

Circuit breaker size S2 for motor protection, CLASS 10 A-release 49...59 A N-release 845 A screw terminal Standard switching capacity with transverse auxiliary switches 1 NO+1 NC



Figure similar

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	S2
Size of contactor can be combined company-specific	S2
Product extension	
• Auxiliary switch	Yes
Power loss [W] total typical	19 W
Insulation voltage with degree of pollution 3 rated value	690 V
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
• in networks with grounded star point between main and auxiliary circuit	400 V
• 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	20 000
• of auxiliary contacts typical	20 000
Electrical endurance (switching cycles)	
• typical	20 000
Certificate of suitability ATEX	Yes
Protection against electrical shock	finger-safe when touched vertically from front acc. to IEC 60529
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
• during storage	-50 ... +80 °C
• 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	49 ... 59 A
Operating voltage	
• rated value	690 V
• at AC-3 rated value maximum	690 V
Operating frequency rated value	50 ... 60 Hz
Operating current rated value	59 A
Operating current	
• at AC-3	
— at 400 V rated value	59 A
Operating power	
• at AC-3	
— at 230 V rated value	15 000 W
— at 400 V rated value	30 000 W
— at 500 V rated value	37 000 W
— at 690 V rated value	55 000 W
Operating frequency	
• at AC-3 maximum	15 1/h

Auxiliary circuit	
Design of the auxiliary switch	transverse
Number of NC contacts for auxiliary contacts	1
Number of NO contacts for auxiliary contacts	1
Operating current of auxiliary contacts at AC-15	
• at 24 V	2 A
• at 230 V	0.5 A
Operating current of auxiliary contacts at DC-13	
• at 24 V	1 A
• at 60 V	0.15 A
• at 110 V	0 A
• at 125 V	0 A
• at 220 V	0 A
Protective and monitoring functions	
Product function	
• Ground fault detection	No
• Phase failure detection	Yes
Trip class	CLASS 10
Design of the overload release	thermal
Operational short-circuit current breaking capacity (Ics) at AC	
• at 240 V rated value	100 kA
• at 400 V rated value	30 kA
• at 500 V rated value	4 kA
• at 690 V rated value	2 kA
Maximum short-circuit current breaking capacity (Icu)	
• at AC at 240 V rated value	65 kA
• at AC at 400 V rated value	65 kA
• at AC at 500 V rated value	8 kA
• at AC at 690 V rated value	4 kA
• at 480 AC Y/277 V acc. to UL 489 rated value	30 A
Response value current	
• of instantaneous short-circuit trip unit	845 A
UL/CSA ratings	
Full-load current (FLA) for three-phase AC motor	
• at 480 V rated value	59 A
• at 600 V rated value	59 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 three-phase AC motor — at 220/230 V rated value — at 460/480 V rated value — at 575/600 V rated value	20 hp 40 hp 50 hp
Contact rating of auxiliary contacts according to UL	C300 / R300

Short-circuit protection	
Product function Short circuit protection	Yes
Design of the short-circuit trip	magnetic
Design of the fuse link • for short-circuit protection of the auxiliary switch required	fuse gG: 10 A, miniature circuit breaker C 6 A (short-circuit current I _k < 400 A)
Design of the fuse link for IT network for short-circuit protection of the main circuit • at 240 V • at 400 V • at 500 V • at 690 V	none required 160 125 100

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	140 mm
Width	55 mm
Depth	149 mm
Required spacing • with side-by-side mounting — forwards — Backwards — upwards — downwards — at the side • for grounded parts — forwards — Backwards — upwards — at the side — downwards • for live parts — forwards — Backwards — upwards	0 mm 0 mm 50 mm 50 mm 0 mm 0 mm 0 mm 50 mm 10 mm 50 mm 0 mm 0 mm 50 mm

- downwards
- at the side

50 mm

10 mm

Connections/Terminals

Product function	
removable terminal for auxiliary and control circuit	No
Type of electrical connection	
for main current circuit	screw-type terminals
for auxiliary and control 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 - single or multi-stranded	2x (1 ... 35 mm ²), 1x (1 ... 50 mm ²)
finely stranded with core end processing	2x (1 ... 25 mm ²), 1x (1 ... 35 mm ²)
at AWG conductors for main contacts	2x (18 ... 2), 1x (18 ... 1)
Type of connectable conductor cross-sections	
- for auxiliary contacts - single or multi-stranded	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²)
finely stranded with core end processing	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²)
at AWG conductors for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14)
Tightening torque	
for main contacts with screw-type terminals	3 ... 4.5 N·m
for auxiliary contacts with screw-type terminals	0.8 ... 1.2 N·m
Design of screwdriver shaft	Diameter 5 to 6 mm
Size of the screwdriver tip	Pozidriv 2
Design of the thread of the connection screw	
for main contacts	M6
of the auxiliary and control contacts	M3

Safety related data

B10 value	
with high demand rate acc. to SN 31920	5 000
Proportion of dangerous failures	
with low demand rate acc. to SN 31920	50 %
with high demand rate acc. to SN 31920	50 %
Failure rate [FIT]	
with low demand rate acc. to SN 31920	50 FIT
T1 value for proof test interval or service life acc. to IEC 61508	10 y
Display version	
for switching status	Handle

Certificates/approvals

General Product Approval

For use in hazardous locations



CCC



CSA



UL

[KC](#)



ATEX

For use in hazardous locations

Declaration of Conformity

Test Certificates

Marine / Shipping



IECEX



EG-Konf.

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



ABS



BUREAU VERITAS

Marine / Shipping

other



LRS



PRS



RINA



RMRS



DNVGL.COM/AF

[Confirmation](#)

other

Railway



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?mlfb=3RV2031-4XA15>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4XA15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4XA15>

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

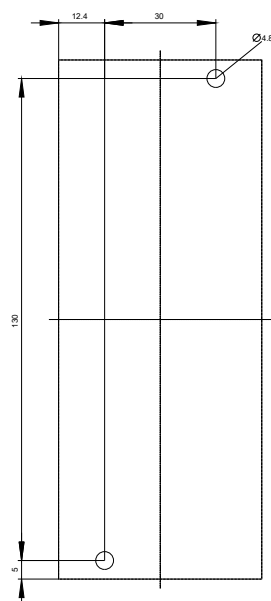
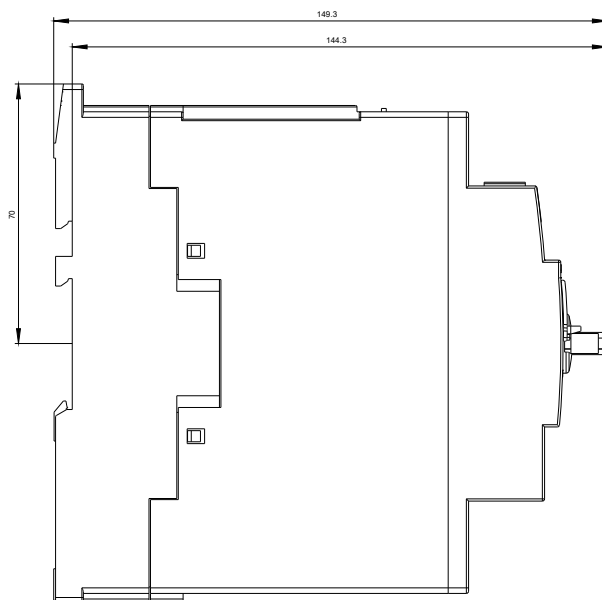
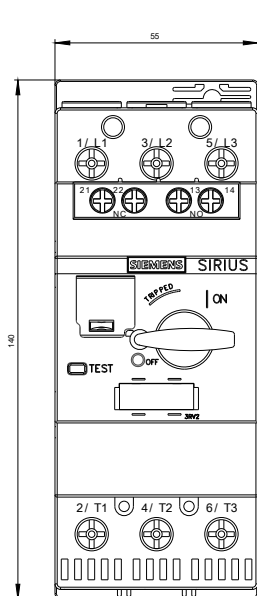
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4XA15&lang=en

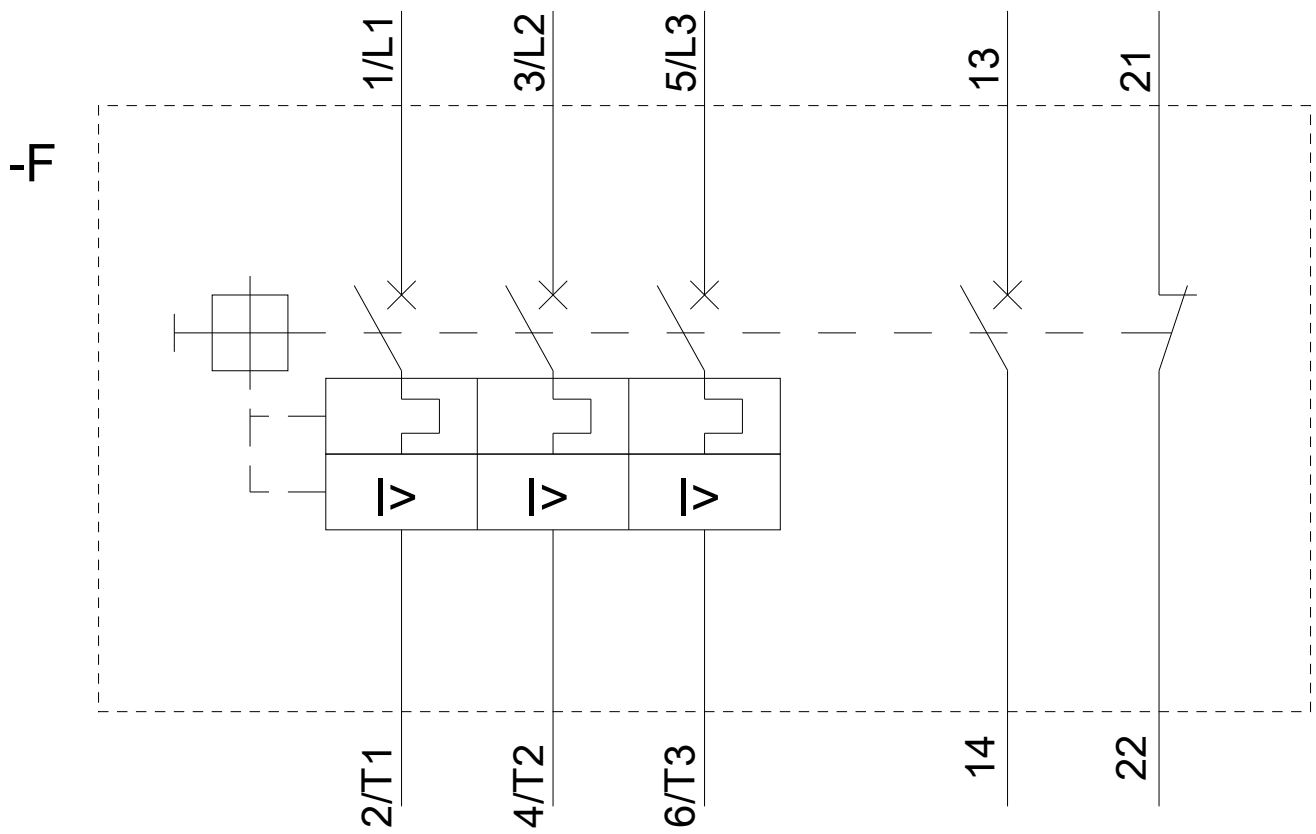
Characteristic: Tripping characteristics, I_{Δt}, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4XA15/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4XA15&objecttype=14&gridview=view1>





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