

Coupling contactor relay, 3 NO + 1 NC, 24 V DC, 0.85 ... 1.85\* US, with integrated diode, 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	
• Auxiliary switch	No
• 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 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
Reference code acc. to DIN EN 81346-2	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><li>• during storage</li></ul>	-25 ... +50 °C -55 ... +80 °C

## Main circuit

<b>No-load switching frequency</b> <ul style="list-style-type: none"><li>• at AC</li><li>• at DC</li></ul>	10 000 1/h 10 000 1/h
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## 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><li>• Full-scale value</li></ul>	0.85 1.85
<b>Design of the surge suppressor</b>	with diode
<b>Closing power of magnet coil at DC</b>	1.6 W
<b>Holding power of magnet coil at DC</b>	1.6 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 NC contacts for auxiliary contacts</b> <ul style="list-style-type: none"><li>• instantaneous contact</li></ul>	1 1
<b>Number of NO contacts for auxiliary contacts</b> <ul style="list-style-type: none"><li>• instantaneous contact</li></ul>	3 3
<b>Identification number and letter for switching elements</b>	31 E
<b>Operating current at AC-12 maximum</b>	10 A
<b>Operating current at AC-15</b> <ul style="list-style-type: none"><li>• at 230 V rated value</li><li>• at 400 V rated value</li><li>• at 500 V rated value</li><li>• at 690 V rated value</li></ul>	10 A 3 A 2 A 1 A
<b>Operating current at 1 current path at DC-12</b> <ul style="list-style-type: none"><li>• at 24 V rated value</li></ul>	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	
<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>	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</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> <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 10 mm 6 mm

Connections/ Terminals	
<ul style="list-style-type: none"> <li>Type of electrical connection 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>	
<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

#### 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=3RH2131-2VB40>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2131-2VB40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RH2131-2VB40>

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

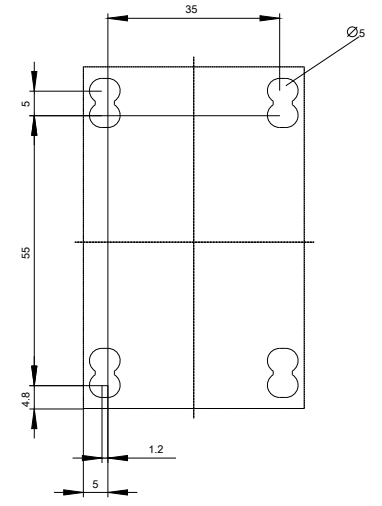
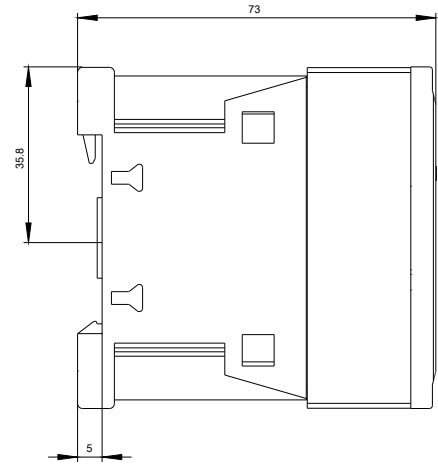
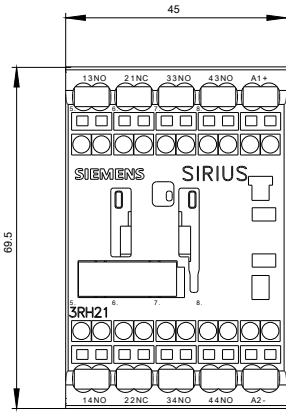
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RH2131-2VB40&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH2131-2VB40&lang=en)

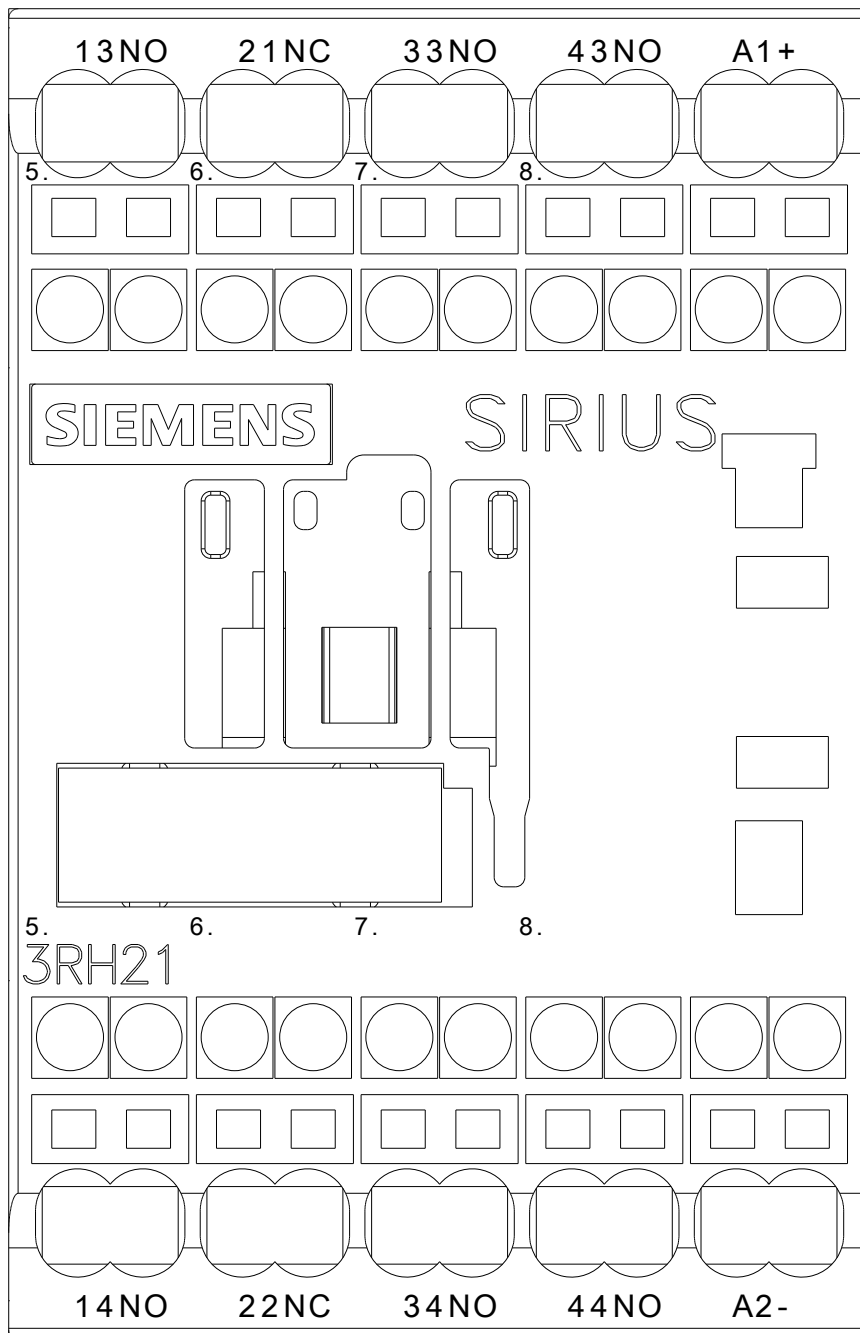
**Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**

<https://support.industry.siemens.com/cs/ww/en/ps/3RH2131-2VB40/char>

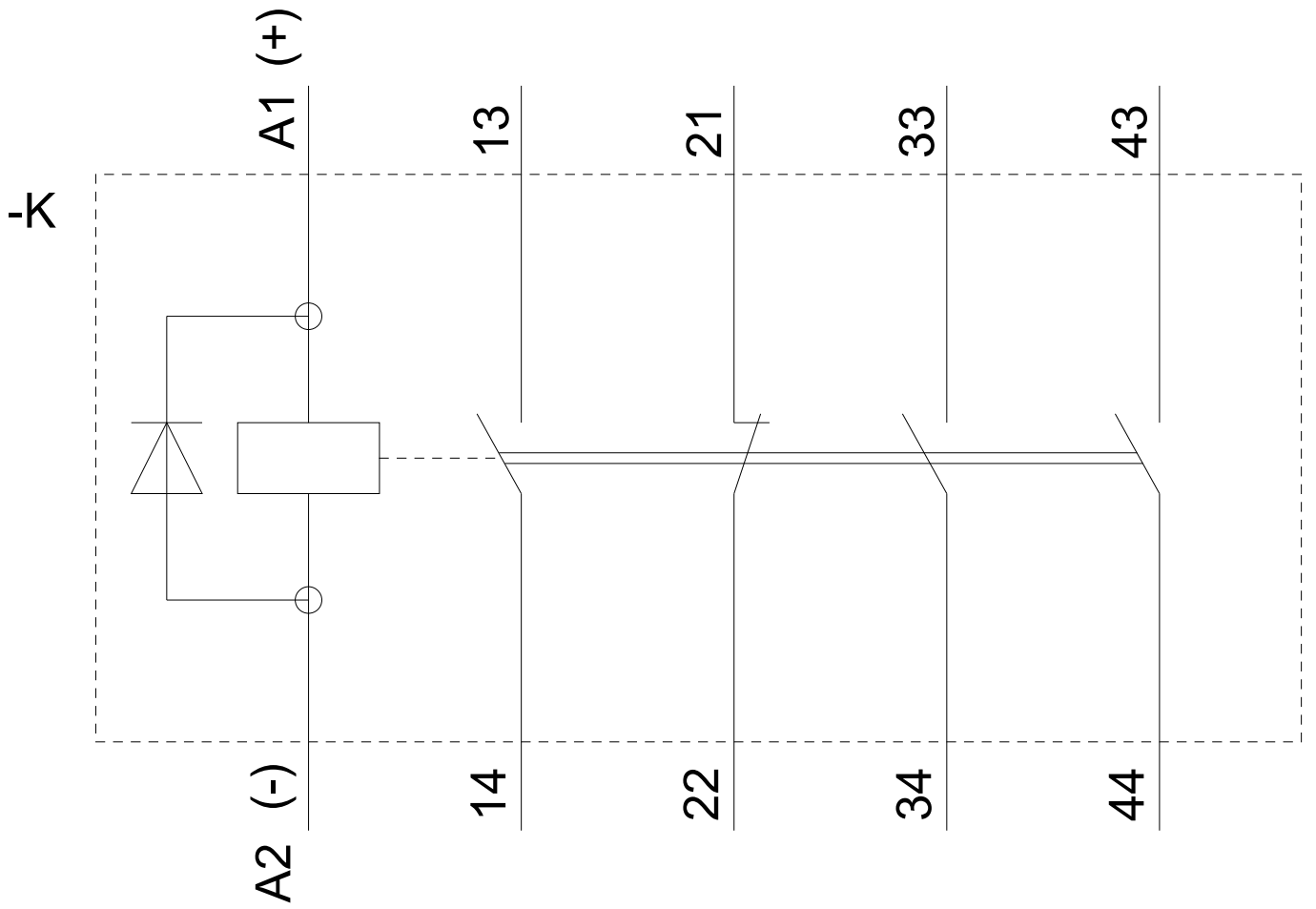
**Further characteristics (e.g. electrical endurance, switching frequency)**

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2131-2VB40&objecttype=14&gridview=view1>









last modified:

08/13/2020