SIEMENS

3RV2042-4HB10 **Data sheet**



Circuit breaker size S3 for motor protection, Class 20 A-release 36...50 A N-release 650 A screw terminal Increased switching capacity 100 kA $\,$





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	S3
size of contactor can be combined company-specific	S3
product extension auxiliary switch	Yes
power loss [W] for rated value of the current	
 at AC in hot operating state 	27 W
 at AC in hot operating state per pole 	9 W
insulation voltage with degree of pollution 3 at AC rated value	1 000 V
surge voltage resistance rated value	8 kV
shock resistance according to IEC 60068-2-27	25g / 11 ms Sinus
mechanical service life (operating cycles)	
 of the main contacts typical 	25 000
of auxiliary contacts typical	25 000
electrical endurance (operating cycles) typical	25 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	03/01/2017
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	36 50 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	50 A
operational current	
 at AC-3 at 400 V rated value 	50 A
at AC-3e at 400 V rated value	50 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	45 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	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
phase failure detection	Yes
trip class	CLASS 20
design of the overload release	thermal
maximum short-circuit current breaking capacity (Icu)	ucina
at AC at 240 V rated value	100 kA
• at AC at 400 V rated value	100 KA
at AC at 500 V rated value	15 kA
at AC at 690 V rated value	10 kA
operating short-circuit current breaking capacity (lcs) at AC	400.14
at 240 V rated value	100 kA
• at 400 V rated value	50 kA
• at 500 V rated value	7.5 kA
at 690 V rated value	5 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	50 A
at 600 V rated value	50 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
Installation/ mounting/ dimensions	
mounting position	any
	any
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	165 mm
width	70 mm
depth	176 mm
required spacing	
 with side-by-side mounting at the side 	0 mm
 for grounded parts at 400 V 	

— downwards	70 mm
— upwards	70 mm
— at the side	10 mm
• for live parts at 400 V	
— downwards	70 mm
— upwards	70 mm
— at the side	10 mm
• for grounded parts at 500 V	
— downwards	110 mm
— upwards	110 mm
— at the side	10 mm
 for live parts at 500 V 	
— downwards	110 mm
— upwards	110 mm
— at the side	10 mm
• for grounded parts at 690 V	
— downwards	150 mm
— upwards	150 mm
— at the side	30 mm
• for live parts at 690 V	
— downwards	150 mm
— upwards	150 mm
— at the side	30 mm
Connections/ Terminals	
type of electrical connection	
for main current 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	2x (2.5 16 mm²)
 — solid or stranded 	2x (2,5 50 mm²), 1x (10 70 mm²)
 finely stranded with core end processing 	2x (2.5 35 mm²), 1x (2.5 50 mm²)
— finely stranded without core end processing	2x (10 35 mm²), 1x (10 50 mm²)
tightening torque	
for main contacts for ring cable lug	4.5 6 N·m
outer diameter of the usable ring cable lug maximum	19 mm
tightening torque	
for main contacts with screw-type terminals	4.5 6 N·m
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 %
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
overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	-
safety device type according to IEC 61508-2	Type A
T1 value • for proof test interval or service life according to IEC	10 a
61508	
Electrical Safety	

protection class IP on the front according to IEC 60529

touch protection on the front according to IEC 60529

Display

display version for switching status

Approvals Certificates

General Product Approval



Confirmation







<u>KC</u>

General Product Approval

Test Certificates

Marine / Shipping



Special Test Certificate

Type Test Certificates/Test Report







Marine / Shipping

other







Confirmation

Miscellaneous



Railway

Environment

Special Test Certificate







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=3RV2042-4HB10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2042-4HB10

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2042-4HB10

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

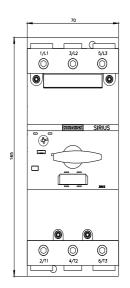
 $\underline{\text{http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2042-4HB10\&lang=en}}$

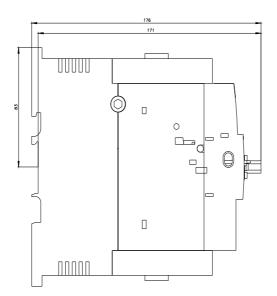
Characteristic: Tripping characteristics, I²t, Let-through current

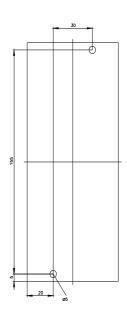
https://support.industry.siemens.com/cs/ww/en/ps/3RV2042-4HB10/char

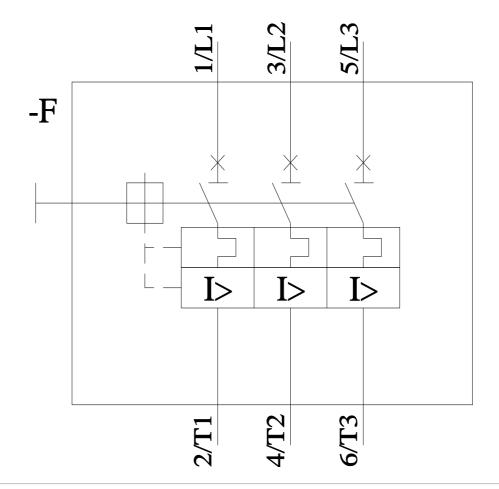
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2042-4HB10&objecttype=14&gridview=view1









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