SIEMENS

Data sheet 3RV2131-4XA10



Circuit breaker size S2 for motor protection, CLASS 10 with overload relay function A-release 49...59 A N-release 845 A Standard switching capacity

Design of the product For motor protection with overload relay function	product brand name	SIRIUS	
Second technical data	product designation	Circuit breaker	
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 shock resistance according to IEC 60068-2-27 get of the main contacts typical of auxiliary contacts typical of auxiliary contacts typical electrical endurance (switching cycles) voltage reording to IEC 81346-2 Quoun greference code according to IEC 81346-2 Quoun ambient temperature olduring operation during storage olduring storage olduring torage olduring torage olduring torage olduring transport relative humidity during operation mumber of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage old reference value maximum operating frequency rated value operational current rated value	design of the product	For motor protection with overload relay function	
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 pole at AC in hot operating state 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 mechanical service life (switching cycles) • of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum aubient 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 operating voltage • rated value • at AC-3e rated value maximum • at AC-3e rated value maximum operation lucrent rated value operational current rated value	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 26 W • at AC in hot operating state per pole 8.7 W 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 (switching cycles) • of the main contacts typical 20 000 • of auxiliary contacts typical 20 000 electrical endurance (switching cycles) typical 20 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 03/01/2017 Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation -20 +60 °C • during storage -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 operating voltage • rated value • at AC-3 rated value maximum 690 V operating frequency rated value operational current rated value operational current rated value operational current rated value operational current	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 surge voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value surge voltage resistance rated value shock resistance according 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 20 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) ambient conditions installation altitude at height above sea level maximum ambient temperature during operation -20 +60 °C 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 operating voltage rated value at AC-3 rated value maximum ego V at AC-3 rated value maximum ego V at AC-3 rated value maximum ego V operational current rated value	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 mechanical service life (switching cycles) of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical 20 000 reference code according to IEC 81346-2 Quound reference code according to 90000 reference code according to 90000 refer	size of contactor can be combined company-specific	S2	
at AC in hot operating state 28 W at AC in hot operating state per pole 8.7 W insulation voltage with degree of pollution 3 at AC rated value 690 V value surge voltage resistance rated value 6 kV shock resistance according to IEC 60068-2-27 25g / 11 ms Sinus mechanical service life (switching cycles) of the main contacts typical 20 000 of auxiliary contacts typical 20 000 electrical endurance (switching cycles) typical 20 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 03/01/2017 Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature olduring operation -20 +60 °C olduring storage -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 operating voltage rated value 20 690 V at AC-3 rated value maximum 690 V at AC-3 rated value maximum 690 V at AC-3 rated value maximum 690 V operational current rated value 59 A operational current rated value 59 A operational current rated value 59 A operational current current of current operation current of current operation current operation 59 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 get of the main contacts typical of auxiliary contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical electrical endurance (switching cycles) typical preference code according to IEC 81346-2 Quount reference code according t	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 mechanical service life (switching cycles) of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Quoto reference code according to IEC 81346-2 Qubstance Prohibitance (Date) 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 mumber of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage operating voltage or rated value at AC-3 rated value maximum operational current rated value operational current of the KV at AC Carrent value operational current rated value operational current rated value operational current rated value operational current of the KV at AC Carrent value operational current rated value operational current rated value operational current	 at AC in hot operating state 	26 W	
value surge voltage resistance rated value shock resistance according to IEC 60068-2-27 mechanical service life (switching cycles) of the main contacts typical of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature of during operation of during storage of during storage of during transport relative humidity during operation number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage operating voltage operating requency rated value operational current rated value operational current rated value operational current of the CV over the CV	at AC in hot operating state per pole	8.7 W	
shock resistance according to IEC 60068-2-27 mechanical service life (switching cycles) of the main contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature oluring operation oluring storage oluring transport relative humidity during operation number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage rated value at AC-3 rated value maximum operation for incomparation incomparation for incom	9 9	690 V	
mechanical service life (switching cycles) • of the main contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Substance Prohibitance (Date) 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 operating voltage • rated value • at AC-3 rated value maximum • at AC-3 rated value maximum operating frequency rated value operational current 20 000 03/01/2017 Ambient candon 03/01/2017 Ambient cond 03/01/2017 Ambient cond 03/01/2017 Ambient candon 03/01/2017 Ambient cond 03/01/2017 Ambient cond 03/01/2017 Ambient cond 03/01/2017 Ambient cond 03/01/2017 03/01/201	surge voltage resistance rated value	6 kV	
of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature ouring operation ouring storage oduring storage ouring transport relative humidity during operation	shock resistance according to IEC 60068-2-27	25g / 11 ms Sinus	
of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature ouring 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 operating voltage rated value at AC-3 rated value maximum operating frequency rated value operational current 20 000 m 3/07/1/2017 Ambient conditions - 20 +60 °C - 20 +80 °C - 2080 °C	mechanical service life (switching cycles)		
electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 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 operating voltage • rated value • at AC-3 rated value maximum • at AC-3e rated value maximum operational current rated value operational current rated value operational current rated value operational current rated value 59 A operational current rated value 59 A operational current rated value 59 A	 of the main contacts typical 	20 000	
reference code according to IEC 81346-2 Substance Prohibitance (Date) 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 operating voltage • rated value • at AC-3 rated value maximum 690 V • at AC-3e rated value maximum operational current rated value operational current rated value 50 60 Hz operational current rated value 59 A	of auxiliary contacts typical	20 000	
Substance Prohibitance (Date) 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 operating voltage • rated value • at AC-3 rated value maximum 690 V • at AC-3e rated value maximum operational current rated value 59 A operational current rated value 59 A operational current rated value 59 A	electrical endurance (switching cycles) typical	20 000	
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 operating voltage • rated value • at AC-3 rated value maximum • at AC-3e rated value maximum operating frequency rated value operational current rated value operational current rated value 59 A operational current rated value 59 A operational current 20 00 m 20 +60 °C -20 +60 °C -50 +80 °C -	reference code according to IEC 81346-2	Q	
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 operating voltage • rated value • at AC-3 rated value maximum • at AC-3e rated value operational current rated value operational current rated value 50 60 Hz operational current rated value 59 A	Substance Prohibitance (Date)	03/01/2017	
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 operating voltage • rated value • rated value maximum 690 V • at AC-3 rated value maximum 690 V operating frequency rated value operational current rated value 50 60 Hz operational current rated value 59 A	Ambient conditions		
 during operation during storage during transport so +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 operating voltage rated value at AC-3 rated value maximum at AC-3e rated value maximum 690 V at AC-3e rated value maximum 690 V operating frequency rated value operational current rated value 59 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 operating voltage rated value at AC-3 rated value maximum at AC-3e rated value maximum eat AC-3e rated value maximum operating frequency rated value operational current rated value 59 A 	ambient temperature		
 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 operating voltage rated value at AC-3 rated value maximum at AC-3e rated value maximum operating frequency rated value operating frequency rated value operational current rated value 59 A 	 during operation 	-20 +60 °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 operating voltage • rated value • at AC-3 rated value maximum • at AC-3e rated value maximum operating frequency rated value operational current rated value 50 60 Hz operational current	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 operating voltage • rated value • rated value maximum • at AC-3 rated value maximum • at AC-3e rated value maximum operating frequency rated value operational current rated value 59 A operational current	during transport	-50 +80 °C	
number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum • at AC-3e rated value maximum operating frequency rated value operational current rated value 50 60 Hz operational current	relative humidity during operation	10 95 %	
adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum • at AC-3e rated value maximum operating frequency rated value operational current rated value 50 60 Hz operational current	Main circuit		
current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum • at AC-3e rated value maximum 690 V operating frequency rated value operational current rated value 50 60 Hz operational current	number of poles for main current circuit	3	
 rated value at AC-3 rated value maximum at AC-3e rated value maximum operating frequency rated value operational current rated value operational current 	•	49 59 A	
 at AC-3 rated value maximum at AC-3e rated value maximum operating frequency rated value operational current rated value operational current 	operating voltage		
 at AC-3e rated value maximum 690 V operating frequency rated value operational current rated value operational current 59 A 	• rated value	20 690 V	
operating frequency rated value 50 60 Hz operational current rated value 59 A operational current	 at AC-3 rated value maximum 	690 V	
operational current rated value 59 A operational current	 at AC-3e rated value maximum 	690 V	
operational current	operating frequency rated value	50 60 Hz	
	operational current rated value	59 A	
• at AC-3 at 400 V rated value 59 A	operational current		
	at AC-3 at 400 V rated value	59 A	

at AC-3e at 400 V rated value	59 A
operating power	
• at AC-3	
— at 230 V rated value	15 kW
— at 400 V rated value	30 kW
— at 500 V rated value	37 kW
— at 690 V rated value	55 kW
• at AC-3e	
— at 230 V rated value	15 kW
— at 400 V rated value	30 kW
— at 500 V rated value	37 kW
— at 690 V rated value	55 kW
operating frequency	oo kii
• at AC-3 maximum	15 1/h
at AC-3e maximum	15 1/h
	13 1/11
Auxiliary circuit	
number of NC contacts for auxiliary contacts	0
• note	1
number of NO contacts for auxiliary contacts	0
• note	1
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 maximum short-circuit current (Icu)	
• at AC at 240 V rated value	65 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
breaking capacity operating short-circuit current (Ics)	T I/A
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
response value current of instantaneous short-circuit trip	845 A
unit	043 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	50 A
• at 480 V rated value	59 A
at 600 V rated value	59 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 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
product function short circuit protection	res
design of the short-circuit trip	magnetic
design of the short-circuit trip design of the fuse link for IT network for short-circuit	
design of the short-circuit trip design of the fuse link for IT network for short-circuit protection of the main circuit	magnetic
design of the short-circuit trip design of the fuse link for IT network for short-circuit protection of the main circuit • at 240 V • at 400 V	none required 160
design of the short-circuit trip design of the fuse link for IT network for short-circuit protection of the main circuit • at 240 V	magnetic none required

nstallation/ 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	75 mm
depth	149 mm
required spacing	
• for grounded parts at 400 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
• for live parts at 400 V	10 11111
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
	10 111111
 for grounded parts at 500 V downwards 	50 mm
	50 mm
— upwards	50 mm 10 mm
— at the side	10 111111
• for live parts at 500 V	50
— 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	
type of electrical connection	
for main current circuit	screw-type terminals
 for auxiliary and control circuit 	screw-type terminals
arrangement of electrical connectors for main current circuit	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 25 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 terminals	3 4.5 N·m
for auxiliary contacts with screw-type terminals	0.8 1.2 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
of the auxiliary and control contacts	M3
Safety related data	
B10 value	
	5 000
with high demand rate according to SN 31920 proportion of demandary to failure.	5 000
proportion of dangerous failures	FO 9/
 with low demand rate according to SN 31920 	50 %

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

Certificates/ approvals

General Product Approval



Confirmation





<u>KC</u>



Declaration of Conformity

Test Certificates

Marine / Shipping





Type Test Certificates/Test Report Special Test Certificate





Marine / Shipping











Confirmation

other

other

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=3RV2131-4XA10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2131-4XA10

 ${\bf Service \& Support \ (Manuals, \ Certificates, \ Characteristics, \ FAQs, ...)}$

https://support.industry.siemens.com/cs/ww/en/ps/3RV2131-4XA10

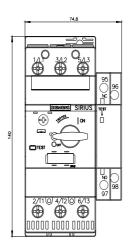
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2131-4XA10&lang=en

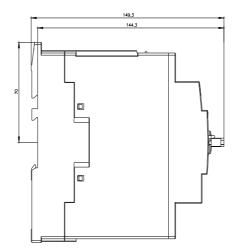
Characteristic: Tripping characteristics, I2t, Let-through current

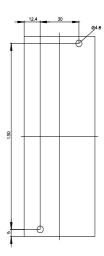
https://support.industry.siemens.com/cs/ww/en/ps/3RV2131-4XA10/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2131-4XA10&objecttype=14&gridview=view1







last modified:

6/25/2022