



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 Prohibition (Date)	03/01/2017

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	

<ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value • at AC-3e <ul style="list-style-type: none"> — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value 	11 kW 22 kW 30 kW 45 kW
operating frequency <ul style="list-style-type: none"> • at AC-3 maximum • at AC-3e maximum 	15 1/h 15 1/h
Protective and monitoring functions	
product function <ul style="list-style-type: none"> • ground fault detection • phase failure detection 	No Yes
trip class	CLASS 20
design of the overload release	thermal
maximum short-circuit current breaking capacity (Icu)	
<ul style="list-style-type: none"> • 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 	100 kA 100 kA 15 kA 10 kA
operating short-circuit current breaking capacity (Ics) at AC	
<ul style="list-style-type: none"> • at 240 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value 	100 kA 50 kA 7.5 kA 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	
<ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value 	50 A 50 A
yielded mechanical performance [hp]	
<ul style="list-style-type: none"> • for single-phase AC motor <ul style="list-style-type: none"> — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor <ul style="list-style-type: none"> — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 575/600 V rated value 	5 hp 10 hp 15 hp 20 hp 40 hp 50 hp
Short-circuit protection	
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
depth	176 mm
required spacing	
<ul style="list-style-type: none"> • with side-by-side mounting at the side • for grounded parts at 400 V <ul style="list-style-type: none"> — downwards — upwards — at the side • for live parts at 400 V <ul style="list-style-type: none"> — downwards 	0 mm 70 mm 70 mm 10 mm 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
 - solid or stranded
 - finely stranded with core end processing
 - finely stranded without core end processing

2x (2.5 ... 16 mm²)
 2x (2.5 ... 50 mm²), 1x (10 ... 70 mm²)
 2x (2.5 ... 35 mm²), 1x (2.5 ... 50 mm²)
 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

B10 value

- with high demand rate according to SN 31920

5 000

proportion of dangerous failures

- with low demand rate according to SN 31920
- with high demand rate according to SN 31920

50 %
 50 %

T1 value for proof test interval or service life according to IEC 61508

10 a

protection class IP on the front according to IEC 60529

IP20

touch protection on the front according to IEC 60529

display version for switching status

finger-safe, for vertical contact from the front
 Handle

Certificates/ approvals

General Product Approval

Declaration of
Conformity

[Confirmation](#)



[KC](#)



Declaration of
Conformity

Test Certificates

Marine / Shipping



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping

other



LRS



PRS



RINA



RMRS

[Confirmation](#)



VDE

Railway

[Vibration and Shock](#)

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, ...)

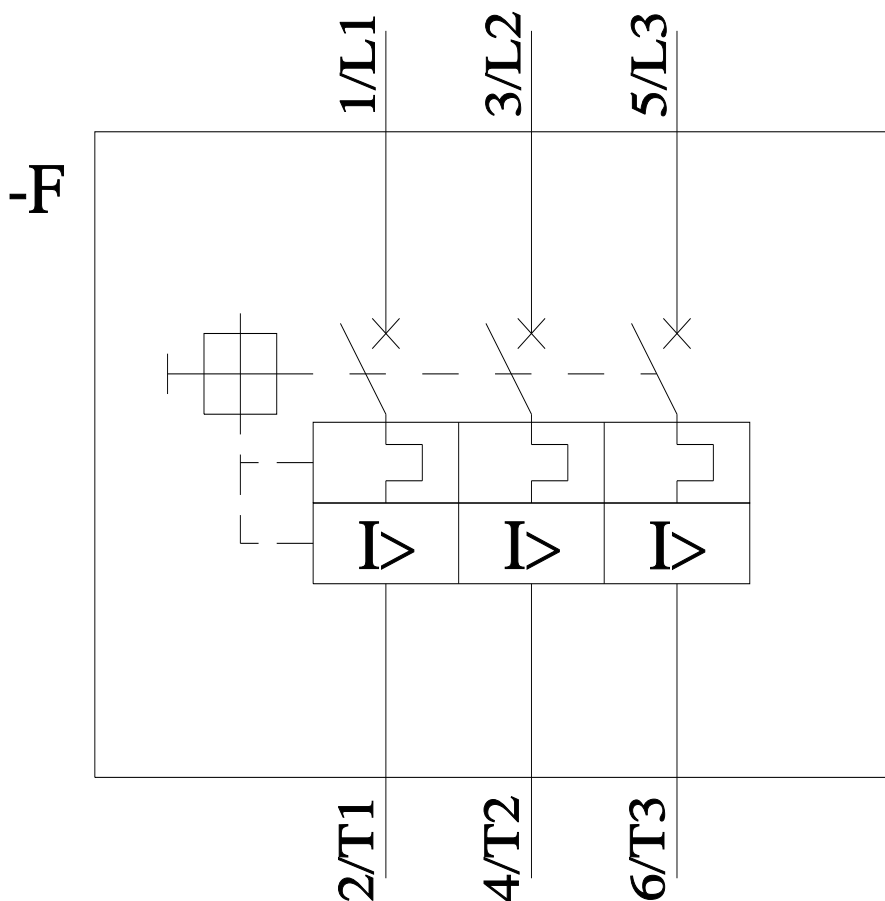
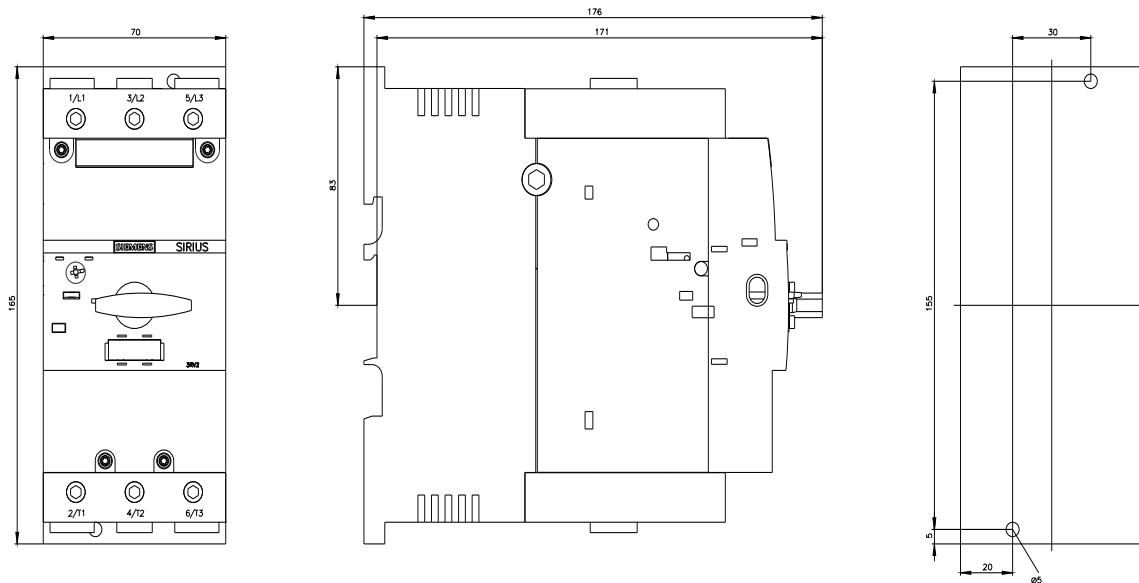
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2042-4HB10&lang=en

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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