SIEMENS

Data sheet 3RV2042-4HB10



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
Weight	2.229 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 %
Environmental footprint	
Environmental Product Declaration(EPD)	Yes
global warming potential [CO2 eq] total	283.24 kg
global warming potential [CO2 eq] during manufacturing	18.5 kg
global warming potential [CO2 eq] during sales	1.24 kg
global warming potential [CO2 eq] during operation	265 kg
global warming potential [CO2 eq] after end of life	-1.5 kg
Siemens Eco Profile (SEP)	Siemens EcoTech

Main circuit	
number of poles for main current circuit	3
adjustable current response value current of the current- dependent overload release	36 50 A
type of voltage for main current circuit	AC
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
Auxiliary circuit	
type of voltage for auxiliary and control circuit	AC/DC
number of NC contacts for auxiliary contacts	0
number of NO contacts for auxiliary contacts	0
number of CO contacts for auxiliary contacts	0
Protective and monitoring functions	
product function	
ground fault detection	No
phase failure detection	Yes
• phase failure detection	
·	
trip class	CLASS 20
trip class design of the overload release	
trip class design of the overload release maximum short-circuit current breaking capacity (Icu)	CLASS 20 thermal
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value	CLASS 20 thermal
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 400 V rated value	CLASS 20 thermal 100 kA 100 kA
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 400 V rated value • at AC at 500 V rated value	CLASS 20 thermal 100 kA 100 kA
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 400 V rated value • at AC at 500 V rated value • at AC at 690 V rated value	CLASS 20 thermal 100 kA 100 kA
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 400 V rated value • at AC at 500 V rated value • at AC at 690 V rated value operating short-circuit current breaking capacity (Ics) at AC	CLASS 20 thermal 100 kA 100 kA 15 kA 10 kA
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 400 V rated value • at AC at 500 V rated value • at AC at 690 V rated value operating short-circuit current breaking capacity (Ics) at AC • at 240 V rated value	CLASS 20 thermal 100 kA 100 kA 15 kA 10 kA
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 400 V rated value • at AC at 500 V rated value • at AC at 690 V rated value operating short-circuit current breaking capacity (Ics) at AC • at 240 V rated value • at 400 V rated value	CLASS 20 thermal 100 kA 100 kA 15 kA 10 kA
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 400 V rated value • at AC at 500 V rated value • at AC at 690 V rated value operating short-circuit current breaking capacity (Ics) at AC • at 240 V rated value • at 400 V rated value • at 500 V rated value • at 500 V rated value	CLASS 20 thermal 100 kA 100 kA 15 kA 10 kA 100 kA 7.5 kA
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 500 V rated value • at AC at 500 V rated value • at AC at 690 V rated value operating short-circuit current breaking capacity (Ics) at AC • at 240 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value • at 690 V rated value	CLASS 20 thermal 100 kA 100 kA 15 kA 10 kA 100 kA 50 kA 7.5 kA
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 400 V rated value • at AC at 500 V rated value • at AC at 690 V rated value operating short-circuit current breaking capacity (Ics) at AC • at 240 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value • at 690 V rated value response value current of instantaneous short-circuit trip unit	CLASS 20 thermal 100 kA 100 kA 15 kA 10 kA 100 kA 7.5 kA
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 400 V rated value • at AC at 500 V rated value • at AC at 690 V rated value operating short-circuit current breaking capacity (Ics) at AC • at 240 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value • at 690 V rated value response value current of instantaneous short-circuit trip unit	CLASS 20 thermal 100 kA 100 kA 15 kA 10 kA 100 kA 50 kA 7.5 kA
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 400 V rated value • at AC at 500 V rated value • at AC at 690 V rated value operating short-circuit current breaking capacity (Ics) at AC • at 240 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value response value current of instantaneous short-circuit trip unit JL/CSA ratings full-load current (FLA) for 3-phase AC motor	CLASS 20 thermal 100 kA 100 kA 15 kA 10 kA 100 kA 50 kA 7.5 kA 5 kA
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 400 V rated value • at AC at 500 V rated value • at AC at 690 V rated value operating short-circuit current breaking capacity (Ics) at AC • at 240 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value response value current of instantaneous short-circuit trip unit JL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value	CLASS 20 thermal 100 kA 100 kA 15 kA 10 kA 100 kA 50 kA 7.5 kA 5 kA 650 A
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 400 V rated value • at AC at 500 V rated value • at AC at 690 V rated value operating short-circuit current breaking capacity (Ics) at AC • at 240 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value response value current of instantaneous short-circuit trip unit JL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value • at 600 V rated value	CLASS 20 thermal 100 kA 100 kA 15 kA 10 kA 100 kA 50 kA 7.5 kA 5 kA
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 400 V rated value • at AC at 500 V rated value • at AC at 690 V rated value operating short-circuit current breaking capacity (Ics) at AC • at 240 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value response value current of instantaneous short-circuit trip unit JL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value • at 600 V rated value	CLASS 20 thermal 100 kA 100 kA 15 kA 10 kA 100 kA 50 kA 7.5 kA 5 kA 650 A
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 400 V rated value • at AC at 500 V rated value • at AC at 690 V rated value operating short-circuit current breaking capacity (Ics) at AC • at 240 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value	CLASS 20 thermal 100 kA 100 kA 15 kA 10 kA 100 kA 50 kA 7.5 kA 5 kA 650 A
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 400 V rated value • at AC at 500 V rated value • at AC at 690 V rated value operating short-circuit current breaking capacity (Ics) at AC • at 240 V rated value • at 400 V rated value • at 500 V rated value • at 500 V rated value • at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value	CLASS 20 thermal 100 kA 100 kA 15 kA 10 kA 100 kA 50 kA 7.5 kA 5 kA 650 A
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 500 V rated value • at AC at 500 V rated value • at AC at 690 V rated value operating short-circuit current breaking capacity (Ics) at AC • at 240 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value • at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value	CLASS 20 thermal 100 kA 100 kA 15 kA 10 kA 100 kA 50 kA 7.5 kA 5 kA 650 A
trip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 500 V rated value • at AC at 500 V rated value • at AC at 690 V rated value operating short-circuit current breaking capacity (Ics) at AC • at 240 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor	CLASS 20 thermal 100 kA 100 kA 15 kA 10 kA 100 kA 50 kA 7.5 kA 5 kA 650 A
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— at 460/480 V rated value	40 hp
— at 460/480 V rated value	·
— at 575/600 V rated value Short-circuit protection	50 hp
	Vaa
product function short circuit protection	Yes
design of the short-circuit trip	magnetic
Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	165 mm
width	70 mm 176 mm
depth required spacing	170 111111
with side-by-side mounting at the side	0 mm
• for grounded parts at 400 V	O THILL
— downwards	70 mm
— upwards	70 mm
— at the side	10 mm
at the sidefor live parts at 400 V	IV IIIII
— downwards	70 mm
— upwards	70 mm
— upwards — at the side	10 mm
• for grounded parts at 500 V	10 IIIII
— downwards	110 mm
— upwards	110 mm
— at the side	10 mm
• for live parts at 500 V	10 11111
— 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	Top and bottom
circuit	
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	

40 %
50 %
5 000
50 FIT
3
Yes
Type A
10 a
IP20
finger-safe, for vertical contact from the front
Handle

General Product Approval









<u>KC</u>



General Product Approval

Test Certificates

Marine / Shipping

BIS CRS

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

Type Test Certificates/Test Report







Marine / Shipping

other







Confirmation

Miscellaneous



Railway

Environment

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



Siemens **EcoTech**



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=3RV2042-4HB10

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RV2042-4HB10}$

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

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

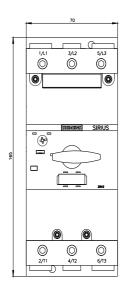
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

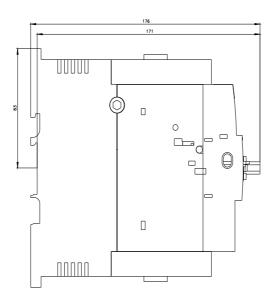
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2042-4HB10&lang=en

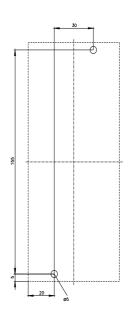
Characteristic: Tripping characteristics, I²t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RV2042-4HB10/char

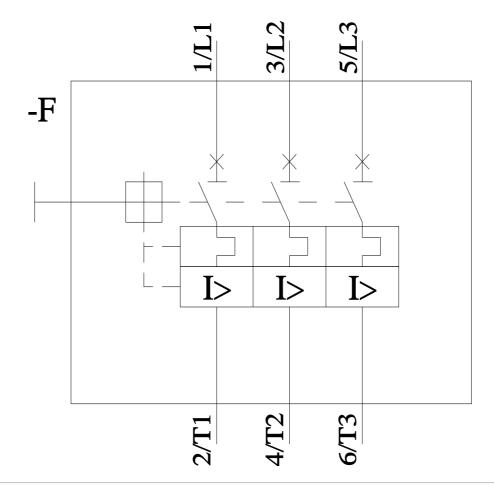
Further characteristics (e.g. electrical endurance, switching frequency)

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