

Contactor relay, 4 NO, 24 V DC, Size S00, screw terminal



product brand name	SIRIUS
product designation	Auxiliary contactor
product type designation	3RH2

General technical data	
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
shock resistance at rectangular impulse	
• at DC	10g / 5 ms, 5g / 10 ms
shock resistance with sine pulse	
• at DC	15g / 5 ms, 8g / 10 ms
mechanical service life (switching cycles)	
• of contactor typical	30 000 000
• of the contactor with added electronically optimized auxiliary switch block typical	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 IEC 81346-2</b>	K

### Ambient conditions

<ul style="list-style-type: none"> <li>installation altitude at height above sea level 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>	DC
<b>control supply voltage at DC</b>	
<ul style="list-style-type: none"> <li>rated value</li> </ul>	24 V
<b>operating range factor control supply voltage rated value of magnet coil at DC</b>	
<ul style="list-style-type: none"> <li>initial value</li> </ul>	0.8
<ul style="list-style-type: none"> <li>full-scale value</li> </ul>	1.1
<b>closing power of magnet coil at DC</b>	4 W
<b>holding power of magnet coil at DC</b>	4 W
<b>closing delay</b>	
<ul style="list-style-type: none"> <li>at DC</li> </ul>	30 ... 100 ms
<b>opening delay</b>	
<ul style="list-style-type: none"> <li>at DC</li> </ul>	7 ... 13 ms
<b>arcing time</b>	10 ... 15 ms

### Auxiliary circuit

<b>number of NO contacts for auxiliary contacts</b>	4
<ul style="list-style-type: none"> <li>instantaneous contact</li> </ul>	4
<b>identification number and letter for switching elements</b>	40 E
<b>operational current at AC-12 maximum</b>	10 A
<ul style="list-style-type: none"> <li>operational current at AC-15 at 230 V rated value</li> </ul>	10 A
<ul style="list-style-type: none"> <li>operational current at AC-15 at 400 V rated value</li> </ul>	3 A
<ul style="list-style-type: none"> <li>operational current at AC-15 at 500 V rated value</li> </ul>	2 A
<ul style="list-style-type: none"> <li>operational current at AC-15 at 690 V rated value</li> </ul>	1 A

<b>operational 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>operational 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>operational 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>operational 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>operational 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
• at 110 V rated value	1.3 A
• at 220 V rated value	0.9 A
• at 440 V rated value	0.2 A
• at 600 V rated value	0.1 A
<b>operational current with 3 current paths in series at DC-13</b>	
• at 24 V rated value	10 A
• at 60 V rated value	4.7 A
• at 110 V rated value	3 A

<ul style="list-style-type: none"> <li>• at 220 V rated value</li> <li>• at 440 V rated value</li> <li>• at 600 V rated value</li> </ul>	<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>	C characteristic: 6 A; 0.4 kA
<ul style="list-style-type: none"> <li>• for short-circuit protection of the auxiliary circuit up to 230 V</li> </ul>	
<b>contact reliability of auxiliary contacts</b>	1 faulty switching per 100 million (17 V, 1 mA)

#### UL/CSA ratings

<b>contact rating of auxiliary contacts according to UL</b>	A600 / Q600
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#### Short-circuit protection

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

#### Installation/ mounting/ dimensions

<b>mounting position</b>	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface	
<b>fastening method</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> </ul>		
<ul style="list-style-type: none"> <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>		
<ul style="list-style-type: none"> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul>		
		10 mm
		10 mm
		10 mm
		0 mm
		10 mm
		10 mm
		6 mm
		10 mm
		10 mm
	10 mm	
	6 mm	

#### Connections/ Terminals

<b>type of electrical connection</b>	screw-type terminals
<ul style="list-style-type: none"> <li>• for auxiliary and control circuit</li> </ul>	

- type of connectable conductor cross-sections for auxiliary contacts
  - solid or stranded
  - finely stranded with core end processing
- type of connectable conductor cross-sections at AWG cables for auxiliary contacts

2x (0,5 ... 1,5 mm<sup>2</sup>), 2x (0,75 ... 2,5 mm<sup>2</sup>), 2x 4 mm<sup>2</sup>  
 2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)  
 2x (20 ... 16), 2x (18 ... 14), 2x 12

#### Safety related data

<b>B10 value</b>	
<ul style="list-style-type: none"> <li>• with high demand rate acc. to SN 31920</li> </ul>	1 000 000; With 0.3 x I <sub>e</sub>
<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>	40 % 73 %
<b>failure rate [FIT]</b>	
<ul style="list-style-type: none"> <li>• with low demand rate acc. to SN 31920</li> </ul>	100 FIT
<b>product function</b>	
<ul style="list-style-type: none"> <li>• positively driven operation acc. to IEC 60947-5-1</li> </ul>	Yes
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	20 y
<b>protection class IP on the front acc. to IEC 60529</b>	IP20
<b>touch protection on the front acc. to IEC 60529</b>	finger-safe, for vertical contact from the front

#### Certificates/ approvals

General Product Approval	EMC
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[KC](#)



Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

[Miscellaneous](#)



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=3RH2140-1BB40>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2140-1BB40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RH2140-1BB40>

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

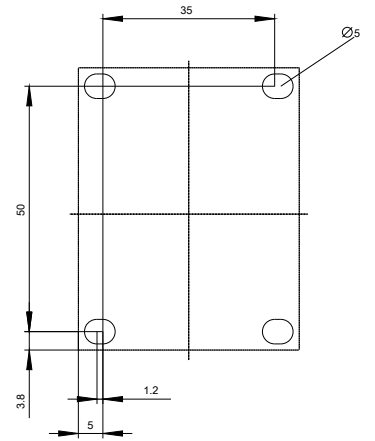
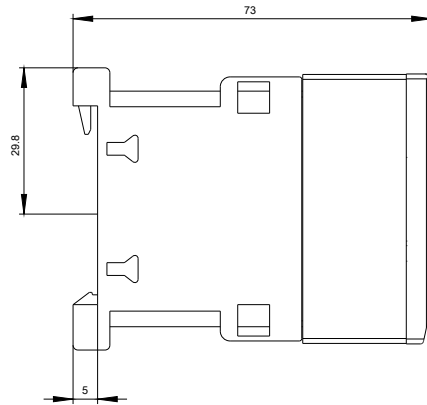
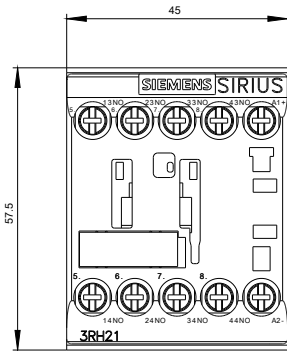
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RH2140-1BB40&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH2140-1BB40&lang=en)

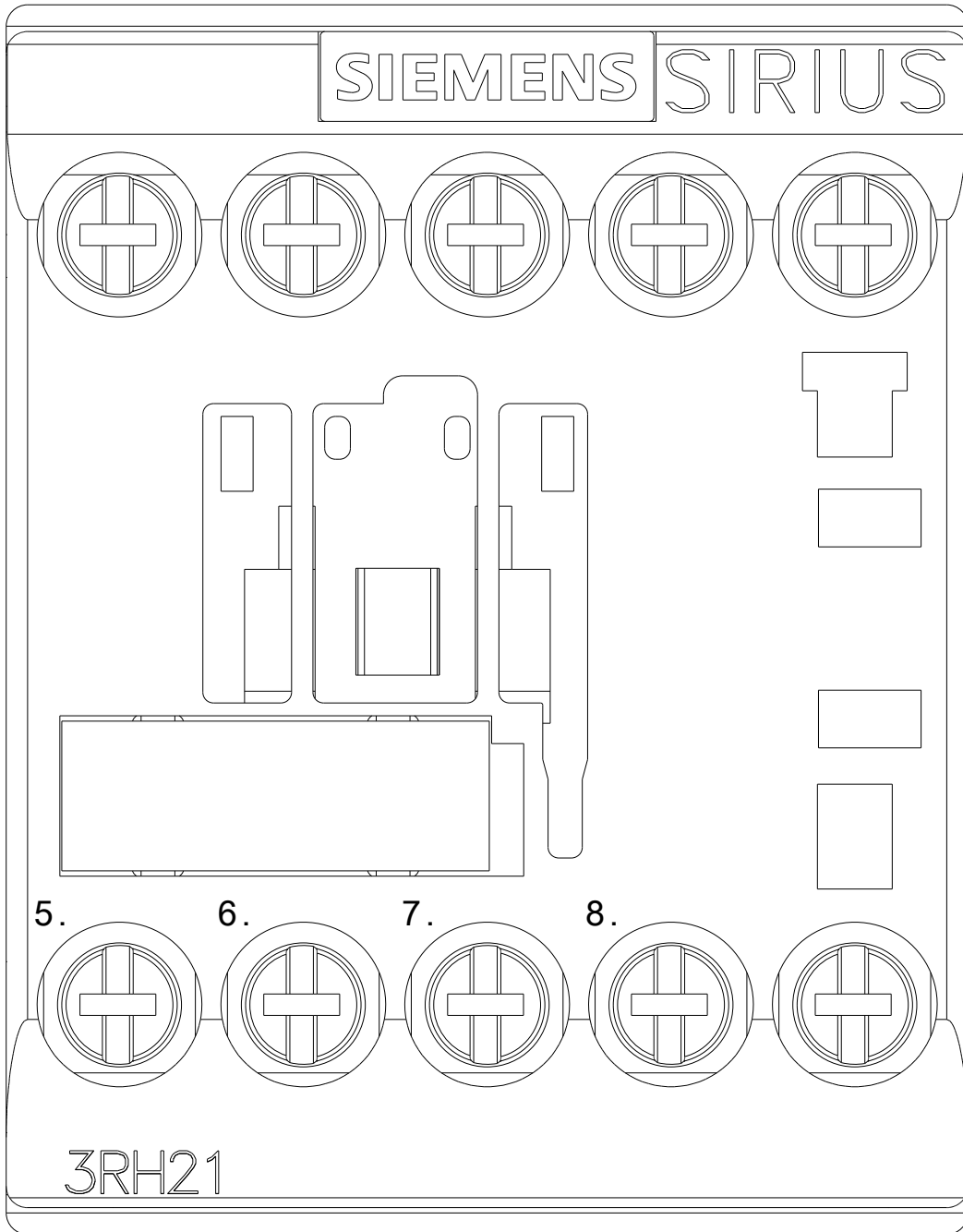
**Characteristic: Tripping characteristics, I<sup>Δt</sup>, Let-through current**

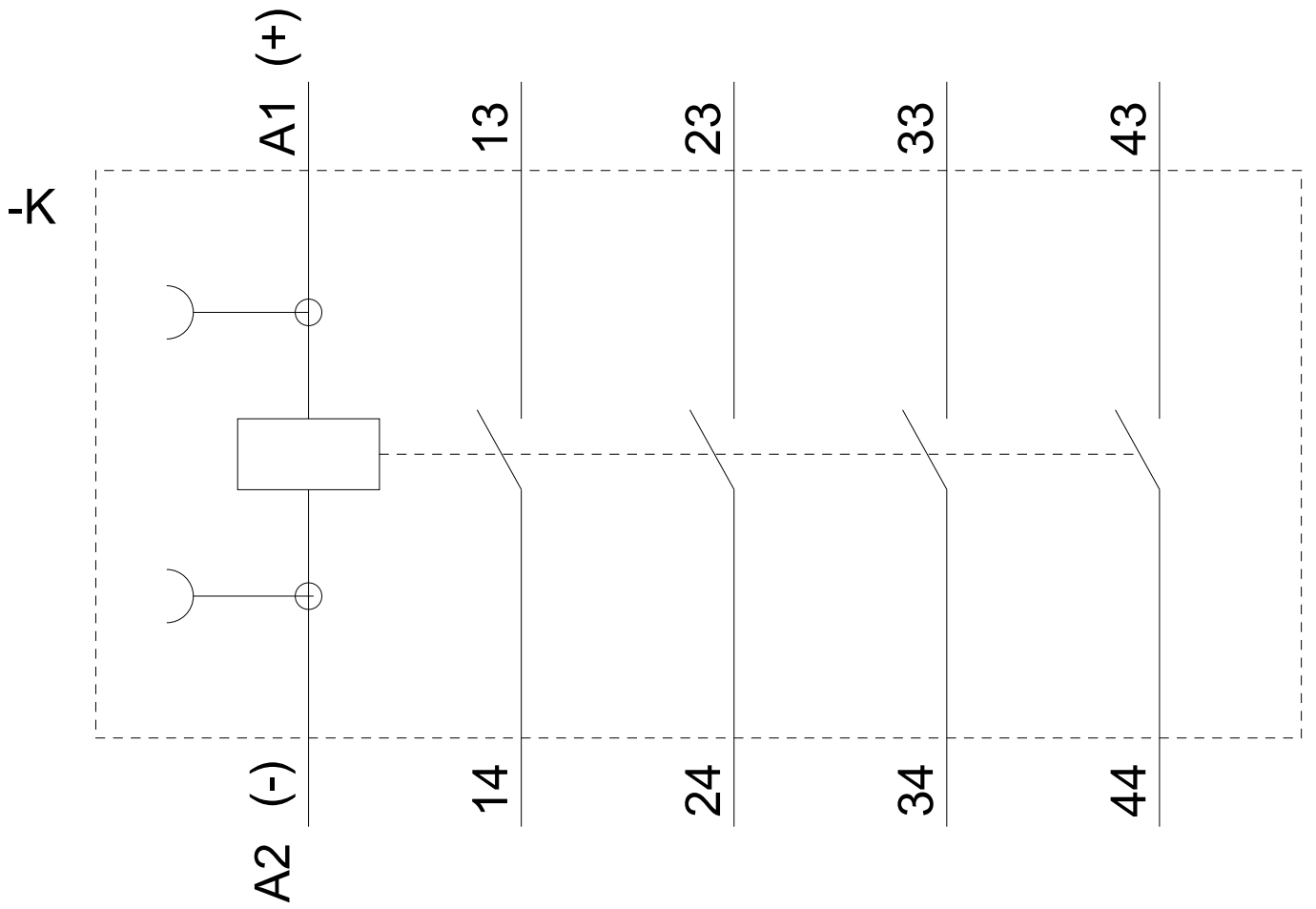
<https://support.industry.siemens.com/cs/ww/en/ps/3RH2140-1BB40/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2140-1BB40&objecttype=14&gridview=view1>







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