SIEMENS

Data sheet 3RV2031-4WB10



Circuit breaker size S2 for motor protection, Class 20 A-release 42...52 A N-release 741 A screw terminal Standard switching capacity





product brand name	SIRIUS	
product designation	Circuit breaker	
design of the product	For motor protection	
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	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	
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	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	42 52 A	
operating voltage		
• rated value	20 690 V	
 at AC-3 rated value maximum 	690 V	
at AC-3e 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
• at AC-3e at 400 V rated value	52 A
operating power	
• at AC-3	
— at 230 V rated value	15 kW
— at 400 V rated value	22 kW
— at 500 V rated value	30 kW
— at 690 V rated value	45 kW
• at AC-3e	
— at 230 V rated value	15 kW
— at 400 V rated value	22 kW
— at 500 V rated value	30 kW
— at 690 V rated value	45 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
9	Yes
phase failure detection trip class	CLASS 20
	thermal
design of the overload release	uleilliai
maximum short-circuit current breaking capacity (Icu)	400 l-A
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
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	4 kA
at 690 V rated value	2 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	
	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	50
— downwards	50 mm
— upwards	50 mm
— at the side Connections/ Terminals	10 mm
type of electrical connection • for main current circuit	screw-type terminals
arrangement of electrical connectors for main current	Top and bottom
circuit	
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)
for 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
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	110
• for main contacts	M6
Safety related data	V
product function suitable for safety function	Yes
suitability for use	Me
safety-related switching on	No Voc
safety-related switching OFF	Yes
service life maximum	10 a
test wear-related service life necessary	Yes
proportion of dangerous failureswith low demand rate according to SN 31920	40 %
with low demand rate according to SN 31920 with high demand rate according to SN 31920	40 % 50 %
B10 value with high demand rate according to SN 31920	5 000
failure rate [FIT] with low demand rate according to SN	50 FIT
31920 ISO 13849	
device type according to ISO 13849-1	3
Overdimensioning according to ISO 12840-2 pages are	
overdimensioning according to ISO 13849-2 necessary IEC 61508	Yes

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



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

Type Test Certificates/Test Report







Marine / Shipping









Miscellaneous

other

Confirmation



Railway

Environment

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

Confirmation



Siemens **EcoTech**



Environmental Confirmations

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=3RV2031-4WB10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4WB10

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4WB10

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

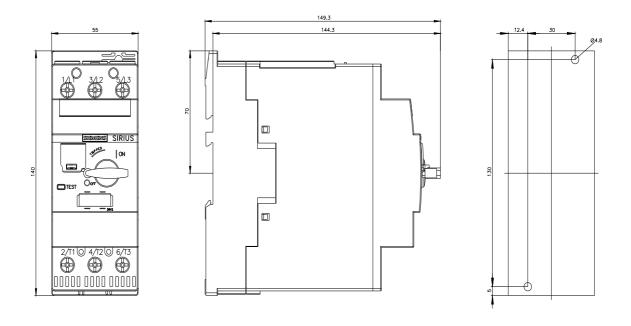
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4WB10&lang=en

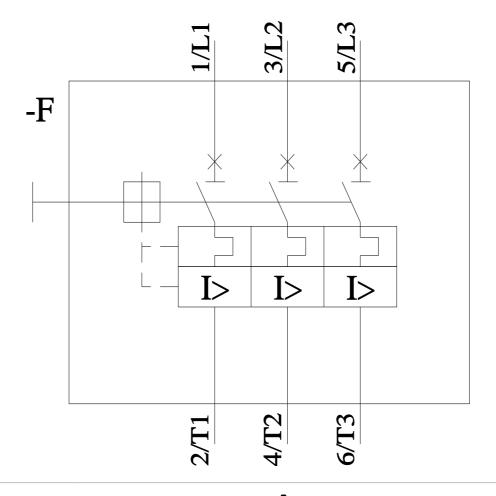
Characteristic: Tripping characteristics, I2t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4WB10/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4WB10&objecttype=14&gridview=view1





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