

Contactor relay, 2 NO + 2 NC, 110 V AC, 50 Hz, 120 V, 60 Hz, Size S00, screw terminal



product brand name	SIRIUS
Product designation	Auxiliary contactor
Product type designation	3RH2
<b>General technical data</b>	
Size of contactor	S00
Product extension	
• Auxiliary switch	Yes
• Insulation voltage with degree of pollution 3 at AC rated value	690 V
Degree of pollution	3
Surge voltage resistance rated value	6 kV
• protection class IP on the front	IP20
Shock resistance at rectangular impulse	
• at AC	7,3g / 5 ms, 4,7g / 10 ms
Shock resistance with sine pulse	
• at AC	11,4g / 5 ms, 7,3g / 10 ms
Mechanical service life (switching cycles)	
• of contactor typical	30 000 000

<ul style="list-style-type: none"> <li>• of the contactor with added electronics-compatible auxiliary switch block typical</li> </ul>	5 000 000
<ul style="list-style-type: none"> <li>• of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000
<b>Reference code acc. to DIN EN 81346-2</b>	K

### Ambient conditions

<b>Installation altitude at height above sea level</b>	
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	2 000 m
<b>Ambient temperature</b>	
<ul style="list-style-type: none"> <li>• during operation</li> </ul>	-25 ... +60 °C
<ul style="list-style-type: none"> <li>• during storage</li> </ul>	-55 ... +80 °C

### Main circuit

<b>No-load switching frequency</b>	
<ul style="list-style-type: none"> <li>• at AC</li> </ul>	10 000 1/h
<ul style="list-style-type: none"> <li>• at DC</li> </ul>	10 000 1/h

### Control circuit/ Control

<b>Type of voltage of the control supply voltage</b>	AC
<b>Control supply voltage at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> </ul>	110 V
<ul style="list-style-type: none"> <li>• at 60 Hz rated value</li> </ul>	120 V
<b>control supply voltage frequency</b>	
<ul style="list-style-type: none"> <li>• 1 rated value</li> </ul>	50 Hz
<ul style="list-style-type: none"> <li>• 2 rated value</li> </ul>	60 Hz
<b>Operating range factor control supply voltage rated value of magnet coil at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>	0.8 ... 1.1
<ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>	0.85 ... 1.1
<b>Apparent pick-up power of magnet coil at AC</b>	37 V·A
<b>Inductive power factor with closing power of the coil</b>	0.8
<b>Apparent holding power of magnet coil at AC</b>	5.7 V·A
<b>Inductive power factor with the holding power of the coil</b>	0.25
<b>Closing delay</b>	
<ul style="list-style-type: none"> <li>• at AC</li> </ul>	8 ... 33 ms
<b>Opening delay</b>	
<ul style="list-style-type: none"> <li>• at AC</li> </ul>	4 ... 15 ms
<b>Arcing time</b>	10 ... 15 ms

### Auxiliary circuit

<b>Number of NC contacts for auxiliary contacts</b>	2
<ul style="list-style-type: none"> <li>• instantaneous contact</li> </ul>	2
<b>Number of NO contacts for auxiliary contacts</b>	2

• instantaneous contact	2
<b>Identification number and letter for switching elements</b>	22 E
Operating current at AC-12 maximum	10 A
<b>Operating current at AC-15</b>	
• at 230 V rated value	10 A
• at 400 V rated value	3 A
• at 500 V rated value	2 A
• at 690 V rated value	1 A
<b>Operating current at 1 current path at DC-12</b>	
• at 24 V rated value	10 A
• at 110 V rated value	3 A
• at 220 V rated value	1 A
• at 440 V rated value	0.3 A
• at 600 V rated value	0.15 A
<b>Operating current with 2 current paths in series at DC-12</b>	
• at 24 V rated value	10 A
• at 60 V rated value	10 A
• at 110 V rated value	4 A
• at 220 V rated value	2 A
• at 440 V rated value	1.3 A
• at 600 V rated value	0.65 A
<b>Operating current with 3 current paths in series at DC-12</b>	
• at 24 V rated value	10 A
• at 60 V rated value	10 A
• at 110 V rated value	10 A
• at 220 V rated value	3.6 A
• at 440 V rated value	2.5 A
• at 600 V rated value	1.8 A
<b>Operating frequency at DC-12 maximum</b>	1 000 1/h
<b>Operating current at 1 current path at DC-13</b>	
• at 24 V rated value	10 A
• at 110 V rated value	1 A
• at 220 V rated value	0.3 A
• at 440 V rated value	0.14 A
• at 600 V rated value	0.1 A
<b>Operating current with 2 current paths in series at DC-13</b>	
• at 24 V rated value	10 A
• at 60 V rated value	3.5 A

<ul style="list-style-type: none"> <li>• at 110 V rated value</li> <li>• at 220 V rated value</li> <li>• at 440 V rated value</li> <li>• at 600 V rated value</li> </ul>	<p>1.3 A</p> <p>0.9 A</p> <p>0.2 A</p> <p>0.1 A</p>
<b>Operating current with 3 current paths in series at DC-13</b>	
<ul style="list-style-type: none"> <li>• at 24 V rated value</li> <li>• at 60 V rated value</li> <li>• at 110 V rated value</li> <li>• at 220 V rated value</li> <li>• at 440 V rated value</li> <li>• at 600 V rated value</li> </ul>	<p>10 A</p> <p>4.7 A</p> <p>3 A</p> <p>1.2 A</p> <p>0.5 A</p> <p>0.26 A</p>
<b>Operating frequency at DC-13 maximum</b>	1 000 1/h
<b>Design of the miniature circuit breaker</b>	
<ul style="list-style-type: none"> <li>• for short-circuit protection of the auxiliary circuit up to 230 V</li> </ul>	C characteristic: 6 A; 0.4 kA
<b>contact reliability of auxiliary contacts</b>	1 faulty switching per 100 million (17 V, 1 mA)

<b>UL/CSA ratings</b>	
<b>Contact rating of auxiliary contacts according to UL</b>	A600 / Q600

<b>Short-circuit protection</b>	
<b>Design of the fuse link</b>	
<ul style="list-style-type: none"> <li>• for short-circuit protection of the auxiliary switch required</li> </ul>	fuse gL/gG: 10 A

<b>Installation/ mounting/ dimensions</b>	
<ul style="list-style-type: none"> <li>• <b>mounting position</b></li> </ul>	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
<b>Mounting type</b>	screw and snap-on mounting onto 35 mm standard mounting rail
<b>Height</b>	57.5 mm
<b>Width</b>	45 mm
<b>Depth</b>	73 mm
<b>Required spacing</b>	
<ul style="list-style-type: none"> <li>• with side-by-side mounting <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> </ul>	<p>10 mm</p> <p>10 mm</p> <p>10 mm</p> <p>0 mm</p> <p>10 mm</p> <p>10 mm</p> <p>6 mm</p> <p>10 mm</p>

- for live parts
  - forwards 10 mm
  - upwards 10 mm
  - downwards 10 mm
  - at the side 6 mm

### Connections/ Terminals

- Type of electrical connection for auxiliary and control current circuit screw-type terminals

#### Type of connectable conductor cross-sections

- for auxiliary contacts
  - single or multi-stranded 2x (0,5 ... 1,5 mm<sup>2</sup>), 2x (0,75 ... 2,5 mm<sup>2</sup>), 2x 4 mm<sup>2</sup>
  - finely stranded with core end processing 2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)
- at AWG conductors for auxiliary contacts 2x (20 ... 16), 2x (18 ... 14), 2x 12

### Safety related data

#### B10 value

- with high demand rate acc. to SN 31920 1 000 000; With 0.3 x I<sub>e</sub>

#### Proportion of dangerous failures

- with low demand rate acc. to SN 31920 40 %
- with high demand rate acc. to SN 31920 73 %

#### Failure rate [FIT]

- with low demand rate acc. to SN 31920 100 FIT

#### Product function

- positively driven operation acc. to IEC 60947-5-1 Yes

#### T1 value for proof test interval or service life acc. to IEC 61508

20 y

### Certificates/ approvals

General Product Approval	EMC
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[KC](#)



Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates	Marine / Shipping
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[Type Examination Certificate](#)



[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Marine / Shipping
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other
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[Confirmation](#)



Further information
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**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=3RH2122-1AK60>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2122-1AK60>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RH2122-1AK60>

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

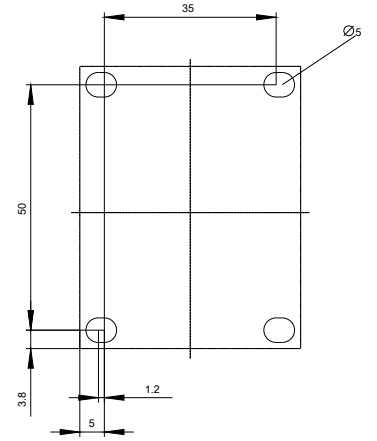
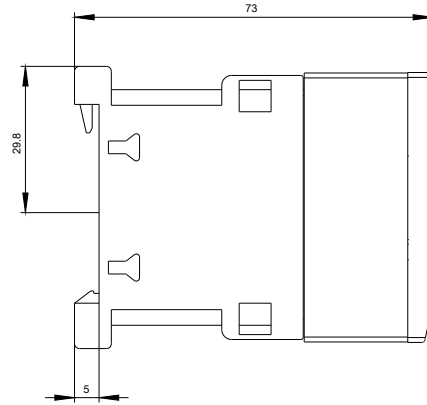
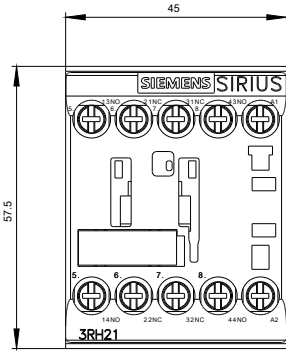
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RH2122-1AK60&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH2122-1AK60&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RH2122-1AK60/char>

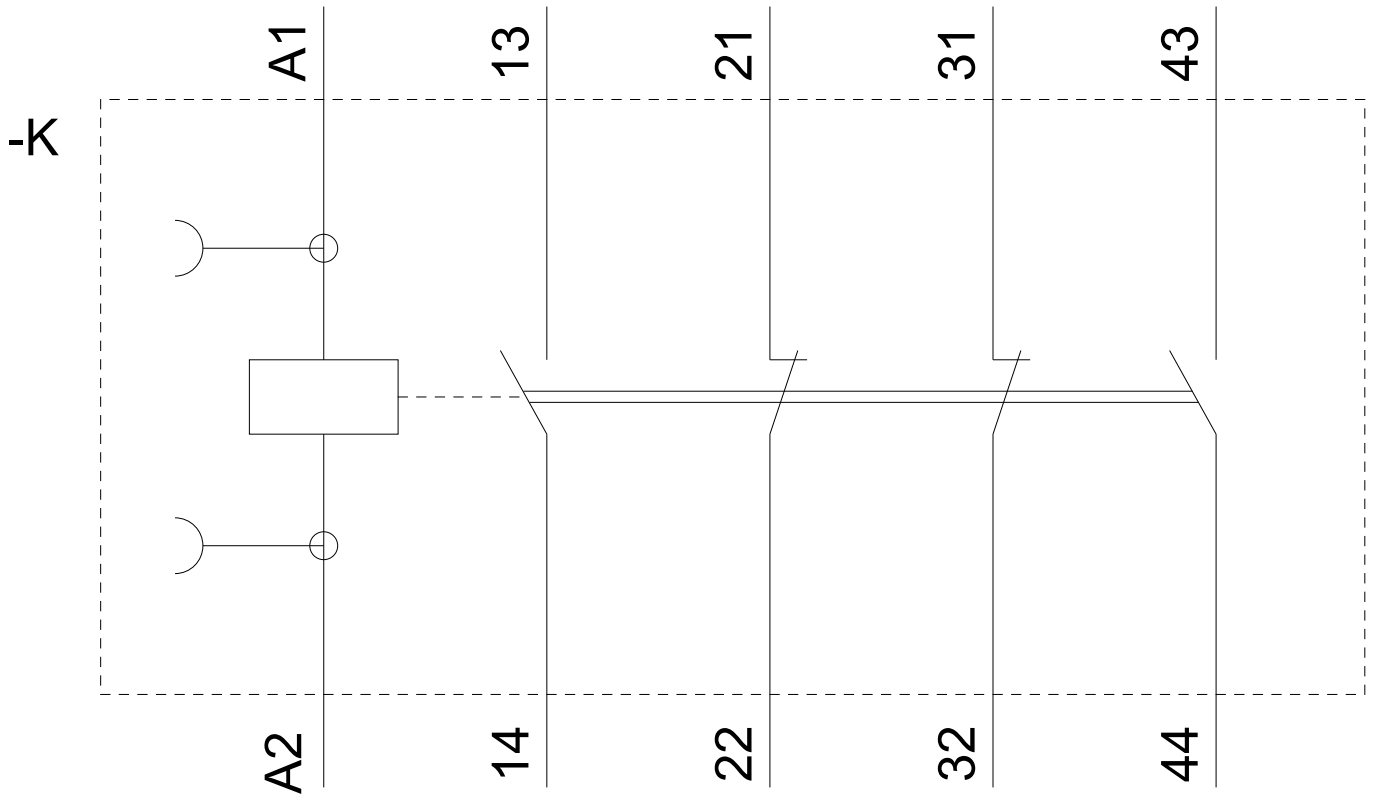
**Further characteristics (e.g. electrical endurance, switching frequency)**

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2122-1AK60&objecttype=14&gridview=view1>









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