



Circuit breaker size S2 for motor protection, Class 20 A-release 18...25 A N-release 325 A Screw terminal Standard switching capacity

<b>product brand name</b>	SIRIUS
<b>product designation</b>	Circuit breaker
<b>design of the product</b>	For motor protection
<b>product type designation</b>	3RV2
<b>General technical data</b>	
<b>Product equipment of circuit breaker for motor protection complete unit with protection device</b>	Yes
<b>size of the circuit-breaker</b>	S2
<b>size of contactor can be combined company-specific</b>	S2
product function disconnecter functionality	Yes
product extension auxiliary switch	Yes
<b>power loss [W] for rated value of the current</b>	
• at AC in hot operating state	14.5 W
• at AC in hot operating state per pole	4.8 W
<b>type of calculation of power loss current-dependent</b>	quadratic
insulation voltage with degree of pollution 3 at AC rated value	690 V
<b>surge voltage resistance rated value</b>	6 kV
<b>maximum permissible voltage for protective separation</b>	
• in networks with ungrounded star point between main and auxiliary circuit	400 V
• in networks with grounded star point between main and auxiliary circuit	400 V
<b>protection class IP</b>	
• on the front according to IEC 60529	IP20
• on the front	IP20
• of the terminal	IP00
<b>shock resistance according to IEC 60068-2-27</b>	25 g / 11 ms Sinus
<b>mechanical service life (operating cycles)</b>	
• of the main contacts typical	50 000
• of auxiliary contacts typical	50 000
electrical endurance (operating cycles) typical	50 000
<b>reference code according to IEC 81346-2</b>	Q
<b>continuous current rated value</b>	25 A
<b>Substance Prohibitance (day/month/year)</b>	10/15/2014
<b>SVHC substance name</b>	Lead CAS-No. 7439-92-1
<b>Net Weight</b>	1.08 kg
<b>Ambient conditions</b>	

installation altitude at height above sea level maximum	2 000 m
<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
relative humidity during operation	10 ... 95 %
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	3
<b>adjustable current response value current of the current-dependent overload release</b>	18 ... 25 A
<b>type of voltage for main current circuit</b>	AC
<b>operating voltage</b>	
• rated value	690 V
• rated value	20 ... 690 V
• at AC-3 rated value maximum	690 V
• at AC-3e rated value maximum	690 V
<b>operating frequency rated value</b>	50 ... 60 Hz
<b>operational current rated value</b>	25 A
<b>operational current</b>	
• at AC-3 at 400 V rated value	25 A
• at AC-3e at 400 V rated value	25 A
<b>operating power</b>	
• at AC-3	
— at 230 V rated value	5.5 kW
— at 400 V rated value	11 kW
— at 500 V rated value	15 kW
— at 690 V rated value	22 kW
• at AC-3e	
— at 230 V rated value	5.5 kW
— at 400 V rated value	11 kW
— at 500 V rated value	15 kW
— at 690 V rated value	22 kW
<b>operating frequency</b>	
• at AC-3 maximum	15 1/h
• at AC-3e maximum	15 1/h
<b>Auxiliary circuit</b>	
<b>type of voltage for auxiliary and control circuit</b>	AC/DC
<b>number of NC contacts for auxiliary contacts</b>	0
<b>number of NO contacts for auxiliary contacts</b>	0
number of CO contacts for auxiliary contacts	0
<b>Protective and monitoring functions</b>	
<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>protection function thermal overload protection (ANSI 49)</b>	Yes
<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	12 kA
• at AC at 690 V rated value	5 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	6 kA
• at 690 V rated value	3 kA
response value current of instantaneous short-circuit trip unit	325 A

**UL/CSA ratings****full-load current (FLA) for 3-phase AC motor**

- at 480 V rated value 25 A
- at 600 V rated value 25 A

**yielded mechanical performance [hp]**

- for single-phase AC motor
  - at 110/120 V rated value 2 hp
  - at 230 V rated value 5 hp
- for 3-phase AC motor
  - at 200/208 V rated value 7.5 hp
  - at 220/230 V rated value 10 hp
  - at 460/480 V rated value 20 hp
  - at 575/600 V rated value 25 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 100
- at 500 V 80
- at 690 V 63

**Installation/ mounting/ dimensions****mounting position** any**fastening method** screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715**Mounting method of circuit breaker for Transformer protection, Generator protection and system protection optional standard bar mounting** Yes**height** 140 mm**width** 55 mm**depth** 149 mm**required spacing**

- 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
- 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

<b>product component removable terminal for auxiliary and control circuit</b>	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	
— solid or stranded	2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> )
— finely stranded with core end processing	2x (1 ... 16 mm <sup>2</sup> ), 1x (1 ... 25 mm <sup>2</sup> )
• for AWG cables for main contacts	2x (18 ... 3), 1x (18 ... 2)
<b>connectable conductor cross-section for main contacts</b>	
• solid or stranded	1 ... 35 mm <sup>2</sup>
• finely stranded with core end processing	1 ... 25 mm <sup>2</sup>
<b>AWG number as coded connectable conductor cross section for main contacts</b>	18 ... 2
<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
<b>size of the screwdriver tip</b>	Pozidriv size 2
<b>design of the thread of the connection screw</b>	
• for main contacts	M6
<b>Safety related data</b>	
product function suitable for safety function	Yes
<b>suitability for use</b>	
• safety-related switching on	No
• safety-related switching OFF	Yes
<b>service life maximum</b>	10 a
<b>test wear-related service life necessary</b>	Yes
<b>proportion of dangerous failures</b>	
• with low demand rate according to SN 31920	40 %
• with high demand rate according to SN 31920	50 %
<b>B10 value with high demand rate according to SN 31920</b>	5 000
<b>failure rate [FIT] with low demand rate according to SN 31920</b>	50 FIT
ISO 13849	
<b>device type according to ISO 13849-1</b>	3
<b>overdimensioning according to ISO 13849-2 necessary</b>	Yes
IEC 61508	
<b>safety device type according to IEC 61508-2</b>	Type A
<b>T1 value</b>	
• for proof test interval or service life according to IEC 61508	10 a
Electrical Safety	
<b>protection class IP on the front according to IEC 60529</b>	IP20

<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front
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**Display**

display version for switching status	Handle
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**Approvals Certificates**

**Environmental Product Declaration**

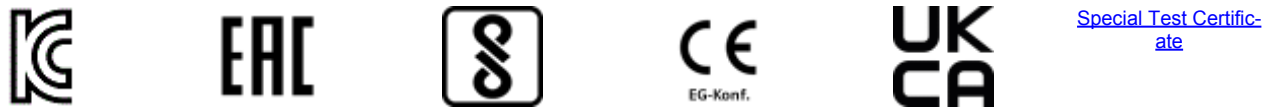
- global warming potential [CO2 eq] / during manufacturing 12.8 kg
- global warming potential [CO2 eq] / during sales 0.477 kg
- global warming potential [CO2 eq] / during operation 230 kg
- global warming potential [CO2 eq] / after end of life -3.4 kg
- global warming potential [CO2 eq] / total 239.877 kg

<b>Environment</b>	<b>General Product Approval</b>
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[Environmental Confirmations](#)



<b>General Product Approval</b>	<b>Test Certificates</b>
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<b>Test Certificates</b>	<b>Maritime application</b>
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[Type Test Certificates/Test Report](#)



<b>Maritime application</b>	<b>other</b>	<b>Railway</b>
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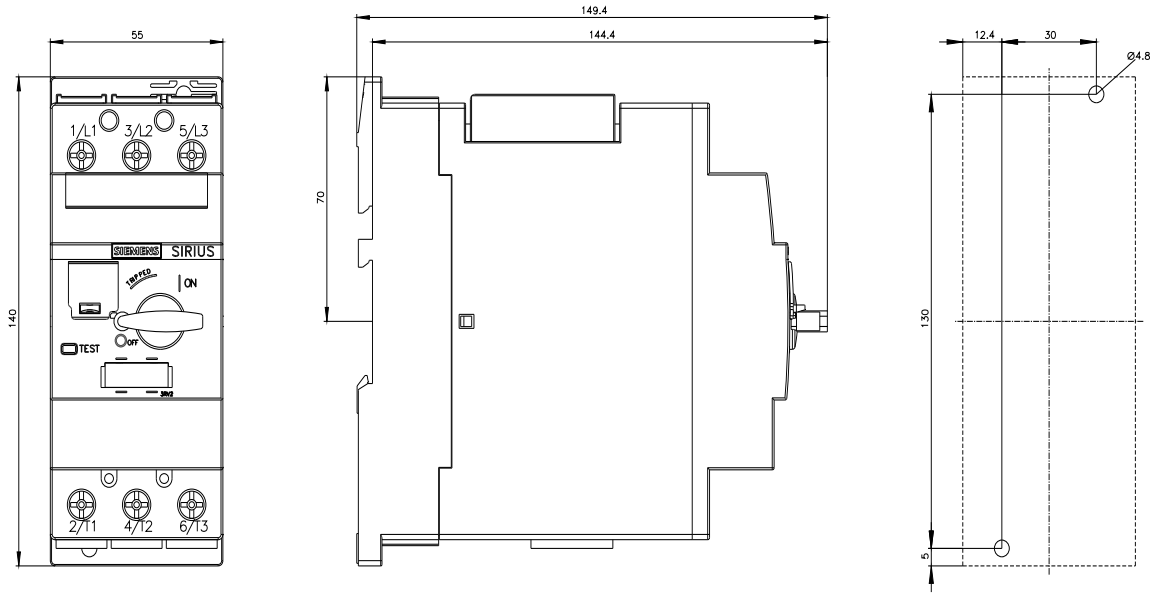


**Railway**

[Special Test Certificate](#)

**Further information**

- Information on the packaging <https://support.industry.siemens.com/cs/ww/en/view/109813875>
- Information for data generation and storage <https://support.industry.siemens.com/cs/ww/en/view/109995012>
- 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=3RV2031-4DB10>
- Service&Support (Manuals, Certificates, Characteristics, FAQs,...) <https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4DB10>
- Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) [https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2031-4DB10&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4DB10&lang=en)
- Cax online generator <https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4DB10>
- Characteristic curves [https://curves.simaris.siemens.com/curves/<mmp\\_prod\\_noCOMP="HAUPT"></mmp\\_prod\\_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)



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