

Coupling contactor relay railway 4 NO, 110 V DC, 0.7 ... 1.25\* US, with integrated varistor, Size S00, Spring-type terminal



Product brand name	SIRIUS
Product designation	Coupling relay for switching auxiliary circuits
Product type designation	3RH2
<b>General technical data</b>	
Size of contactor	S00
Product extension	No
<ul style="list-style-type: none"> <li>Auxiliary switch</li> </ul>	No
Insulation voltage	690 V
<ul style="list-style-type: none"> <li>with degree of pollution 3 rated value</li> </ul>	690 V
Degree of pollution	3
Surge voltage resistance rated value	6 kV
Protection class IP	IP20
<ul style="list-style-type: none"> <li>on the front</li> </ul>	IP20
Shock resistance at rectangular impulse	10g / 5 ms, 5g / 10 ms
<ul style="list-style-type: none"> <li>at DC</li> </ul>	10g / 5 ms, 5g / 10 ms
Shock resistance with sine pulse	15g / 5 ms, 8g / 10 ms
<ul style="list-style-type: none"> <li>at DC</li> </ul>	15g / 5 ms, 8g / 10 ms
Mechanical service life (switching cycles)	30 000 000
<ul style="list-style-type: none"> <li>of contactor typical</li> </ul>	30 000 000

Reference code acc. to DIN EN 81346-2	K
Reference code acc. to DIN EN 61346-2	K
<b>Ambient conditions</b>	
<b>Installation altitude at height above sea level</b>	
• maximum	2 000 m
<b>Ambient temperature</b>	
• during operation	-25 ... +60 °C
• during storage	-55 ... +80 °C
<b>Main circuit</b>	
<b>No-load switching frequency</b>	
• at AC	10 000 1/h
• at DC	10 000 1/h
<b>Control circuit/ Control</b>	
<b>Type of voltage of the control supply voltage</b>	DC
<b>Control supply voltage at DC</b>	
• rated value	110 V
<b>Operating range factor control supply voltage rated value of magnet coil at DC</b>	
• initial value	0.7
• Full-scale value	1.25
<b>Design of the surge suppressor</b>	with varistor
<b>Closing power of magnet coil at DC</b>	2.8 W
<b>Holding power of magnet coil at DC</b>	2.8 W
<b>Closing delay</b>	
• at DC	30 ... 100 ms
<b>Opening delay</b>	
• at DC	7 ... 13 ms
<b>Arcing time</b>	10 ... 15 ms
<b>Auxiliary circuit</b>	
<b>Number of NO contacts for auxiliary contacts</b>	4
• instantaneous contact	4
<b>Identification number and letter for switching elements</b>	40 E
<b>Operating current at AC-12 maximum</b>	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

<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>	3 A 1 A 0.3 A 0.15 A
<b>Operating current with 2 current paths in series at DC-12</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>	10 A 10 A 4 A 2 A 1.3 A 0.65 A
<b>Operating current with 3 current paths in series at DC-12</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>	10 A 10 A 10 A 3.6 A 2.5 A 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> <ul style="list-style-type: none"> <li>• at 24 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>	10 A 1 A 0.3 A 0.14 A 0.1 A
<b>Operating current with 2 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>	10 A 3.5 A 1.3 A 0.9 A 0.2 A 0.1 A
<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> </ul>	10 A 4.7 A 3 A 1.2 A 0.5 A

<ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>	0.26 A
<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)

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

Short-circuit protection	
<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

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>Mounting type</b>	screw and snap-on mounting onto 35 mm standard mounting rail
<b>Height</b>	70 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 10 mm</li> <li>— upwards 10 mm</li> <li>— downwards 10 mm</li> <li>— at the side 0 mm</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards 10 mm</li> <li>— upwards 10 mm</li> <li>— at the side 6 mm</li> <li>— downwards 10 mm</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards 10 mm</li> <li>— upwards 10 mm</li> <li>— downwards 10 mm</li> <li>— at the side 6 mm</li> </ul> </li> </ul>	

Connections/ Terminals	
<b>Type of electrical connection</b> <ul style="list-style-type: none"> <li>• for auxiliary and control current circuit</li> </ul>	spring-loaded terminals
<b>Type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul>	

- single or multi-stranded
- finely stranded with core end processing
- finely stranded without core end processing
- at AWG conductors for auxiliary contacts

2x (0,5 ... 4 mm<sup>2</sup>)

2x (0.5 ... 2.5 mm<sup>2</sup>)

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2x (20 ... 12)

#### Safety related data

<b>B10 value</b>	
• with high demand rate acc. to SN 31920	1 000 000; With 0.3 x I <sub>e</sub>
<b>Proportion of dangerous failures</b>	
• with low demand rate acc. to SN 31920	40 %
• with high demand rate acc. to SN 31920	73 %
<b>Failure rate [FIT]</b>	
• with low demand rate acc. to SN 31920	100 FIT
<b>Product function</b>	
• positively driven operation acc. to IEC 60947-5-1	Yes
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	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](#)



Marine / Shipping	other
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[Confirmation](#)

other
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### Further information

**Information- and Downloadcenter (Catalogs, Brochures,...)**

[www.siemens.com/sirius/catalogs](http://www.siemens.com/sirius/catalogs)

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RH2140-2LF40>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2140-2LF40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RH2140-2LF40>

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

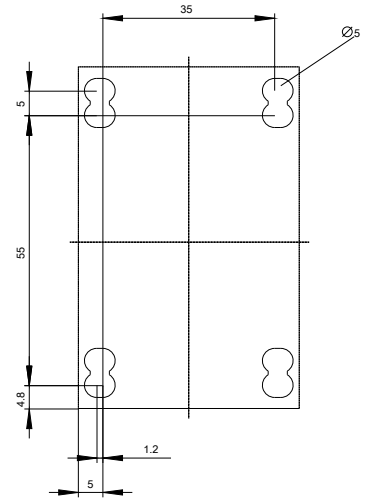
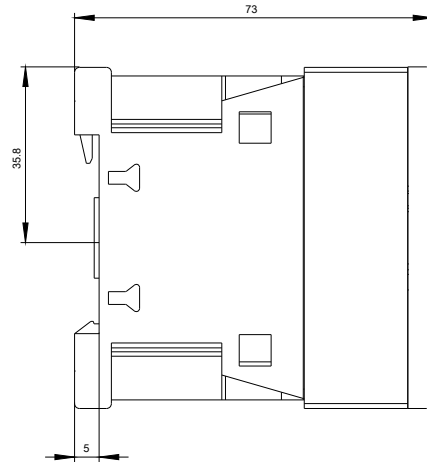
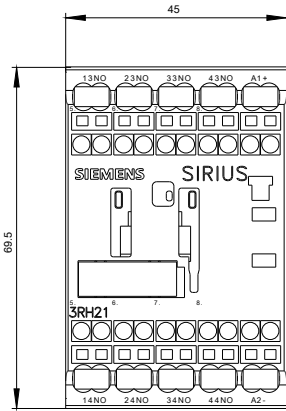
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RH2140-2LF40&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH2140-2LF40&lang=en)

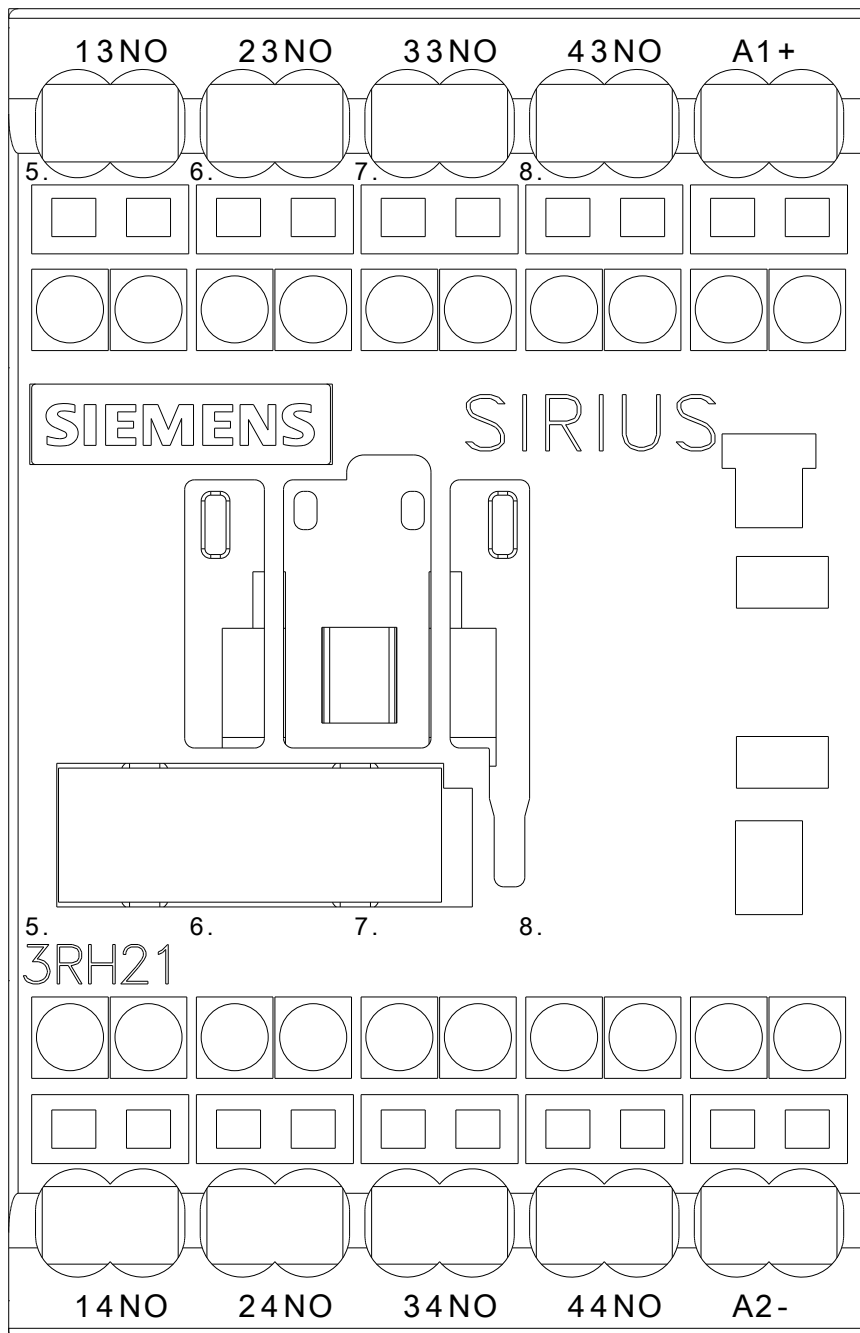
**Characteristic: Tripping characteristics, I<sup>t</sup>, Let-through current**

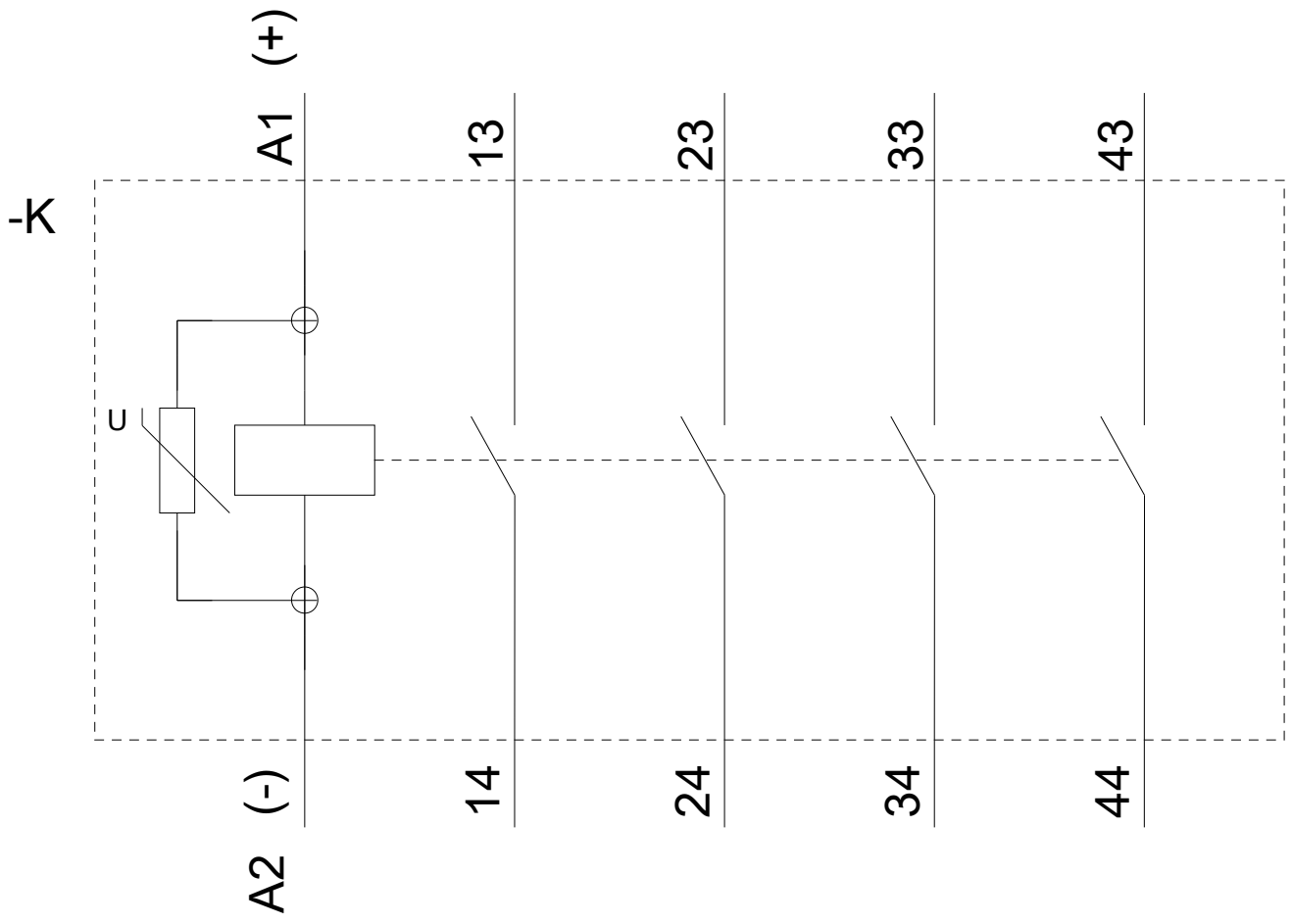
<https://support.industry.siemens.com/cs/ww/en/ps/3RH2140-2LF40/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2140-2LF40&objecttype=14&gridview=view1>







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