SIEMENS

Data sheet 3RV2031-4VB10



Circuit breaker size S2 for motor protection, Class 20 A-release 35...45 A N-release 650 A screw terminal Standard switching capacity





product designation design of the product product type designation General technical data size of the circuit-breaker size of contactor can be combined company-specific product extension auxiliary switch power loss [W] for rated value of the current • at AC in hot operating state • at AC in hot operating state per pole insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value surge voltage resistance rated value • 6 kV shock resistance according to IEC 60068-2-27 mechanical service life (operating cycles) • of the main contacts typical • of auxiliary contacts typical • of auxiliary contacts typical freference code according to IEC 81346-2 Substance Prohibitance (Date) SYHC substance name Lead - 7439-92-1 Ambient conditions installation altitude at height above sea level maximum ambient temperature • during storage • during transport • during transport relative humidity during operation Main circuit Main circuit	product brand name	SIRIUS
design of the product product ype designation 3RV2 General technical data size of the circuit-breaker S2 product extension auxiliary switch Yes power loss [W] for rated value of the current • at AC in hot operating state 24.5 W insulation voltage with degree of pollution 3 at AC rated value 680 V surge voltage resistance rated value 6 kV shock resistance according to IEC 60068-2-27 25g / 11 ms Sinus mechanical service life (operating cycles) • of the main contacts typical 50 000 electrical endurance (operating cycles) typical 50 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/15/2014 SYHC substance name Lead - 7439-92-1 Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature • during operation - 20 +80 °C • during transport - 50 +80 °C relative humidity during operation 10 95 % Main circuit	product designation	Circuit breaker
product type designation 3RV2 General technical data size of the circuit-breaker S2 size of contactor can be combined company-specific S2 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 Per pole 8.2 W insulation voltage with degree of pollution 3 at AC rated value 680 V surge voltage resistance rated value 6 kV shock resistance according to IEC 60068-2-27 25g / 11 ms Sinus mechanical service life (operating cycles) • of the main contacts typical 50 000 • of auxiliary contacts typical 50 000 electrical endurance (operating cycles) typical 50 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/15/2014 SYHC substance name Lead - 7439-92-1 Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature • during operation -20 +60 °C • during transport -50 +80 °C relative humidity during operation 10 95 % Main circuit		For motor protection
Size of the circuit-breaker size of contactor can be combined company-specific size of contactor can be combined can be size of size		·
size of contactor can be combined company-specific product extension auxiliary switch power loss [W] for rated value of the current • at AC in hot operating state 24.5 W • at AC in hot operating state per pole 8.2 W insulation voltage with degree of pollution 3 at AC rated value 690 V surge voltage resistance rated value 6 kV shock resistance according to IEC 60068-2-27 25g / 11 ms Sinus mechanical service life (operating cycles) • of the main contacts typical 50 000 • of auxiliary contacts typical 50 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/15/2014 SVHC substance name Lead - 7439-92-1 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 relative humidity during operation 10 95 % Main circuit		
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 surge voltage resistance rated value surge voltage resistance rated value shock resistance according to IEC 60068-2-27 get hamilton according to IEC 60068-2-27 according to IEC 60068-2-27 be of the main contacts typical of auxiliary contacts typical of auxiliary contacts typical electrical endurance (operating cycles) typical ference code according to IEC 81346-2 Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Ambient conditions installation altitude at height above sea level maximum ambient temperature of during operation of during storage of during transport -50 +80 °C relative humidity during operation 10 95 % Main circuit	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 6 kV shock resistance according to IEC 60068-2-27 25g / 11 ms Sinus mechanical service life (operating cycles) • of the main contacts typical of auxiliary contacts typical source code according to IEC 81346-2 Q Substance Operating cycles typical Substance Prohibitance (Date) SYHC substance name Lead - 7439-92-1 Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation Main circuit 24.5 W 24.5 W 3.2 W 3.2 W 3.2 W 3.2 W 4.5 W 4	size of contactor can be combined company-specific	S2
at AC in hot operating state at AC in hot operating state per pole at AC in hot operating state per pole as 2 W insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value 66 kV shock resistance according to IEC 60068-2-27 25g / 11 ms Sinus mechanical service life (operating cycles) of the main contacts typical of auxiliary contacts typical felectrical endurance (operating cycles) typical substance Prohibitance (Date) SVHC substance Prohibitance (Date) SVHC substance name 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 68 V 8.2 W 88.2	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 25g / 11 ms Sinus mechanical service life (operating cycles) of the main contacts typical of auxiliary contacts typica	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 25g / 11 ms Sinus mechanical service life (operating cycles) of the main contacts typical of auxiliary contacts typical electrical endurance (operating cycles) typical reference code according to IEC 81346-2 Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Ambient conditions installation altitude at height above sea level maximum ambient temperature of during operation of during storage of during transport relative humidity during operation Main circuit	at AC in hot operating state	24.5 W
surge voltage resistance rated value shock resistance according to IEC 60068-2-27 per definition of the main contacts typical of the main contacts typical of auxiliary contacts typical electrical endurance (operating cycles) typical reference code according to IEC 81346-2 Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Ambient conditions installation altitude at height above sea level maximum ambient temperature of during operation of the main contacts typical 50 000 2000 preference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/15/2014 SVHC substance name Lead - 7439-92-1 Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature of during operation of the main contacts typical contact typical contact typical solutions installation altitude at height above sea level maximum 2 000 m ambient temperature of during operation of the main contacts typical contact typ	at AC in hot operating state per pole	8.2 W
shock resistance according to IEC 60068-2-27 mechanical service life (operating cycles) of the main contacts typical of auxiliary contacts typical lelectrical endurance (operating cycles) typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Ambient conditions installation altitude at height above sea level maximum ambient temperature of during operation of during storage of during transport relative humidity during operation 10 95 % Main circuit	insulation voltage with degree of pollution 3 at AC rated value	690 V
mechanical service life (operating cycles) • of the main contacts typical • of auxiliary contacts typical 50 000 electrical endurance (operating cycles) typical 50 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/15/2014 SVHC substance name Lead - 7439-92-1 Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport -50 +80 °C relative humidity during operation 10 95 % Main circuit	surge voltage resistance rated value	6 kV
of the main contacts typical of auxiliary contacts typical electrical endurance (operating cycles) typical for 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/15/2014 SVHC substance name Lead - 7439-92-1 Ambient conditions installation altitude at height above sea level maximum ambient temperature oduring operation during storage during storage during transport relative humidity during operation 10 95 % Main circuit 50 000 20 000 20 000 10/15/2014 20 000 10/15/201	shock resistance according to IEC 60068-2-27	25g / 11 ms Sinus
of auxiliary contacts typical electrical endurance (operating cycles) typical ference code according to IEC 81346-2 Substance Prohibitance (Date) 10/15/2014 SVHC substance name Lead - 7439-92-1 Ambient conditions installation altitude at height above sea level maximum ambient temperature o during operation during storage during transport eduring transport relative humidity during operation Main circuit 50 000 2 Q 2	mechanical service life (operating cycles)	
electrical endurance (operating cycles) typical reference code according to IEC 81346-2 Substance Prohibitance (Date) 10/15/2014 SVHC substance name Lead - 7439-92-1 Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport -50 +80 °C • during transport relative humidity during operation 10 95 % Main circuit	of the main contacts typical	50 000
reference code according to IEC 81346-2 Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport -20 +60 °C • during transport -50 +80 °C relative humidity during operation 10 95 % Main circuit	of auxiliary contacts typical	50 000
Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation Main circuit	electrical endurance (operating cycles) typical	50 000
SVHC substance name Lead - 7439-92-1 Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation Lead - 7439-92-1 2 000 m -20 +60 °C -50 +80 °C -50 +80 °C relative humidity during operation 10 95 % Main circuit	reference code according to IEC 81346-2	Q
installation altitude at height above sea level maximum ambient temperature olduring operation during storage olduring transport relative humidity during operation Main circuit ambient conditions 2 000 m -20 +60 °C -20 +60 °C -50 +80 °C -50 +80 °C -50 +80 °C	Substance Prohibitance (Date)	10/15/2014
installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport • during transport relative humidity during operation 2 000 m -20 +60 °C -50 +80 °C 10 95 % Main circuit	SVHC substance name	Lead - 7439-92-1
ambient temperature • during operation • during storage • during transport • during transport • c50 +80 °C relative humidity during operation 10 95 % Main circuit	mbient conditions	
 during operation during storage during transport -50 +80 °C during transport -50 +80 °C relative humidity during operation 10 95 % Main circuit	installation altitude at height above sea level maximum	2 000 m
● during storage ● during transport ● during transport □ 50 +80 °C relative humidity during operation 10 95 % Main circuit	ambient temperature	
● during transport -50 +80 °C relative humidity during operation 10 95 % Main circuit	during operation	-20 +60 °C
relative humidity during operation 10 95 % Main circuit	during storage	-50 +80 °C
Main circuit	during transport	-50 +80 °C
	relative humidity during operation	10 95 %
number of noise for main current circuit	ain circuit	
named of poles for main current circuit	number of poles for main current circuit	3
adjustable current response value current of the current- dependent overload release 35 45 A		35 45 A
operating voltage	operating voltage	
• rated value 20 690 V	rated value	20 690 V
• at AC-3 rated value maximum 690 V	• at AC-3 rated value maximum	690 V
• at AC-3e rated value maximum 690 V	at AC-3e rated value maximum	690 V
operating frequency rated value 50 60 Hz		50 60 Hz

operational current rated value	45 A
operational current	
 at AC-3 at 400 V rated value 	45 A
at AC-3e at 400 V rated value	45 A
operating power	
• at AC-3	
— at 230 V rated value	11 kW
— at 400 V rated value	22 kW
— at 500 V rated value	30 kW
— at 690 V rated value	37 kW
• at AC-3e	
— at 230 V rated value	11 kW
— at 400 V rated value	22 kW
— at 500 V rated value	30 kW
— at 690 V rated value	37 kW
operating frequency	
• at AC-3 maximum	15 1/h
at AC-3e maximum	15 1/h
Protective and monitoring functions	
product function	
ground fault detection	No
phase failure detection	Yes
trip class	CLASS 20
design of the overload release	thermal
maximum short-circuit current breaking capacity (Icu)	uleilliai
• at AC at 240 V rated value	100 kA
	65 kA
at AC at 400 V rated value	
at AC at 500 V rated value	10 kA
at AC at 690 V rated value	4 kA
operating short-circuit current breaking capacity (Ics) at AC	40014
at 240 V rated value	100 kA
at 400 V rated value	30 kA
at 500 V rated value	5 kA
at 690 V rated value	2 kA
response value current of instantaneous short-circuit trip unit	650 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	45 A
at 600 V rated value	45 A
yielded mechanical performance [hp]	
 for single-phase AC motor 	
— at 110/120 V rated value	3 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	15 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	125
• at 500 V	100
• at 690 V	80
Installation/ mounting/ dimensions	
	any .
mounting position	any
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	140 mm

width	55 mm
depth	149 mm
required spacing	
with side-by-side mounting at the side	0 mm
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
— at the side	10 mm
• for live parts at 690 V	
— downwards	50 mm
— upwards— at the side	50 mm 10 mm
— at the side Connections/ Terminals	10 111111
type of electrical connection	
for main current circuit	screw-type terminals
arrangement of electrical connectors for main current	Top and bottom
circuit	14
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 16 mm²), 1x (1 25 mm²)
for AWG cables for main contacts	2x (18 3), 1x (18 2)
tightening torque	
for main contacts with screw-type terminals	3 4.5 N·m
design of screwdriver shaft	Diameter 5 to 6 mm
size of the screwdriver tip	Pozidriv size 2
design of the thread of the connection screw	MC
• for main contacts	M6
Safety related data	Von
product function suitable for safety function	Yes
suitability for use	No
safety-related switching onsafety-related switching OFF	Yes
sarety-related switching OFF service life maximum	10 a
test wear-related service life necessary	Yes
proportion of dangerous failures	1.00
with low demand rate according to SN 31920	40 %
with high demand rate according to SN 31920 with high demand rate according to SN 31920	50 %
B10 value with high demand rate according to SN 31920	5 000
failure rate [FIT] with low demand rate according to SN 31920	50 FIT
ISO 13849	
device type according to ISO 13849-1	3
	Yes
overdimensioning according to ISO 13849-2 necessary	res

safety device type according to IEC 61508-2	Type A
T1 value	
 for proof test interval or service life according to IEC 61508 	10 a
Electrical Safety	
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	
display version for switching status	Handle
Approvals Certificates	
Conoral Braduct Approval	

General Product Approval





Confirmation





<u>KC</u>

General Product Ap-

Test Certificates

Marine / Shipping



Type Test Certificates/Test Report

Special Test Certific-<u>ate</u>







Marine / Shipping

other







Miscellaneous

Confirmation



Railway

Environment

Special Test Certific-<u>ate</u>

Confirmation







Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

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=3RV2031-4VB10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4VB10

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4VB10

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

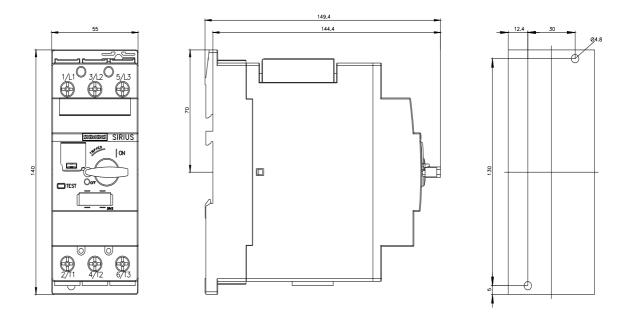
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4VB10&lang=en

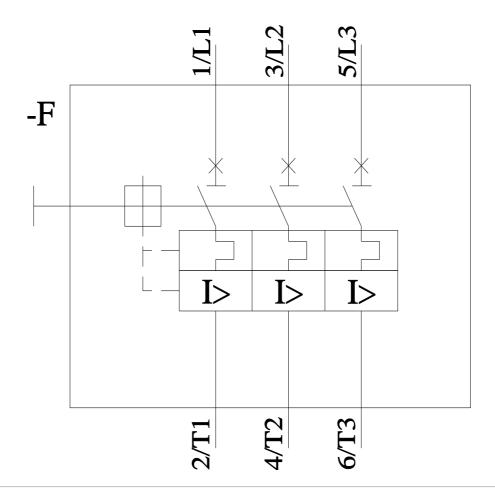
Characteristic: Tripping characteristics, I2t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4VB10/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4VB10&objecttype=14&gridview=view1





last modified: 4/12/2024 🖸

