SIEMENS

Data sheet 3RV2031-4VA10



Circuit breaker size S2 for motor protection, CLASS 10 A-release 35...45 A N-release 650 A screw terminal Standard switching capacity



installation altitude at height above sea level maximum ambient temperature during operation during storage during transport during transport fielative humidity during operation mumber of poles for main current circuit adjustable current response value current of the current-dependent overload release 2 000 m -20 +60 °C -50 +80 °C -50 +80 °C 10 95 % 3 45 A	product brand name	SIRIUS	
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	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 size of contactor can be combined company-specific product extension auxiliary switch • 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 • bhock resistance according to IEC 60088-2-27 mechanical service life (operating cycles) • of the main contacts typical • of auxiliary contacts typical • of auxiliary contacts typical • of auxiliary contacts typical • of auxiliary contacts typical • of auxiliary contacts typical • of auxiliary contacts typical • of auxiliary contacts typical • of according to IEC 81346-2 Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Weight 1.071 kg Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • 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	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 • 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 get he main contacts typical • of auxiliary contacts typical • of auxiliary contacts typical • of auxiliary contacts typical source reference code according to IEC 81346-2 Substance Prohibitance (Date) SYHC substance name Lead - 7439-92-1 Weight 1.071 kg Ambient conditions installation altitude at height above sea level maximum • during operation • during peration • 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	General technical data		
product extension auxiliary switch 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 surge voltage resistance 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 electrical endurance (operating cycles) typical 50 000 reference code according to IEC 81346-2 Qu Substance Prohibitance (Date) 10/15/2014 SVHC substance name Lead - 7439-92-1 Weight 1.071 kg Ambient conditions installation altitude at height above sea level maximum ambient temperature during operation -20 +60 °C -20 +60 °C -50 +80 °C 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	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 25g / 11 ms Sinus mechanical service life (operating cycles) • of the main contacts typical • of auxiliary contacts typical 50 000 electrical endurance (operating cycles) typical 50 000 electrical endurance (operating cycles) typical 70 cycles at 10/15/2014 SVHC substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Weight 1.071 kg Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature • during operation • during storage • during transport -50 +80 °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	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 8.2 W 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 for the main contacts typical of auxiliary contacts typical electrical endurance (operating cycles) typical for ooo perference code according to IEC 81346-2 Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Weight 1.071 kg Ambient conditions installation altitude at height above sea level maximum ambient temperature oluring operation during storage oluring transport eluring transport relative humidity during operation adjustable current response value current of the current-dependent overload release 455 45 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 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 source (operating cycles) typical electrical endurance (operating cycles) typical substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Weight 1.071 kg Ambient conditions installation altitude at height above sea level maximum ambient temperature oluring operation during storage of during transport relative humicity during operation adjustable current response value current of the current-dependent overload release 8.2 W 690 V 80 V 8 kV 8 kV 8 kV 8 co 6 kV 8 co 9 co 9 co 10	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 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 50 000 electrical endurance (operating cycles) typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) Velight 1.071 kg Ambient conditions installation altitude at height above sea level maximum 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	 at AC in hot operating state 	24.5 W	
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 SVHC substance name Lead - 7439-92-1 Weight 1.071 kg 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 relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3 adjustable current response value current of the current-dependent overload release	 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 for our of auxiliary contacts typical for our our our our our our our our our o	insulation voltage with degree of pollution 3 at AC rated value	690 V	
mechanical service life (operating cycles) of the main contacts typical for auxiliary contacts typical electrical endurance (operating cycles) typical for auxiliary contacts typical for	surge voltage resistance rated value	6 kV	
of the main contacts typical of auxiliary contacts typical electrical endurance (operating cycles) typical preference code according to IEC 81346-2 Q Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Weight 1.071 kg Ambient conditions installation altitude at height above sea level maximum ambient temperature oduring operation during storage oduring 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 50 000 000 10/15/2014 20 20 20 20 20 20 20 20 20 20 20 20 20	shock resistance according to IEC 60068-2-27	25g / 11 ms Sinus	
of auxiliary contacts typical electrical endurance (operating cycles) typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/15/2014 SVHC substance name Lead - 7439-92-1 Weight 1.071 kg Ambient conditions installation altitude at height above sea level maximum ambient temperature o during operation during storage 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 50 000 0 00 10/15/2014 Lead - 7439-92-1 1.071 kg 2 000 m 2 000 m 2 000 m 3 000 1 000	mechanical service life (operating cycles)		
electrical endurance (operating cycles) typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Weight 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	 of the main contacts typical 	50 000	
reference code according to IEC 81346-2 Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Weight 1.071 kg 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	of auxiliary contacts typical	50 000	
Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Weight 1.071 kg 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	electrical endurance (operating cycles) typical	50 000	
SVHC substance name Lead - 7439-92-1 Weight 1.071 kg 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	reference code according to IEC 81346-2	Q	
Weight 1.071 kg 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 relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3 adjustable current response value current of the current-dependent overload release 35 45 A	Substance Prohibitance (Date)	10/15/2014	
Ambient conditions installation altitude at height above sea level maximum ambient temperature during operation during storage during transport during transport relative humidity during operation mumber of poles for main current circuit adjustable current response value current of the current-dependent overload release 2 000 m 2 000 m -20 +60 °C -50 +80 °C -50 +80 °C 10 95 % 3 45 A	SVHC substance name	Lead - 7439-92-1	
installation altitude at height above sea level maximum ambient temperature during operation during storage during transport during transport fielative humidity during operation mumber of poles for main current circuit adjustable current response value current of the current-dependent overload release 2 000 m -20 +60 °C -50 +80 °C -50 +80 °C 10 95 % 3 45 A	Weight	1.071 kg	
ambient temperature • during operation • during storage • during transport • during transport • 50 +80 °C • during transport • 50 +80 °C 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 35 45 A	Ambient conditions		
 during operation during storage during transport 50 +80 °C during transport 50 +80 °C 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 35 45 A 	installation altitude at height above sea level maximum	2 000 m	
 during storage during transport .50 +80 °C 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 35 45 A 	ambient temperature		
 during transport -50 +80 °C 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 35 45 A 	during operation	-20 +60 °C	
relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3 adjustable current response value current of the current-dependent overload release 35 45 A	during storage	-50 +80 °C	
Main circuit number of poles for main current circuit adjustable current response value current of the current- dependent overload release 3 45 A	during transport	-50 +80 °C	
number of poles for main current circuit adjustable current response value current of the current- dependent overload release 3 35 45 A	relative humidity during operation	10 95 %	
adjustable current response value current of the current- dependent overload release	Main circuit		
dependent overload release	number of poles for main current circuit	3	
		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
operational current rated value	45 A
operational current rated value	7071
at AC-3 at 400 V rated value	45 A
at AC-3 at 400 V rated value at AC-3e at 400 V rated value	45 A
operating power	70 / Y
• 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 10
design of the overload release	thermal
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 	10 kA
at AC at 690 V rated value	4 kA
operating short-circuit current breaking capacity (Ics) at AC	
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 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	
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	10 11111
— 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	10 111111
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
Connections/ Terminals	10 111111
-	
for main current circuit	screw-type terminals
arrangement of electrical connectors for main current	Top and bottom
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 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	
• for main contacts	M6
Safety related data	
product function suitable for safety function	Yes
suitability for use	
safety-related switching on	No
safety-related switching OFF	Yes
service life maximum	10 a
test wear-related service life necessary	Yes
proportion of dangerous failures	
with low demand rate according to SN 31920	40 %
with high demand rate according to SN 31920	50 %
· · · · · · · · · · · · · · · · · · ·	5 000
B10 value with high demand rate according to SN 31920	
B10 value with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920	50 FIT
failure rate [FIT] with low demand rate according to SN	50 FIT
failure rate [FIT] with low demand rate according to SN 31920	3

IEC 61508	
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	

General Product Approval







Confirmation



<u>KC</u>

General Product Approval

For use in hazardous locations

Test Certificates

Marine / Shipping







Special Test Certificate

Type Test Certificates/Test Report



Marine / Shipping











Miscellaneous

other

other

Railway

Environment

Confirmation



Special Test Certific-

Confirmation







Environment

Environmental Confirmations

Further information

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=3RV2031-4VA10

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RV2031-4VA10}\\$

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4VA10

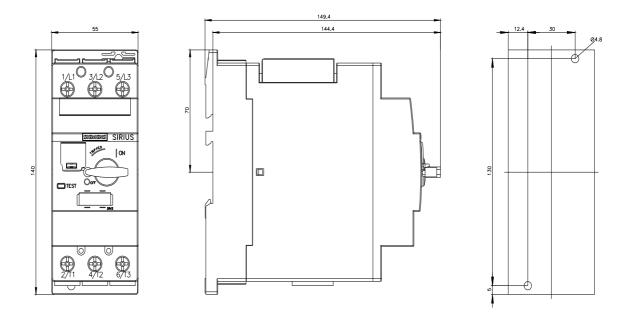
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

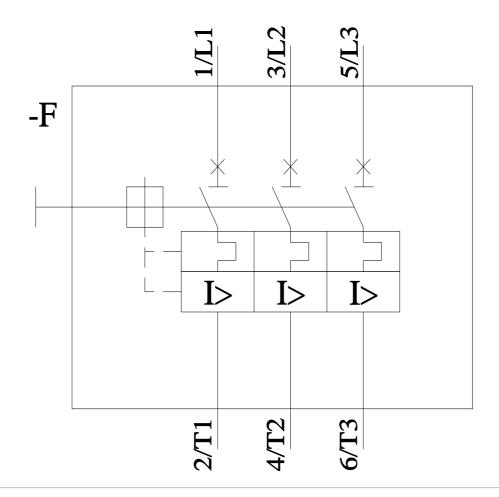
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4VA10&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4VA10/char

Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4VA10&objecttype=14&gridview=view1





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