

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
<ul style="list-style-type: none"> product extension auxiliary switch 	Yes
<ul style="list-style-type: none"> power loss [W] for rated value of the current at AC in hot operating state 	27 W
<ul style="list-style-type: none"> power loss [W] for rated value of the current 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
maximum permissible voltage for safe isolation	
<ul style="list-style-type: none"> in networks with grounded star point between main and auxiliary circuit 	400 V
<ul style="list-style-type: none"> in networks with grounded star point between main and auxiliary circuit 	400 V

protection class IP	
• on the front	IP20
• of the terminal	IP00
• shock resistance acc. to IEC 60068-2-27	25g / 11 ms Sinus
• mechanical service life (switching cycles) of the main contacts typical	25 000
• mechanical service life (switching cycles) of auxiliary contacts typical	25 000
• electrical endurance (switching cycles) typical	25 000
reference code acc. to DIN EN 81346-2	Q

Ambient conditions

• installation altitude at height above sea level maximum	2 000 m
• ambient temperature during operation	-20 ... +60 °C
• ambient temperature during storage	-50 ... +80 °C
• ambient temperature during transport	-50 ... +80 °C
temperature compensation	-20 ... +60 °C
relative humidity during operation	10 ... 95 %

Main circuit

number of poles for main current circuit	3
adjustable pick-up value current of the current-dependent overload release	36 ... 50 A
• operating voltage rated value	690 V
• operating voltage at AC-3 rated value maximum	690 V
operating frequency rated value	50 ... 60 Hz
operating current rated value	50 A
•	
— operating current at AC-3 at 400 V rated value	50 A
• operating power at AC-3	
— at 230 V rated value	11 000 W
— at 400 V rated value	22 000 W
— at 500 V rated value	30 000 W
— at 690 V rated value	45 000 W
• operating frequency at AC-3 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

operational 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 	<p>100 000 A</p> <p>50 000 A</p> <p>7 500 A</p> <p>5 000 A</p>
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 	<p>100 kA</p> <p>100 kA</p> <p>15 kA</p> <p>10 kA</p>
<ul style="list-style-type: none"> • response value current of instantaneous short-circuit trip unit 	650 A

UL/CSA ratings

full-load current (FLA) for three-phase AC motor	
<ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value 	<p>50 A</p> <p>50 A</p>
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 three-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 	<p>5 hp</p> <p>10 hp</p> <p>15 hp</p> <p>20 hp</p> <p>40 hp</p> <p>50 hp</p>

Short-circuit protection

product function short circuit protection	Yes
design of the short-circuit trip	magnetic

Installation/ mounting/ dimensions

<ul style="list-style-type: none"> • mounting position 	any
<ul style="list-style-type: none"> • mounting type 	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
height	165 mm
width	70 mm
depth	176 mm
required spacing	
<ul style="list-style-type: none"> • for grounded parts at 400 V <ul style="list-style-type: none"> — downwards — upwards — backwards 	<p>70 mm</p> <p>70 mm</p> <p>0 mm</p>

— at the side	10 mm
— forwards	0 mm
• for live parts at 400 V	
— downwards	70 mm
— upwards	70 mm
— backwards	0 mm
— at the side	10 mm
— forwards	0 mm
• for grounded parts at 500 V	
— downwards	110 mm
— upwards	110 mm
— backwards	0 mm
— at the side	10 mm
— forwards	0 mm
• for live parts at 500 V	
— downwards	110 mm
— upwards	110 mm
— backwards	0 mm
— at the side	10 mm
— forwards	0 mm
• for grounded parts at 690 V	
— downwards	150 mm
— upwards	150 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
• for live parts at 690 V	
— downwards	150 mm
— upwards	150 mm
— backwards	0 mm
— at the side	30 mm

Connections/ Terminals

• product function removable terminal for auxiliary and control circuit	No
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 mm ²)

<ul style="list-style-type: none"> • type of connectable conductor cross-sections for main contacts single or multi-stranded 	2x (2,5 ... 50 mm ²), 1x (10 ... 70 mm ²)
<ul style="list-style-type: none"> • type of connectable conductor cross-sections for main contacts finely stranded with core end processing 	2x (2.5 ... 35 mm ²), 1x (2.5 ... 50 mm ²)
<ul style="list-style-type: none"> • type of connectable conductor cross-sections for main contacts finely stranded without core end processing 	2x (10 ... 35 mm ²), 1x (10 ... 50 mm ²)
tightening torque	
<ul style="list-style-type: none"> • for main contacts for ring cable lug 	4.5 ... 6 N·m
outer diameter of the usable ring cable lug maximum	19 mm
<ul style="list-style-type: none"> • tightening torque for main contacts with screw-type terminals 	4.5 ... 6 N·m

Safety related data

B10 value	
<ul style="list-style-type: none"> • with high demand rate acc. to SN 31920 	5 000
proportion of dangerous failures	
<ul style="list-style-type: none"> • with low demand rate acc. to SN 31920 	50 %
<ul style="list-style-type: none"> • with high demand rate acc. to SN 31920 	50 %
T1 value for proof test interval or service life acc. to IEC 61508	10 y
display version	
<ul style="list-style-type: none"> • for switching status 	Handle

Certificates/ approvals

General Product Approval	Declaration of Conformity
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[KC](#)



Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping	other
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[Confirmation](#)



Railway

[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=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, ...)

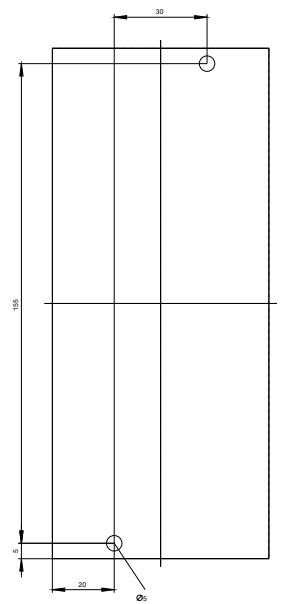
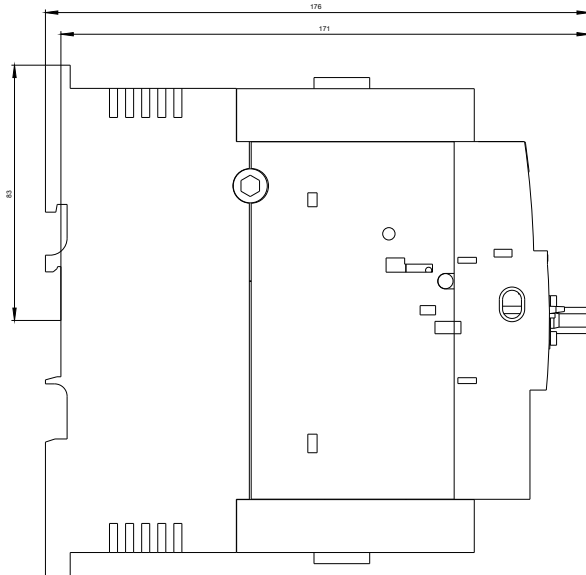
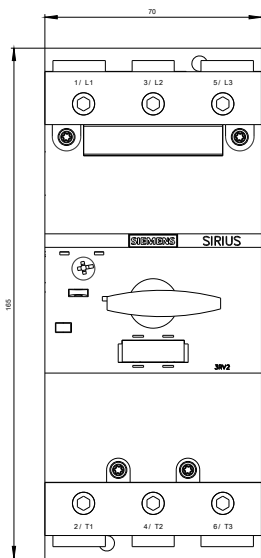
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2042-4HB10&lang=en

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>





last modified:

08/25/2020