

Circuit breaker size S3 for motor protection CLASS 10 with overload relay function A-release 57...75 A N-release 975 A screw terminal
Increased switching capacity 100 kA



Product brand name	SIRIUS
Product designation	Circuit breaker
Design of the product	For motor protection with overload relay function
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 - at AC in hot operating state per pole	38 W 12.7 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 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	25 000
• 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
• 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	57 ... 75 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	75 A
Operating current	
• at AC-3 — at 400 V rated value	75 A
Operating power	
• at AC-3 — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value	22 000 W 37 000 W 45 000 W 55 000 W
Operating frequency	
• at AC-3 maximum	15 1/h

Auxiliary circuit	
Number of NC contacts for auxiliary contacts	
• Note	1
Number of NO contacts for auxiliary contacts	
• Note	1
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	100 000 A
• at 400 V rated value	50 000 A
• at 500 V rated value	5 000 A
• at 690 V rated value	3 000 A
Maximum short-circuit current breaking capacity (Icu)	
• at AC at 240 V rated value	100 kA
• at AC at 400 V rated value	100 kA
• at AC at 500 V rated value	10 kA
• at AC at 690 V rated value	6 kA
Response value current	
• of instantaneous short-circuit trip unit	975 A
UL/CSA ratings	
Full-load current (FLA) for three-phase AC motor	
• at 480 V rated value	75 A
• at 600 V rated value	75 A
Yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	7.5 hp
— at 230 V rated value	15 hp
• for three-phase AC motor	
— at 200/208 V rated value	25 hp
— at 220/230 V rated value	30 hp
— at 460/480 V rated value	60 hp
— at 575/600 V rated value	75 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	90 mm
Depth	176 mm
Required spacing	
• for grounded parts at 400 V — downwards 70 mm — upwards 70 mm — Backwards 0 mm — 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
- at the side

0 mm
30 mm

Connections/ Terminals

Product function	
removable terminal for auxiliary and control circuit	No
Type of electrical connection	
- for main current circuit - for auxiliary and control current circuit	screw-type terminals screw-type terminals
Arrangement of electrical connectors for main current circuit	Top and bottom
Type of connectable conductor cross-sections	
- for main contacts - solid - single or multi-stranded - finely stranded with core end processing - finely stranded without core end processing	2x (2.5 ... 16 mm ²) 2x (2,5 ... 50 mm ²), 1x (10 ... 70 mm ²) 2x (2.5 ... 35 mm ²), 1x (2.5 ... 50 mm ²) 2x (10 ... 35 mm ²), 1x (10 ... 50 mm ²)
Type of connectable conductor cross-sections	
- for auxiliary contacts - finely stranded with core end processing - at AWG conductors for auxiliary contacts	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14)
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 - for auxiliary contacts with screw-type terminals	4.5 ... 6 N·m 0.8 ... 1.2 N·m
Design of the thread of the connection screw	
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 - with 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	
for switching status	Handle

Certificates/ approvals

General Product Approval					Declaration of Conformity
 CCC	 CSA	 UL	KC	 EAC	 EG-Konf.

Declaration of Conformity	Test Certificates	Marine / Shipping			
Miscellaneous	Special Test Certificate	Type Test Certificates/Test Report	 ABS	 LRS	 PRS

Marine / Shipping	other			Railway
 RINA	 RMRS	 DNV-GL	Confirmation	Vibration and Shock
			 VDE	

Railway
Confirmation

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=3RV2142-4KA10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2142-4KA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2142-4KA10>

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

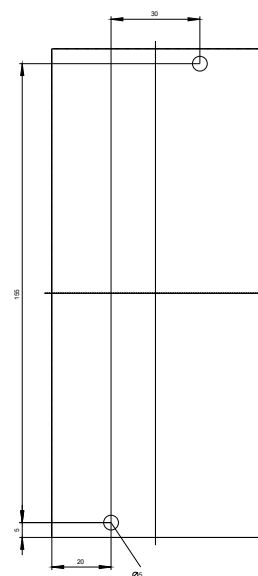
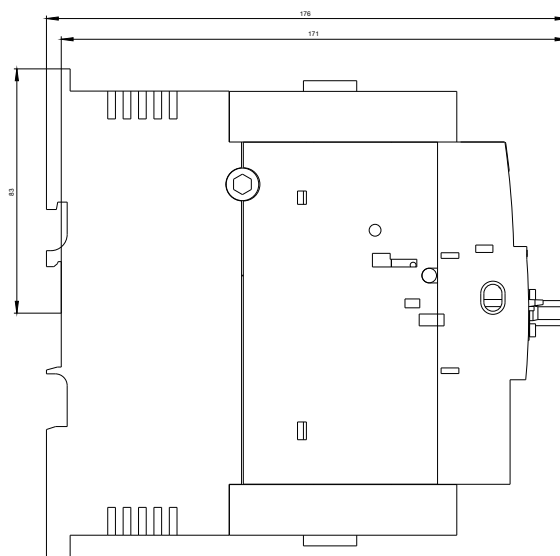
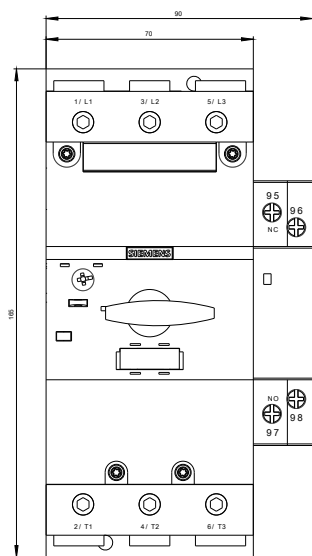
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2142-4KA10&lang=en

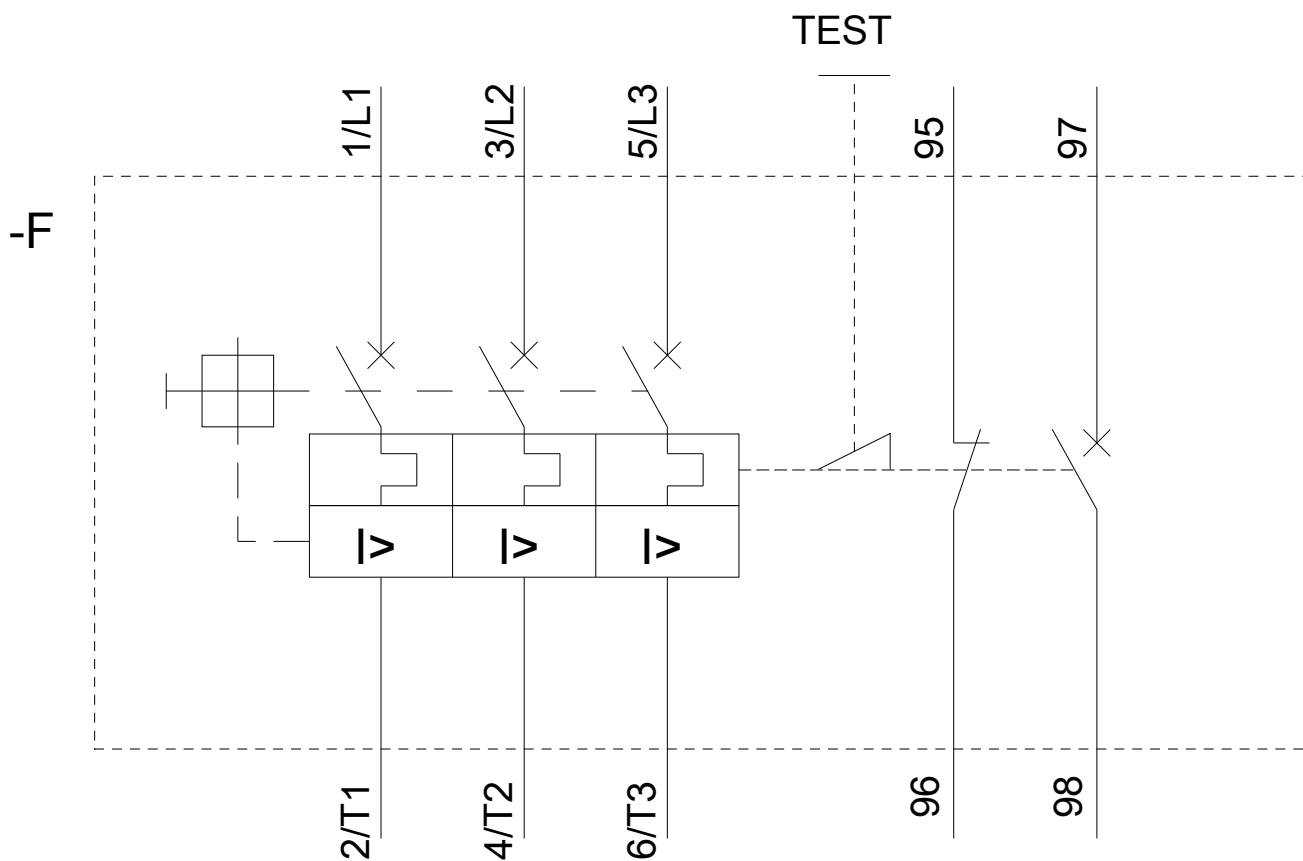
Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2142-4KA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2142-4KA10&objecttype=14&gridview=view1>





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