



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

operational current	
• at AC-3 at 400 V rated value	59 A
• at AC-3e at 400 V rated value	59 A
operating power	
• 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
operating frequency	
• at AC-3 maximum	15 1/h
• at AC-3e maximum	15 1/h

Protective and monitoring functions

product function	
• ground fault detection	No
• phase failure detection	Yes
trip class	CLASS 10
design of the overload release	thermal
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
operating 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
response value current of instantaneous short-circuit trip unit	845 A

UL/CSA ratings

full-load current (FLA) for 3-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 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

product function short circuit protection	Yes
design of the short-circuit trip	magnetic
design of the fuse link for IT network for short-circuit protection of the main circuit	
• at 240 V	none required
• at 400 V	160
• at 500 V	125
• at 690 V	100

Installation/ mounting/ dimensions

mounting position	any
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	140 mm
width	55 mm
depth	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 ²), 1x (1 ... 50 mm ²)
— finely stranded with core end processing	2x (1 ... 25 mm ²), 1x (1 ... 35 mm ²)
• 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 y

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](#)



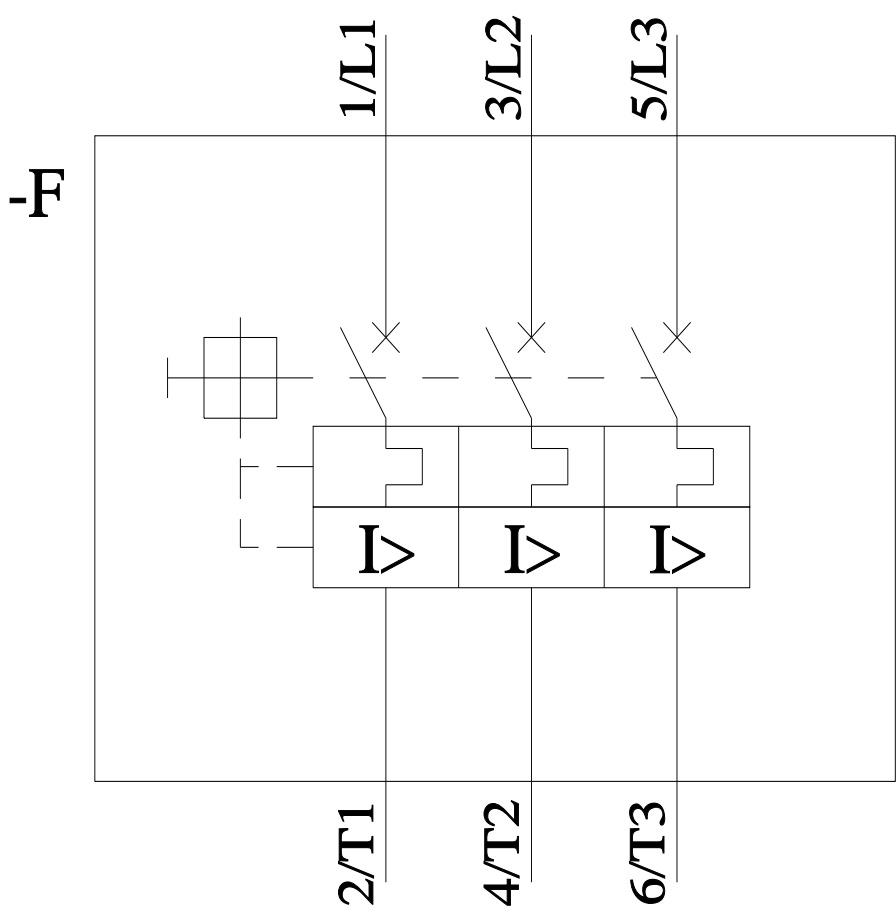
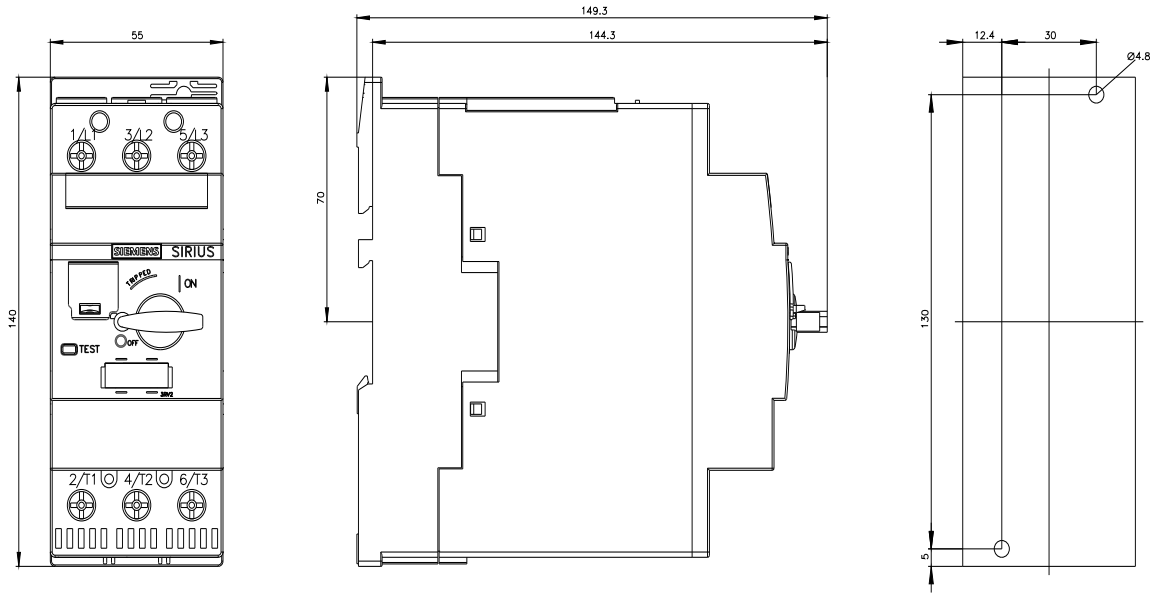
For use in hazardous locations		Declaration of Conformity		Test Certificates	
				Type Test Certificates/Test Report	Special Test Certificate

Marine / Shipping					
					

Marine / Shipping	other	Railway		
	Confirmation		Confirmation	Vibration and Shock

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=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
- Characteristic: Tripping characteristics, I^t, 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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