



Circuit breaker size S2 for motor protection, CLASS 10 A-release 49...59 A N-release 845 A screw terminal 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	S2
size of contactor can be combined company-specific	S2
product extension auxiliary switch	Yes
power loss [W] for rated value of the current	
• at AC in hot operating state	26 W
• at AC in hot operating state per pole	8.7 W
insulation voltage with degree of pollution 3 at AC rated value	690 V
surge voltage resistance rated value	6 kV
shock resistance according to IEC 60068-2-27	25g / 11 ms Sinus
mechanical service life (operating cycles)	
• of the main contacts typical	20 000
• of auxiliary contacts typical	20 000
electrical endurance (operating cycles) typical	20 000
type of protection according to ATEX directive 2014/34/EU	Ex II (2) GD
certificate of suitability according to ATEX directive 2014/34/EU	DMT 02 ATEX F 001
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	04/10/2015

### 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
relative humidity during operation	10 ... 95 %

### Main circuit

number of poles for main current circuit	3
adjustable current response value current of the current-dependent overload release	49 ... 59 A
operating voltage	
• rated value	20 ... 690 V
• at AC-3 rated value maximum	690 V
• at AC-3e rated value maximum	690 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	59 A

<b>operational current</b>	
• at AC-3 at 400 V rated value	59 A
• at AC-3e at 400 V rated value	59 A
<b>operating power</b>	
• at AC-3	
— at 230 V rated value	15 kW
— at 400 V rated value	30 kW
— at 500 V rated value	37 kW
— at 690 V rated value	55 kW
• at AC-3e	
— at 230 V rated value	15 kW
— at 400 V rated value	30 kW
— at 500 V rated value	37 kW
— at 690 V rated value	55 kW
<b>operating frequency</b>	
• at AC-3 maximum	15 1/h
• at AC-3e 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 10
<b>design of the overload release</b>	thermal
<b>maximum short-circuit current breaking capacity (Icu)</b>	
• 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
<b>operating short-circuit current breaking capacity (Ics) at AC</b>	
• 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
response value current of instantaneous short-circuit trip unit	845 A

### UL/CSA ratings

<b>full-load current (FLA) for 3-phase AC motor</b>	
• at 480 V rated value	59 A
• at 600 V rated value	59 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 3-phase AC motor	
— 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>fastening method</b>	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
<b>height</b>	140 mm
<b>width</b>	55 mm
<b>depth</b>	149 mm

### required spacing

• with side-by-side mounting at the side	0 mm
• for grounded parts at 400 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
• for live parts at 400 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
• for grounded parts at 500 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
• for live parts at 500 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
• for grounded parts at 690 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm
• for live parts at 690 V	
— downwards	50 mm
— upwards	50 mm
— at the side	10 mm

### Connections/ Terminals

#### type of electrical connection

• for main current circuit	screw-type terminals
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#### arrangement of electrical connectors for main current circuit

Top and bottom

#### type of connectable conductor cross-sections

• for main contacts	
— solid or 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 cables for main contacts	2x (18 ... 2), 1x (18 ... 1)

#### tightening torque

• for main contacts with screw-type terminals	3 ... 4.5 N·m
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#### design of screwdriver shaft

Diameter 5 to 6 mm

#### size of the screwdriver tip

Pozidriv size 2

#### design of the thread of the connection screw

• for main contacts	M6
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### Safety related data

#### B10 value

• with high demand rate according to SN 31920	5 000
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#### proportion of dangerous failures

• with low demand rate according to SN 31920	50 %
• with high demand rate according to SN 31920	50 %

#### failure rate [FIT]

• with low demand rate according to SN 31920	50 FIT
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T1 value for proof test interval or service life according to IEC 61508

10 a

#### protection class IP on the front according to IEC 60529

IP20

#### touch protection on the front according to IEC 60529

display version for switching status

finger-safe, for vertical contact from the front

Handle

### Certificates/ approvals

#### General Product Approval







[Confirmation](#)




[KC](#)



For use in hazardous locations		Declaration of Conformity		Test Certificates	
				<a href="#">Type Test Certificates/Test Report</a>	<a href="#">Special Test Certificate</a>

Marine / Shipping					
					

Marine / Shipping	other	Railway			
	<a href="#">Confirmation</a>		<a href="#">Confirmation</a>	<a href="#">Vibration and Shock</a>	

### Further information

Information on the packaging  
<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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=3RV2031-4XA10>

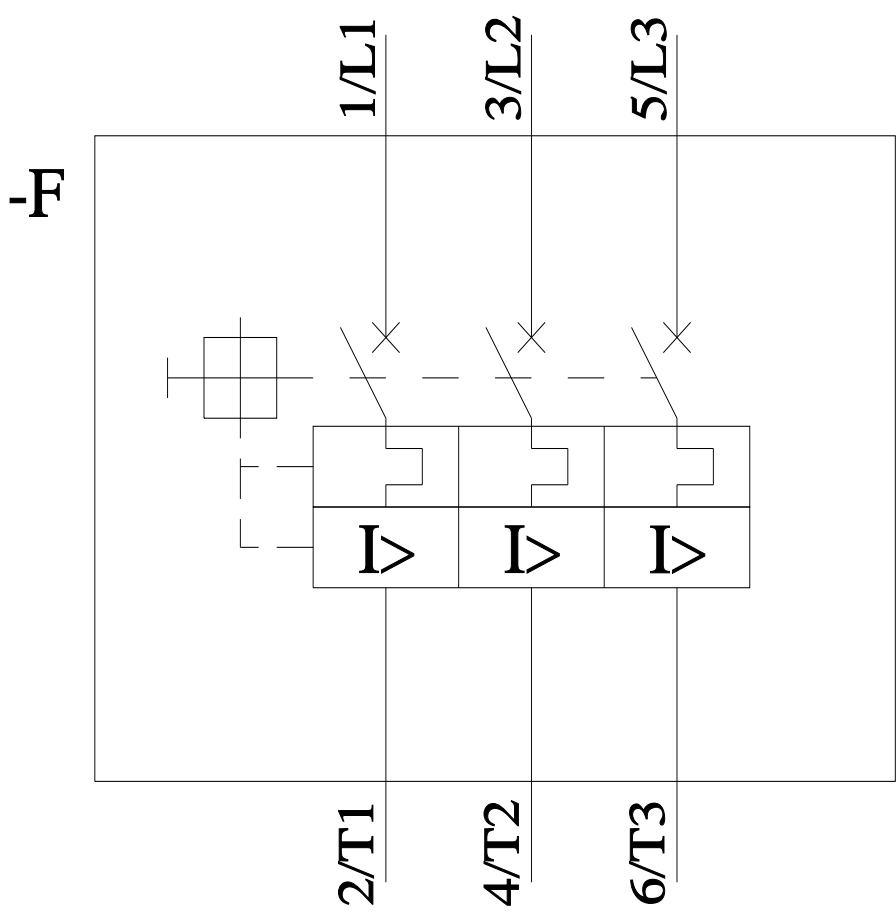
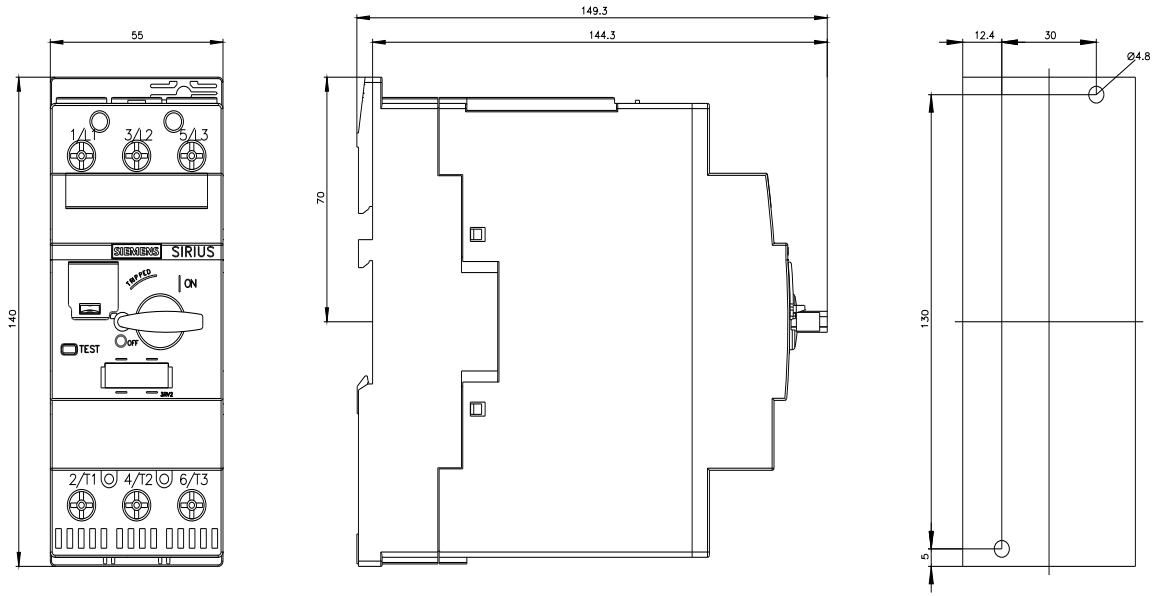
Cax online generator  
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4XA10>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)  
<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4XA10>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)  
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2031-4XA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4XA10&lang=en)

Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current  
<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4XA10/char>

Further characteristics (e.g. electrical endurance, switching frequency)  
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4XA10&objecttype=14&gridview=view1>



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