

CIRCUIT BREAKER, SIZE S2, FOR MOTOR PROTECTION, CLASS 20, A-RELEASE 42...52A, N-RELEASE 741A, SCREW TERMINAL, STANDARD BREAKING CAPACITY



Figure similar

product brandname	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	17 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
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<b>Protection class IP</b>	
• on the front	IP20
• of the terminal	IP00
<b>Mechanical service life (switching cycles)</b>	
• of the main contacts typical	50 000
• of auxiliary contacts typical	50 000
<b>Electrical endurance (switching cycles)</b>	
• typical	50 000
<b>Protection against electrical shock</b>	finger-safe when touched vertically from front acc. to IEC 60529
Equipment marking acc. to DIN EN 81346-2	Q

#### Ambient conditions

<b>Ambient temperature</b>	
• during operation	-20 ... +60 °C
• during storage	-50 ... +80 °C
• during transport	-50 ... +80 °C
<b>Temperature compensation</b>	-20 ... +60 °C

#### Main circuit

<b>Number of poles for main current circuit</b>	3
<b>Adjustable pick-up value current of the current-dependent overload release</b>	42 ... 52 A
<b>Operating voltage</b>	
• rated value	690 V
• at AC-3 rated value maximum	690 V
<b>Operating frequency rated value</b>	50 ... 60 Hz
<b>Operating current rated value</b>	52 A
<b>Operating current</b>	
• at AC-3	
— at 400 V rated value	52 A
<b>Operating power</b>	
• at AC-3	
— at 230 V rated value	15 000 W
— at 500 V rated value	30 000 W
— at 690 V rated value	45 000 W
<b>Operating frequency</b>	
• at AC-3 maximum	15 1/h

#### Protective and monitoring functions

<b>Product function</b>	
• Ground fault detection	No
• Phase failure detection	Yes
<b>Trip class</b>	Class 20
<b>Design of the overload release</b>	thermal

<b>Operational short-circuit current breaking capacity (Ics) at AC</b>	
• at 240 V rated value	100 A
• at 400 V rated value	30 kA
• at 500 V rated value	4 kA
• at 690 V rated value	2 kA
<b>Maximum short-circuit current breaking capacity (Icu)</b>	
• at AC at 240 V rated value	100 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

#### UL/CSA ratings

<b>Full-load current (FLA) for three-phase AC motor</b>	
• at 480 V rated value	52 A
• at 600 V rated value	52 A
<b>Yielded mechanical performance [hp]</b>	
• 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 200/208 V rated value	15 hp
— at 220/230 V rated value	20 hp
— at 460/480 V rated value	40 hp
— at 575/600 V rated value	50 hp

#### Short-circuit protection

<b>Product function Short circuit protection</b>	Yes
<b>Design of the short-circuit trip</b>	magnetic
<b>Design of the fuse link for IT network for short-circuit protection of the main circuit</b>	
• at 240 V	none required
• at 400 V	160
• at 500 V	125
• at 690 V	100

#### Installation/ mounting/ dimensions

<b>Mounting position</b>	any
<b>Mounting type</b>	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
<b>Height</b>	140 mm
<b>Width</b>	55 mm
<b>Depth</b>	149 mm
<b>Required spacing</b>	

• with side-by-side mounting	
— forwards	0 mm
— Backwards	0 mm
— upwards	50 mm
— downwards	50 mm
— at the side	0 mm
• for grounded parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	50 mm
— at the side	10 mm
— downwards	50 mm
• for live parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	50 mm
— downwards	50 mm
— at the side	10 mm

## Connections/Terminals

<b>Product function</b>	
• removable terminal for auxiliary and control circuit	No
<b>Type of electrical connection</b>	
• for main current circuit	screw-type terminals
<b>Arrangement of electrical connectors for main current circuit</b>	Top and bottom
<b>Type of connectable conductor cross-sections</b>	
• for main contacts	
— single or multi-stranded	2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> )
— finely stranded with core end processing	2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> )
• at AWG conductors for main contacts	2x (18 ... 2), 1x (18 ... 1)
<b>Tightening torque</b>	
• for main contacts with screw-type terminals	3 ... 4.5 N·m
<b>Design of screwdriver shaft</b>	Diameter 5 to 6 mm





## Safety related data

<b>B10 value</b>	
• with high demand rate acc. to SN 31920	5 000
<b>Proportion of dangerous failures</b>	
• with low demand rate acc. to SN 31920	50 %
• with high demand rate acc. to SN 31920	50 %
<b>Failure rate [FIT]</b>	

• 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	Declaration of Conformity	Test Certificates
 CCC	 EAC	 EG-Konf.
 CSA		<a href="#">Special Test Certificate</a>
 UL		

Test Certificates	Shipping Approval
<a href="#">Type Test Certificates/Test Report</a>	 ABS
	 LRS
	 PRS
	 RINA
	 RMRS

other	Railway
<a href="#">Environmental Confirmations</a>	<a href="#">Vibration and Shock</a>
<a href="#">Confirmation</a>	
<a href="#">Miscellaneous</a>	

#### 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=3RV2031-4WB10>

Cax online generator

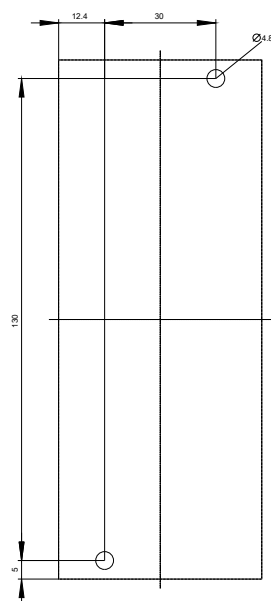
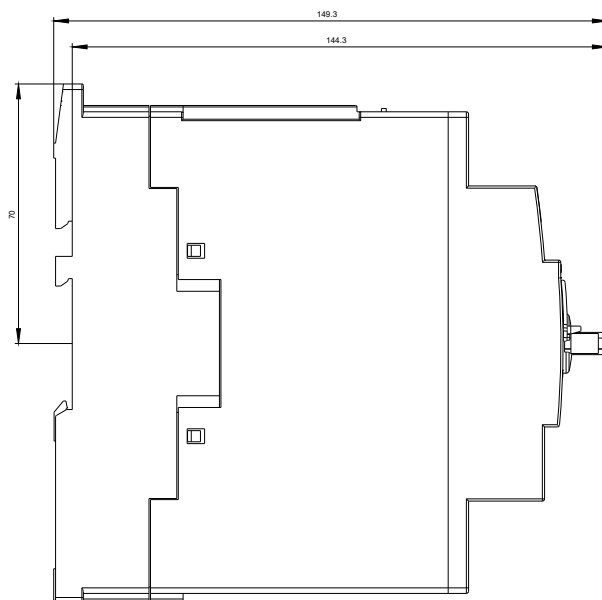
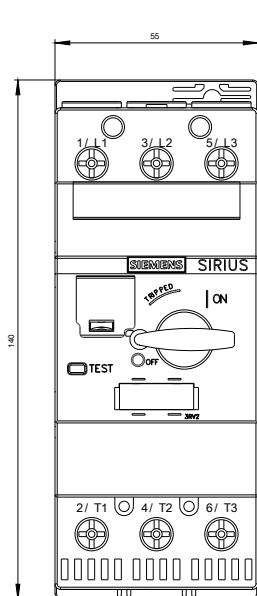
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4WB10>

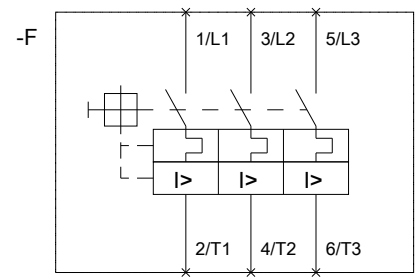
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4WB10>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2031-4WB10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4WB10&lang=en)





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