

Circuit breaker size S3 for motor protection, CLASS 10 A release 80...100 A N release 1300 A Screw-type connection 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	S3
Size of contactor can be combined company-specific	S3
Product extension	Yes
<ul style="list-style-type: none"> • Auxiliary switch 	Yes
Power loss [W] total typical	38 W
Insulation voltage with degree of pollution 3 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	
<ul style="list-style-type: none"> • on the front 	IP20
<ul style="list-style-type: none"> • of the terminal 	IP00
Shock resistance	
<ul style="list-style-type: none"> • acc. to IEC 60068-2-27 	25g / 11 ms Sinus
Mechanical service life (switching cycles)	
<ul style="list-style-type: none"> • of the main contacts typical 	25 000
<ul style="list-style-type: none"> • of auxiliary contacts typical 	25 000
Electrical endurance (switching cycles)	
<ul style="list-style-type: none"> • typical 	25 000
Protection against electrical shock	finger-safe when touched vertically from front acc. to IEC 60529
Equipment marking acc. to DIN EN 81346-2	Q

Ambient conditions

Installation altitude at height above sea level	
<ul style="list-style-type: none"> • maximum 	2 000 m
Ambient temperature	
<ul style="list-style-type: none"> • during operation 	-20 ... +60 °C

<ul style="list-style-type: none"> during storage 	-50 ... +80 °C
<ul style="list-style-type: none"> 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	80 ... 100 A
Operating voltage	
<ul style="list-style-type: none"> rated value 	690 V
<ul style="list-style-type: none"> at AC-3 rated value maximum 	690 V
Operating frequency rated value	50 ... 60 Hz
Operating current rated value	100 A
Operating current	
<ul style="list-style-type: none"> at AC-3 	
<ul style="list-style-type: none"> — at 400 V rated value 	100 A
Operating power	
<ul style="list-style-type: none"> at AC-3 	
<ul style="list-style-type: none"> — at 230 V rated value 	30 000 W
<ul style="list-style-type: none"> — at 400 V rated value 	45 000 W
<ul style="list-style-type: none"> — at 690 V rated value 	90 000 W
Operating frequency	
<ul style="list-style-type: none"> at AC-3 maximum 	15 1/h

Protective and monitoring functions

Product function	
<ul style="list-style-type: none"> Ground fault detection 	No
<ul style="list-style-type: none"> Phase failure detection 	Yes
Trip class	CLASS 10
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 	100 000 A
<ul style="list-style-type: none"> at 400 V rated value 	30 000 A
<ul style="list-style-type: none"> at 500 V rated value 	4 000 A
<ul style="list-style-type: none"> at 690 V rated value 	3 000 A
Maximum short-circuit current breaking capacity (Icu)	
<ul style="list-style-type: none"> at AC at 240 V rated value 	100 kA
<ul style="list-style-type: none"> at AC at 400 V rated value 	65 kA
<ul style="list-style-type: none"> at AC at 500 V rated value 	8 kA
<ul style="list-style-type: none"> at AC at 690 V rated value 	5 kA
Response value current	
<ul style="list-style-type: none"> of instantaneous short-circuit trip unit 	1 300 A

UL/CSA ratings

Full-load current (FLA) for three-phase AC motor

- | | |
|------------------------|-------|
| • at 480 V rated value | 100 A |
| • at 600 V rated value | 100 A |

Yielded mechanical performance [hp]

- | | |
|-----------------------------|--------|
| • for single-phase AC motor | |
| — at 110/120 V rated value | 7.5 hp |
| — at 230 V rated value | 20 hp |
| • for three-phase AC motor | |
| — at 200/208 V rated value | 30 hp |
| — at 220/230 V rated value | 40 hp |
| — at 460/480 V rated value | 75 hp |
| — at 575/600 V rated value | 100 hp |

Short-circuit protection

Product function Short circuit protection

Yes

Design of the short-circuit trip

magnetic

Installation/ mounting/ dimensions

Mounting position

any

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

- | | |
|------------------------------|--------|
| • with side-by-side mounting | |
| — forwards | 0 mm |
| — Backwards | 0 mm |
| — upwards | 150 mm |
| — downwards | 150 mm |
| — at the side | 0 mm |
| • for grounded parts | |
| — forwards | 0 mm |
| — Backwards | 0 mm |
| — upwards | 150 mm |
| — at the side | 30 mm |
| — downwards | 150 mm |
| • for live parts | |
| — forwards | 0 mm |
| — Backwards | 0 mm |
| — upwards | 150 mm |
| — downwards | 150 mm |

— at the side

30 mm

Connections/Terminals


Product function <ul style="list-style-type: none">removable terminal for auxiliary and control circuit	No
Type of electrical connection <ul style="list-style-type: none">for main current circuit	screw-type terminals
Arrangement of electrical connectors for main current circuit	Top and bottom
Type of connectable conductor cross-sections <ul style="list-style-type: none">for main contacts<ul style="list-style-type: none">— solid— single or multi-stranded	2x (2.5 ... 16 mm ²) 2x (2,5 ... 50 mm ²), 1x (10 ... 70 mm ²)
Tightening torque <ul style="list-style-type: none">for ring cable lug<ul style="list-style-type: none">— for main contacts	4.5 ... 6 N·m
Outer diameter of the usable ring cable lug maximum	19 mm
Tightening torque <ul style="list-style-type: none">for main contacts with screw-type terminals	4.5 ... 6 N·m

Safety related data

Proportion of dangerous failures <ul style="list-style-type: none">with low demand rate acc. to SN 31920with high demand rate acc. to SN 31920	50 % 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	Test Certificates
 CCC	 CSA	 UL		 EG-Konf.	Special Test Certificate

Test Certificates	other			Railway
Declaration of the Compliance with the order	Confirmation	 VDE	Miscellaneous	Vibration and Shock

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mfb=3RV2041-4MA10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RV2041-4MA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2041-4MA10>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3RV2041-4MA10&lang=en

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