

Circuit breaker size S2 for motor protection, CLASS 10 A-release 49...59 A N-release 845 A screw terminal increased 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
• power loss [W] for rated value of the current 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
maximum permissible voltage for safe isolation	
• in networks with grounded star point between main and auxiliary circuit	400 V

<ul style="list-style-type: none"> <li>• in networks with grounded star point between main and auxiliary circuit</li> </ul>	400 V
<b>protection class IP</b>	
<ul style="list-style-type: none"> <li>• on the front</li> </ul>	IP20
<ul style="list-style-type: none"> <li>• of the terminal</li> </ul>	IP00
<ul style="list-style-type: none"> <li>• shock resistance acc. to IEC 60068-2-27</li> </ul>	25g / 11 ms Sinus
<ul style="list-style-type: none"> <li>• Mechanical service life (switching cycles) of the main contacts typical</li> </ul>	20 000
<ul style="list-style-type: none"> <li>• Mechanical service life (switching cycles) of auxiliary contacts typical</li> </ul>	20 000
<ul style="list-style-type: none"> <li>• electrical endurance (switching cycles) typical</li> </ul>	20 000
<b>Type of protection according to ATEX directive 2014/34/EU</b>	Ex II (2) GD
Certificate of suitability according to ATEX directive 2014/34/EU	DMT 02 ATEX F 001
<b>reference code acc. to DIN EN 81346-2</b>	Q

<b>Ambient conditions</b>	
<ul style="list-style-type: none"> <li>• installation altitude at height above sea level maximum</li> </ul>	2 000 m
<ul style="list-style-type: none"> <li>• ambient temperature during operation</li> </ul>	-20 ... +60 °C
<ul style="list-style-type: none"> <li>• ambient temperature during storage</li> </ul>	-50 ... +80 °C
<ul style="list-style-type: none"> <li>• ambient temperature during transport</li> </ul>	-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 pick-up value current of the current-dependent overload release</b>	49 ... 59 A
<ul style="list-style-type: none"> <li>• operating voltage rated value</li> </ul>	690 V
<ul style="list-style-type: none"> <li>• operating voltage at AC-3 rated value maximum</li> </ul>	690 V
<b>operating frequency rated value</b>	50 ... 60 Hz
<b>operating current rated value</b>	59 A
<ul style="list-style-type: none"> <li>• <ul style="list-style-type: none"> <li>— operating current at AC-3 at 400 V rated value</li> </ul> </li> </ul>	59 A
<ul style="list-style-type: none"> <li>• <ul style="list-style-type: none"> <li>— Operating power at AC-3 at 230 V rated value</li> </ul> </li> </ul>	15 000 W
<ul style="list-style-type: none"> <li>• <ul style="list-style-type: none"> <li>— operating power at AC-3 at 400 V rated value</li> </ul> </li> </ul>	30 000 W
<ul style="list-style-type: none"> <li>• <ul style="list-style-type: none"> <li>— Operating power at AC-3 at 500 V rated value</li> </ul> </li> </ul>	37 000 W

— Operating power at AC-3 at 690 V rated value	55 000 W
• operating frequency 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 10
<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 kA
• at 400 V rated value	50 kA
• at 500 V rated value	5 kA
• at 690 V rated value	4 kA
• Maximum short-circuit current breaking capacity (Icu) at AC at 240 V rated value	100 kA
• maximum short-circuit current breaking capacity (Icu) at AC at 400 V rated value	100 kA
• Maximum short-circuit current breaking capacity (Icu) at AC at 500 V rated value	10 kA
• Maximum short-circuit current breaking capacity (Icu) at AC at 690 V rated value	6 kA
• Maximum short-circuit current breaking capacity (Icu) at 480 AC Y/277 V acc. to UL 489 rated value	42 A
• response value current of instantaneous short-circuit trip unit	845 A

#### UL/CSA ratings

<b>Full-load current (FLA) for three-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 three-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
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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
• mounting type	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
height	140 mm
width	55 mm
depth	149 mm
Required spacing	
• for grounded parts at 400 V	
— downwards	50 mm
— upwards	50 mm
— Backwards	0 mm
— at the side	10 mm
— forwards	0 mm
• for live parts at 400 V	
— downwards	50 mm
— upwards	50 mm
— Backwards	0 mm
— at the side	10 mm
— forwards	0 mm
• for grounded parts at 500 V	
— downwards	50 mm
— upwards	50 mm
— Backwards	0 mm
— at the side	10 mm
— forwards	0 mm
• for live parts at 500 V	
— downwards	50 mm
— upwards	50 mm
— Backwards	0 mm
— at the side	10 mm
— forwards	0 mm
• for grounded parts at 690 V	
— downwards	50 mm

— upwards	50 mm
— Backwards	0 mm
— at the side	10 mm
— forwards	0 mm
• for live parts at 690 V	
— downwards	50 mm
— upwards	50 mm
— Backwards	0 mm
— at the side	10 mm

#### Connections/ Terminals

• product function 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
•	
— type of connectable conductor cross-sections for main contacts single or multi-stranded	2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> )
— type of connectable conductor cross-sections for main contacts finely stranded with core end processing	2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> )
• Type of connectable conductor cross-sections at AWG conductors for main contacts	2x (18 ... 2), 1x (18 ... 1)
• tightening torque 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 2
<b>Design of the thread of the connection screw</b>	
• for main contacts	M6

#### 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
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	10 y
• Display version for switching status	Handle

## Certificates/ approvals

General Product Approval	For use in hazardous locations
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CCC



CSA



UL

[KC](#)



ATEX

For use in hazardous locations	Declaration of Conformity	Test Certificates	Marine / Shipping
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IECEX



EG-Konf.

[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



ABS

## Marine / Shipping



BUREAU VERITAS



LRS



PRS



RINA



RMRS



DNV-GL

## other Railway

[Confirmation](#)



VDE

[Vibration and Shock](#)

[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=3RV2032-4XA10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2032-4XA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2032-4XA10>

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

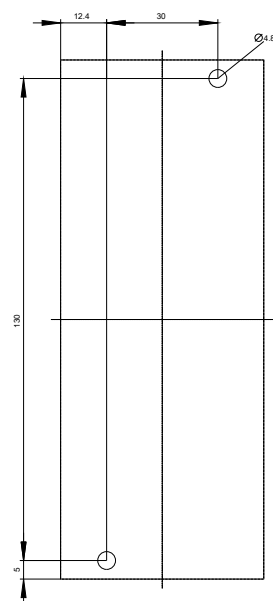
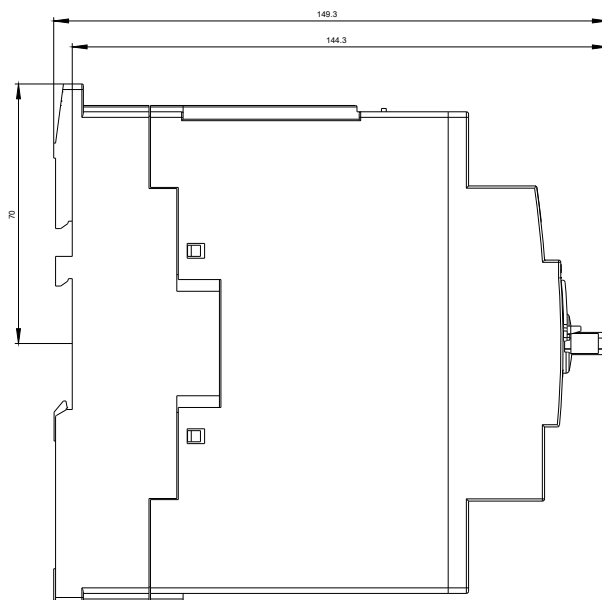
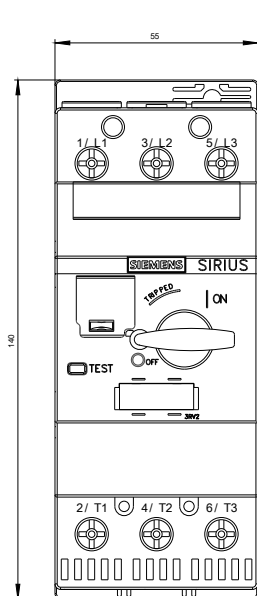
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2032-4XA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2032-4XA10&lang=en)

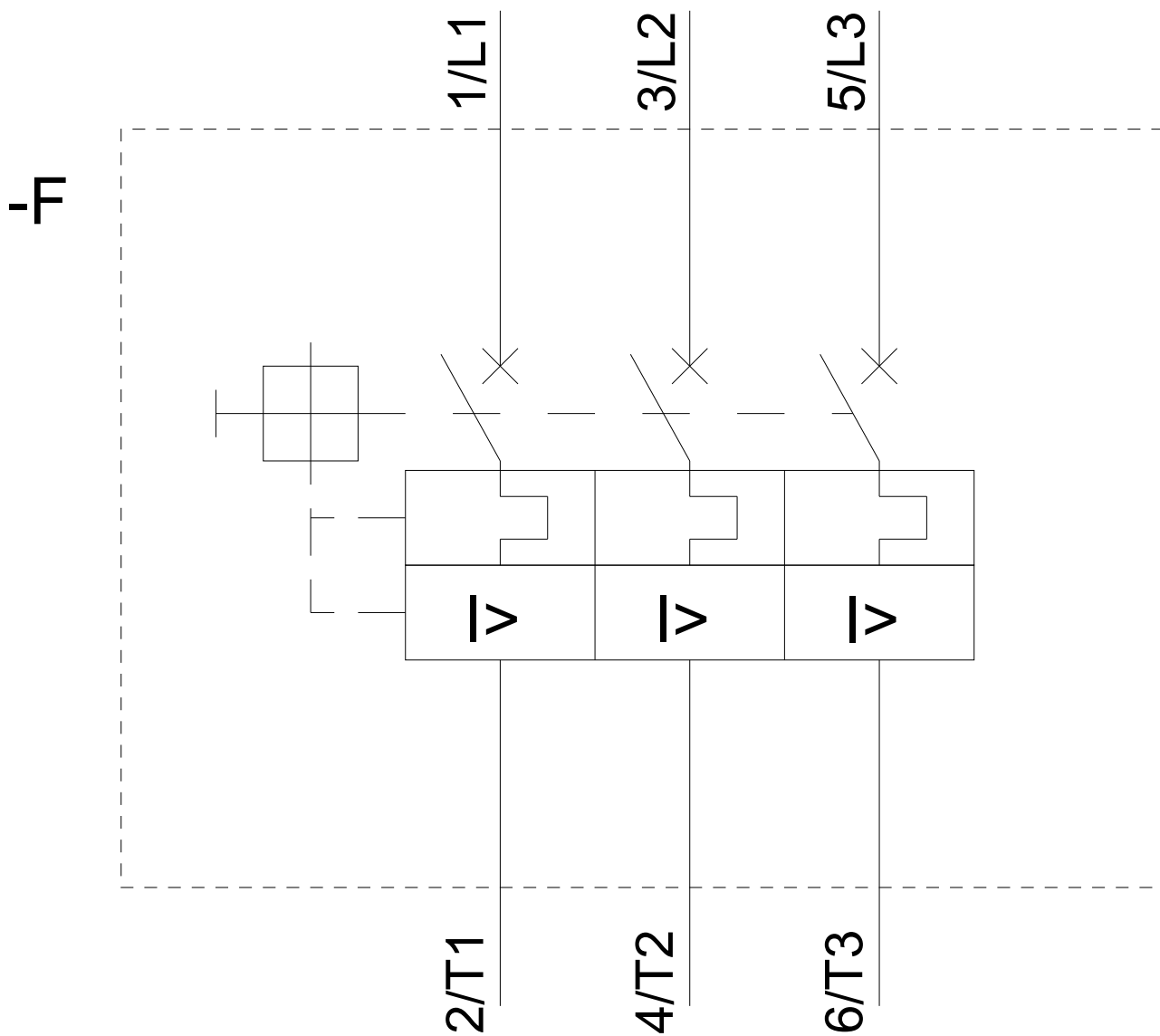
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2032-4XA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2032-4XA10&objecttype=14&gridview=view1>





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