temperature during storage -50 +80 °C temperature compensation -20 +60 °C relative humidity during operation -20 +60 °C relative humidity during operation -20 +60 °C relative humidity during operation -20 +60 °C	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 maximum permissible voltage for safe isolation in networks with grounded star point between main and auxiliary circuit between main auxiliary circuit between main auxiliary circuit between main a	product extension auxiliary switch	Yes
at AC in hot operating state per pole insulation voltage with degree of pollution 3 at AC 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 • of the main contacts typical • of the main contacts typical • of auxiliary contacts typical • of auxiliary contacts typical • of auxiliary contacts typical • of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport -50 +80 °C -eative humidity during operation -20 +60 °C relative humidity during operation 10 95 % Main circuit	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 maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • between main and auxiliary circuit • between main and auxiliary circuit * botween main and auxiliary circuit * shock resistance acc. 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 * type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport • ambient temperature during transport relative humidity during operation 10 95 % Main circuit **Ov V **V **V **V **V **V **V **V	 at AC in hot operating state 	24.5 W
value surge voltage resistance rated value maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • between main and auxiliary circuit shock resistance acc. to IEC 60068-2-27 25g / 11 ms Sinus mechanical service life (switching cycles) • of the main contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during storage • ambient temperature during transport -20 +60 °C • ambient temperature during transport -20 +60 °C temperature compensation -20 +60 °C relative humidity during operation 10 95 % Main circuit	at AC in hot operating state per pole	8.2 W
maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • between main and auxiliary circuit • between main and auxiliary circuit 400 V shock resistance acc. to IEC 60068-2-27 25g / 11 ms Sinus mechanical service life (switching cycles) • of the main contacts typical • of auxiliary contacts typical 150 000 electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport -50 +80 °C • ambient temperature during transport -20 +60 °C temperature compensation -20 +60 °C relative humidity during operation 10 95 % Main circuit	0 0 1	690 V
networks with grounded star point • between main and auxiliary circuit • between main and auxiliary circuit • between main and auxiliary circuit 400 V shock resistance acc. to IEC 60068-2-27 25g / 11 ms Sinus mechanical service life (switching cycles) • of the main contacts typical • of auxiliary contacts typical 150 000 electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU refricate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport -50 +80 °C temperature compensation relative humidity during operation 0 20 +60 °C relative humidity during operation 0 25 +60 °C 10 95 % Main circuit	surge voltage resistance rated value	6 kV
between main and auxiliary circuit shock resistance acc. to IEC 60068-2-27 z5g / 11 ms Sinus mechanical service life (switching cycles) of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Ambient conditions installation altitude at height above sea level maximum o ambient temperature during operation o ambient temperature during storage o ambient temperature during transport temperature compensation relative humidity during operation 10 95 % Main circuit von the main contacts typical 50 000 Ex II (2) GD DMT 02 ATEX F 001 DMT 02 ATEX F 001 20 00 m 2 000 m 3 000 4 000 C 000		
shock resistance acc. to IEC 60068-2-27 mechanical service life (switching cycles) of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Ambient conditions installation altitude at height above sea level maximum ombient temperature during operation ombient temperature during storage ombient temperature during transport temperature compensation relative humidity during operation of the main conditions 250 000 EX II (2) GD DMT 02 ATEX F 001 DMT 02 ATEX F 001 2 000 m 2 000 m -20 +60 °C -50 +80 °C -50 +90 °C	 between main and auxiliary circuit 	400 V
mechanical service life (switching cycles) • of the main contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport -50 +80 °C • ambient temperature during transport -20 +60 °C relative humidity during operation -20 +60 °C	between main and auxiliary circuit	400 V
of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Ambient conditions installation altitude at height above sea level maximum o ambient temperature during operation o ambient temperature during storage o ambient temperature during transport demperature compensation relative humidity during operation installation altitude at height according to ATEX directive country DMT 02 ATEX F 001 country	shock resistance acc. to IEC 60068-2-27	25g / 11 ms Sinus
of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Ambient conditions installation altitude at height above sea level maximum o ambient temperature during operation o ambient temperature during storage o ambient temperature during transport temperature compensation relative humidity during operation 10 95 % Main circuit	mechanical service life (switching cycles)	
electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport -50 +80 °C • ambient temperature during transport -20 +60 °C relative humidity during operation -20 +60 °C	 of the main contacts typical 	50 000
type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport • ambient temperature during transport -50 +80 °C • ambient temperature compensation relative humidity during operation 10 95 % Main circuit	of auxiliary contacts typical	50 000
certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport • ambient temperature during transport -50 +80 °C temperature compensation -20 +60 °C relative humidity during operation 10 95 % Main circuit	electrical endurance (switching cycles) typical	50 000
reference code acc. to IEC 81346-2 Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport • ambient temperature during transport • 50 +80 °C temperature compensation -20 +60 °C relative humidity during operation 10 95 % Main circuit		Ex II (2) GD
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 ambient temperature during operation ambient temperature during storage ambient temperature during transport ambient temperature during transport -50 +80 °C temperature compensation -20 +60 °C relative humidity during operation 10 95 % Main circuit 	Ambient conditions	
 ambient temperature during storage ambient temperature during transport -50 +80 °C temperature compensation -20 +60 °C relative humidity during operation 10 95 % Main circuit 	installation altitude at height above sea level maximum	2 000 m
■ ambient temperature during transport	 ambient temperature during operation 	-20 +60 °C
temperature compensation -20 +60 °C relative humidity during operation 10 95 % Main circuit	 ambient temperature during storage 	-50 +80 °C
relative humidity during operation 10 95 % Main circuit	ambient temperature during transport	-50 +80 °C
Main circuit	temperature compensation	-20 +60 °C
	relative humidity during operation	10 95 %
number of poles for main current circuit 3	Main circuit	
	number of poles for main current circuit	3
adjustable current response value current of the 42 52 A	adjustable current response value current of the	42 52 A

current-dependent overload release	
 operating voltage rated value 	690 V
 operating voltage at AC-3 rated value maximum 	690 V
operating frequency rated value	50 60 Hz
operational current rated value	52 A
operational 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 400 V rated value	22 000 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	
product function	
 ground fault detection 	No
phase failure detection	Yes
trip class	CLASS 10
design of the overload release	thermal
breaking capacity operating short-circuit current (lcs) at AC	
• at 240 V rated value	100 kA
• at 400 V rated value	30 kA
• at 500 V rated value	4 kA
at 690 V rated value	2 kA
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
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 11111
• for grounded parts at 400 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
• for live parts at 400 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
for grounded parts at 500 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
• for live parts at 500 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
for grounded parts at 690 V	
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	10 mm
— forwards	0 mm
• for live parts at 690 V	
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	10 mm
— forwards	0 mm
Connections/ Terminals	
product function removable terminal for auxiliary and	No
control circuit	
type of electrical connection	
for main current circuit	screw-type terminals
arrangement of electrical connectors for main current	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 35 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	3 4.5 N·m
terminals	3 4.3 N III
design of screwdriver shaft	Diameter 5 to 6 mm
size of the screwdriver tip	Pozidriv 2
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
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	10 y
IEC 61508	



protection class IP on the front acc. to IEC 60529

touch protection on the front acc. to IEC 60529

display version for switching status

IP20 finger-safe, for vertical contact from the front

Handle

Certificates/ approvals

General Product Approval









KC



For use in hazardous locations

Declaration of Conformity

Test Certificates





Miscellaneous



Type Test **Certificates/Test** Report

Type Test Certificates/Test Report

Test Certificates

Marine / Shipping

Special Test Certificate

Type Test **Certificates/Test** Report

Type Test **Certificates/Test** Report







Marine / Shipping

other









Confirmation



Railway

Confirmation Vibration and Shock

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=3RV2031-4WA10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4WA10

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4WA10

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

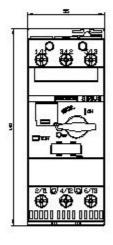
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4WA10&lang=en

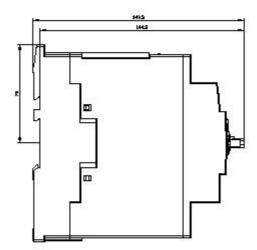
Characteristic: Tripping characteristics, I2t, Let-through current

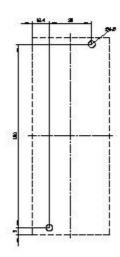
https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4WA10/char

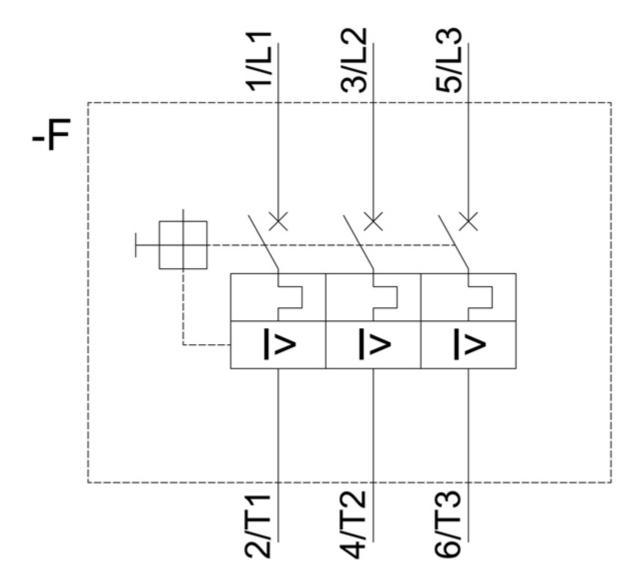
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4WA10&objecttype=14&gridview=view1









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