

Circuit breaker size S0 for system protection with approval circuit breaker UL 489, CSA C22.2 No.5-02 A-release 20 A N-release 260 A screw terminal Standard switching capacity



Product brand name	SIRIUS
Product designation	Circuit breaker
Design of the product	For system protection according to UL 489/CSA C22.2 No. 5
Product type designation	3RV2

General technical data	
Size of the circuit-breaker	S0
Product extension	
• Auxiliary switch	Yes
Power loss [W] for rated value of the current	
• at AC in hot operating state	10.5 W
• at AC in hot operating state per pole	3.5 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
• in networks with grounded star point between main and auxiliary circuit	400 V

<b>Protection class IP</b>	
• on the front	IP20
• of the terminal	IP00
<b>Shock resistance</b>	
• acc. to IEC 60068-2-27	25g / 11 ms
<b>Mechanical service life (switching cycles)</b>	
• of the main contacts typical	100 000
• of auxiliary contacts typical	100 000
<b>Electrical endurance (switching cycles)</b>	
• typical	100 000
<b>Reference code acc. to DIN EN 81346-2</b>	Q

### Ambient conditions

<b>Installation altitude at height above sea level</b>	
• 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 %

### Main circuit

<b>Number of poles for main current circuit</b>	3
<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>	20 A
<b>Operating current</b>	
• at AC-3	
— at 400 V rated value	20 A
<b>Operating power</b>	
• at AC-3	
— at 230 V rated value	5 500 W
— at 400 V rated value	7 500 W
— at 500 V rated value	11 000 W
— at 690 V rated value	15 000 W
<b>Operating frequency</b>	
• at AC-3 maximum	15 1/h

### Auxiliary circuit

<b>Number of NC contacts for auxiliary contacts</b>	0
<b>Number of NO contacts for auxiliary contacts</b>	0

<b>Number of CO contacts</b>	
<ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul>	0
<b>Protective and monitoring functions</b>	
<b>Product function</b>	
<ul style="list-style-type: none"> <li>• Ground fault detection</li> </ul>	No
<ul style="list-style-type: none"> <li>• Phase failure detection</li> </ul>	No
<b>Design of the overload release</b>	thermal
<b>Operational short-circuit current breaking capacity (Ics) at AC</b>	
<ul style="list-style-type: none"> <li>• at 240 V rated value</li> </ul>	100 kA
<ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>	25 kA
<ul style="list-style-type: none"> <li>• at 500 V rated value</li> </ul>	5 kA
<ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>	2 kA
<b>Maximum short-circuit current breaking capacity (Icu)</b>	
<ul style="list-style-type: none"> <li>• at AC at 240 V rated value</li> </ul>	100 kA
<ul style="list-style-type: none"> <li>• at AC at 400 V rated value</li> </ul>	55 kA
<ul style="list-style-type: none"> <li>• at AC at 500 V rated value</li> </ul>	10 kA
<ul style="list-style-type: none"> <li>• at AC at 690 V rated value</li> </ul>	4 kA
<ul style="list-style-type: none"> <li>• at 480 AC Y/277 V acc. to UL 489 rated value</li> </ul>	50 000 A
<b>Response value current</b>	
<ul style="list-style-type: none"> <li>• of instantaneous short-circuit trip unit</li> </ul>	260 A
<b>UL/CSA ratings</b>	
<b>Yielded mechanical performance [hp]</b>	
<ul style="list-style-type: none"> <li>• for single-phase AC motor <ul style="list-style-type: none"> <li>— at 110/120 V rated value</li> <li>— at 230 V rated value</li> </ul> </li> </ul>	1.5 hp 3 hp
<ul style="list-style-type: none"> <li>• for three-phase AC motor <ul style="list-style-type: none"> <li>— at 200/208 V rated value</li> <li>— at 220/230 V rated value</li> <li>— at 460/480 V rated value</li> </ul> </li> </ul>	5 hp 5 hp 10 hp
<b>Short-circuit protection</b>	
<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>	
<ul style="list-style-type: none"> <li>• at 400 V</li> </ul>	gL/gG 63 A
<ul style="list-style-type: none"> <li>• at 500 V</li> </ul>	gL/gG 50 A
<ul style="list-style-type: none"> <li>• at 690 V</li> </ul>	gL/gG 50 A
<b>Installation/ mounting/ dimensions</b>	
<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>	144 mm
<b>Width</b>	45 mm
<b>Depth</b>	97 mm
<b>Required spacing</b>	
<ul style="list-style-type: none"> <li>• for grounded parts at 400 V <ul style="list-style-type: none"> <li>— downwards 30 mm</li> <li>— upwards 30 mm</li> <li>— Backwards 0 mm</li> <li>— at the side 9 mm</li> <li>— forwards 0 mm</li> </ul> </li> <li>• for live parts at 400 V <ul style="list-style-type: none"> <li>— downwards 30 mm</li> <li>— upwards 30 mm</li> <li>— Backwards 0 mm</li> <li>— at the side 9 mm</li> <li>— forwards 0 mm</li> </ul> </li> <li>• for grounded parts at 500 V <ul style="list-style-type: none"> <li>— downwards 30 mm</li> <li>— upwards 30 mm</li> <li>— Backwards 0 mm</li> <li>— at the side 9 mm</li> <li>— forwards 0 mm</li> </ul> </li> <li>• for live parts at 500 V <ul style="list-style-type: none"> <li>— downwards 30 mm</li> <li>— upwards 30 mm</li> <li>— Backwards 0 mm</li> <li>— at the side 9 mm</li> <li>— forwards 0 mm</li> </ul> </li> <li>• for grounded parts at 690 V <ul style="list-style-type: none"> <li>— downwards 50 mm</li> <li>— upwards 50 mm</li> <li>— Backwards 0 mm</li> <li>— at the side 30 mm</li> <li>— forwards 0 mm</li> </ul> </li> <li>• for live parts at 690 V <ul style="list-style-type: none"> <li>— downwards 50 mm</li> <li>— upwards 50 mm</li> <li>— Backwards 0 mm</li> <li>— at the side 30 mm</li> </ul> </li> </ul>	





## Connections/ Terminals





<b>Product function</b> <ul style="list-style-type: none"> <li>removable terminal for auxiliary and control circuit</li> </ul>	No
<b>Type of electrical connection</b> <ul style="list-style-type: none"> <li>for main current circuit</li> </ul>	screw-type terminals
<b>Arrangement of electrical connectors for main current circuit</b>	Top and bottom
<b>Type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>for main contacts <ul style="list-style-type: none"> <li>single or multi-stranded</li> <li>finely stranded with core end processing</li> </ul> </li> <li>at AWG conductors for main contacts</li> </ul>	1 ... 10 mm <sup>2</sup> , max. 2x 10 mm <sup>2</sup> 1 ... 16 mm <sup>2</sup> , max. 6 + 16 mm <sup>2</sup> 2x (14 ... 10)
<b>Tightening torque</b> <ul style="list-style-type: none"> <li>for main contacts with screw-type terminals</li> </ul>	2.5 ... 3 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> <ul style="list-style-type: none"> <li>for main contacts</li> </ul>	M4

## Safety related data

<b>B10 value</b> <ul style="list-style-type: none"> <li>with high demand rate acc. to SN 31920</li> </ul>	5 000
<b>Proportion of dangerous failures</b> <ul style="list-style-type: none"> <li>with low demand rate acc. to SN 31920</li> <li>with high demand rate acc. to SN 31920</li> </ul>	50 % 50 %
<b>Failure rate [FIT]</b> <ul style="list-style-type: none"> <li>with low demand rate acc. to SN 31920</li> </ul>	50 FIT
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	10 y
<b>Display version</b> <ul style="list-style-type: none"> <li>for switching status</li> </ul>	Handle

## Certificates/ approvals

General Product Approval			Declaration of Conformity	Test Certificates
 CSA	 UL		 EG-Konf.	<a href="#">Miscellaneous</a> <a href="#">Type Test Certificates/Test Report</a>

Test Certificates	Marine / Shipping	other
<a href="#">Special Test Certificate</a>	 BUREAU VERITAS	 LRS
		 RMRS
		<a href="#">Confirmation</a>
		 VDE

## Railway

[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=3RV2721-4BD10>

### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2721-4BD10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2721-4BD10>

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

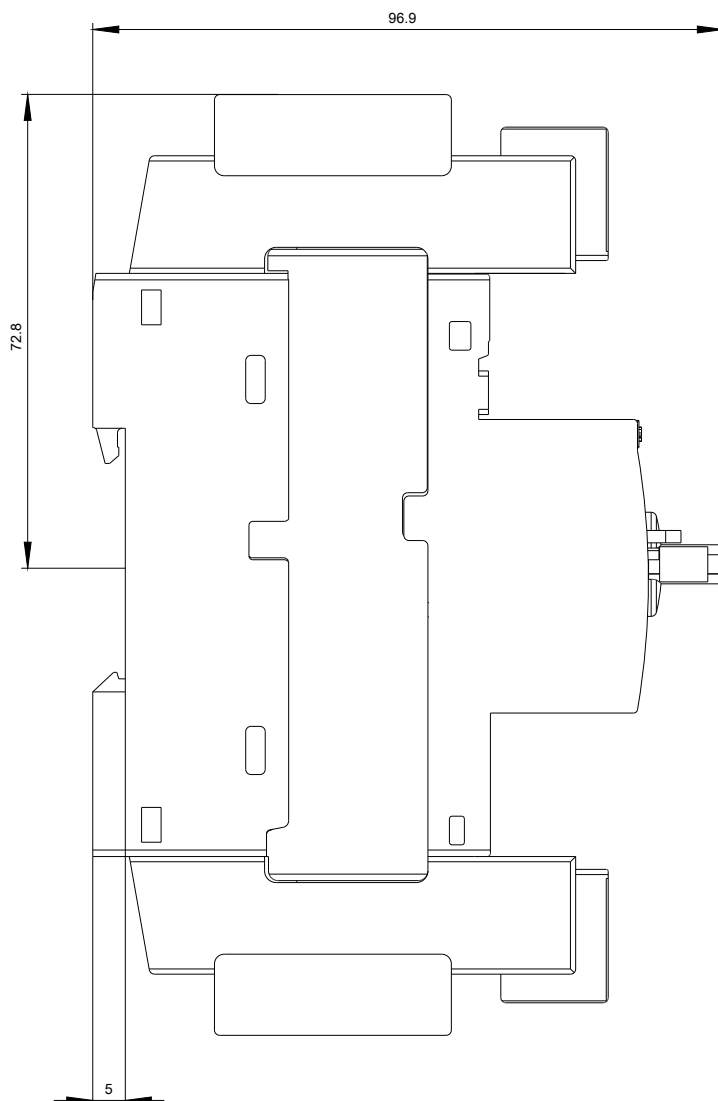
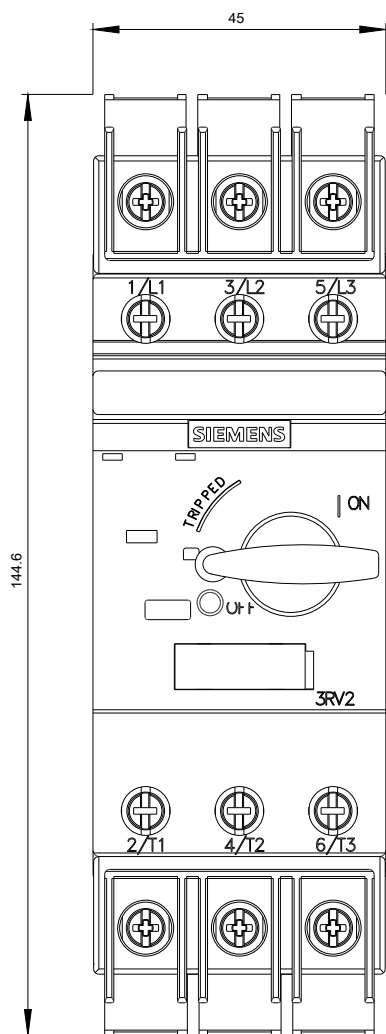
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2721-4BD10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2721-4BD10&lang=en)

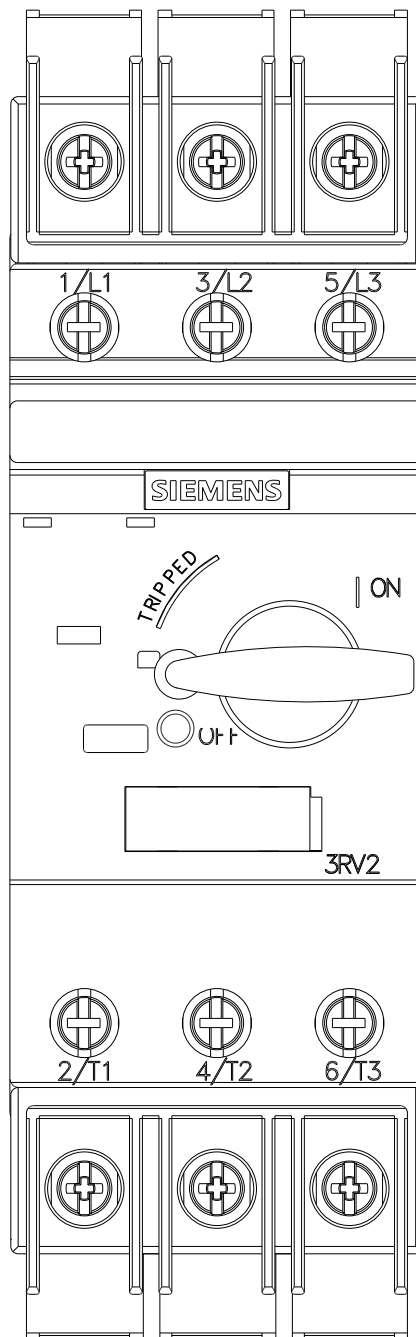
### Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2721-4BD10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2721-4BD10&objecttype=14&gridview=view1>









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