

Contactor relay latched railway, 2 NO + 2 NC, 72..125 V DC, 0.7 ... 1.25\*  
Us, with integr. varistor, Size S00, screw terminal Suitable for PLC outputs



<b>product brand name</b>	SIRIUS
<b>product designation</b>	Contactor relay for railway applications
<b>product type designation</b>	3RH2
<b>General technical data</b>	
<b>size of contactor</b>	S00
product extension auxiliary switch	Yes
insulation voltage with degree of pollution 3 at AC rated value	690 V
<b>surge voltage resistance rated value</b>	6 kV
<b>shock resistance at rectangular impulse</b>	
• at DC	10g / 5 ms, 5g / 10 ms
<b>shock resistance with sine pulse</b>	
• at DC	15g / 5 ms, 8g / 10 ms
<b>mechanical service life (switching cycles)</b>	
• of contactor typical	30 000 000
• of the contactor with added electronically optimized auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	10 000 000
<b>reference code according to IEC 81346-2</b>	K
<b>Substance Prohibitance (Date)</b>	10/01/2009
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
<b>ambient temperature</b>	
• during operation	-40 ... +70 °C
• during storage	-55 ... +80 °C
<b>relative humidity minimum</b>	10 %
<b>relative humidity at 55 °C according to IEC 60068-2-30 maximum</b>	95 %
<b>Main circuit</b>	
<b>no-load switching frequency</b>	
• at DC	1 500 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	72 ... 125 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>	Varistor
<b>closing power of magnet coil at DC</b>	4.5 W
<b>holding power of magnet coil at DC</b>	0.75 W
<b>closing delay</b>	
• at DC	30 ... 70 ms
<b>opening delay</b>	
• at DC	25 ... 45 ms
<b>arcing time</b>	10 ... 15 ms
residual current of the electronics for control with signal <0> at DC at 24 V maximum permissible	10 mA
<b>Auxiliary circuit</b>	
<b>number of NC contacts for auxiliary contacts</b>	2
• instantaneous contact	2
<b>number of NO contacts for auxiliary contacts</b>	2
• instantaneous contact	2
<b>identification number and letter for switching elements</b>	31 E
operational current at AC-12 maximum	10 A
<b>operational 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>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</b>	

<b>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
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	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>	
design of the fuse link for short-circuit protection of the auxiliary switch required	fuse gL/gG: 10 A
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	+/-180° rotation possible on vertical mounting surface, can be tilted forward and backward by +/- 22.5° on vertical mounting surface, standing, on horizontal mounting surface
<b>fastening method</b>	screw and snap-on mounting onto 35 mm standard mounting rail
<ul style="list-style-type: none"> <li>• side-by-side mounting</li> </ul>	Yes
<b>height</b>	58 mm
<b>width</b>	90 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>	<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> <p>10 mm</p> <p>10 mm</p> <p>6 mm</p>
<b>Connections/ Terminals</b>	
type of electrical connection for auxiliary and control circuit	screw-type terminals
<b>connectable conductor cross-section for auxiliary contacts</b>	
<ul style="list-style-type: none"> <li>• solid or stranded</li> <li>• finely stranded with core end processing</li> </ul>	<p>0.5 ... 4 mm<sup>2</sup></p> <p>0.5 ... 2.5 mm<sup>2</sup></p>
<b>type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG cables for auxiliary contacts</li> </ul>	<p>2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>), 2x 4 mm<sup>2</sup></p> <p>2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)</p> <p>2x (20 ... 16), 2x (18 ... 14), 2x 12</p>
AWG number as coded connectable conductor cross section for auxiliary contacts	20 ... 12
<b>Safety related data</b>	
B10 value with high demand rate according to SN 31920	1 000 000
<b>proportion of dangerous failures</b>	
<ul style="list-style-type: none"> <li>• with low demand rate according to SN 31920</li> <li>• with high demand rate according to SN 31920</li> </ul>	<p>40 %</p> <p>73 %</p>
T1 value for proof test interval or service life according to IEC 61508	20 y

protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front

**Certificates/ approvals**

General Product Approval	EMC
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[Confirmation](#)



[KC](#)



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



EG-Konf.

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



ABS

**Marine / Shipping**



LRS



PRS



RINA



RMRS

other	Railway	Dangerous Good
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[Confirmation](#)



VDE

[Special Test Certificate](#)

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**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=3RH2422-1XF40-0LA2>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2422-1XF40-0LA2>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RH2422-1XF40-0LA2>

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

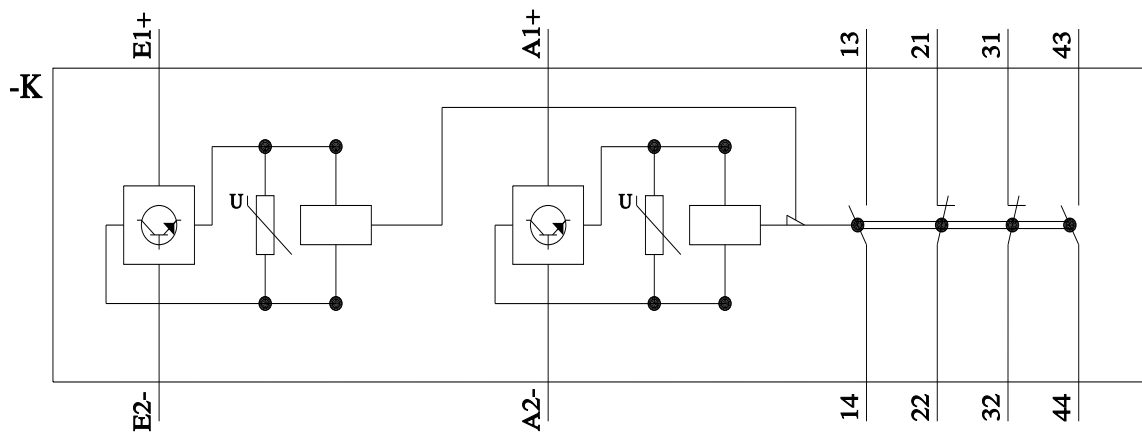
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RH2422-1XF40-0LA2&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH2422-1XF40-0LA2&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RH2422-1XF40-0LA2/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2422-1XF40-0LA2&objecttype=14&gridview=view1>



last modified:

12/1/2021 