



contactor relay, 2 NO + 2 NC, 230 V AC, 50/60 Hz, screw terminal, frame size S00

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
power loss [W] for rated value of the current without load current share typical	1.43 W
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 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 (operating cycles)	
• 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
reference code according to IEC 81346-2	K
Substance Prohibition (Date)	10/01/2009
Weight	0.232 kg
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
• during operation	-25 ... +60 °C
• during storage	-55 ... +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %
<b>Environmental footprint</b>	
Environmental Product Declaration (EPD)	Yes
global warming potential [CO2 eq] total	49.2 kg
global warming potential [CO2 eq] during manufacturing	1.15 kg
global warming potential [CO2 eq] during operation	48.2 kg
global warming potential [CO2 eq] after end of life	-0.139 kg
<b>Main circuit</b>	
no-load switching frequency	
• at AC	10 000 1/h
• at DC	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><li>• at 60 Hz rated value</li></ul>	230 V 230 V
<b>control supply voltage frequency</b> <ul style="list-style-type: none"><li>• 1 rated value</li><li>• 2 rated value</li></ul>	50 Hz 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><li>• at 60 Hz</li></ul>	0.8 ... 1.1 0.85 ... 1.1
<b>apparent pick-up power of magnet coil at AC</b>	37 VA
<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 VA
<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> <ul style="list-style-type: none"><li>• instantaneous contact</li></ul>	2 2
<b>number of NO contacts for auxiliary contacts</b> <ul style="list-style-type: none"><li>• instantaneous contact</li></ul>	2 2
<b>identification number and letter for switching elements</b>	22 E
<b>operational current at AC-12 maximum</b>	10 A
<b>operational 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>operational current at 1 current path at DC-12</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 3 A 1 A 0.3 A 0.15 A
<b>operational 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>operational 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>operational 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>operational 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>operational 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>	10 A 4.7 A 3 A 1.2 A 0.5 A 0.26 A
<b>operating frequency at DC-13 maximum</b>	1 000 1/h
<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 miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 10 A; 0.4 kA
<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
<b>fastening method</b>	screw and snap-on mounting onto 35 mm DIN 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> <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
<b>Connections/ Terminals</b>	
type of electrical connection for auxiliary and control circuit	screw-type terminals
<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>• for AWG cables for auxiliary contacts</li> </ul>	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm² 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (20 ... 16), 2x (18 ... 14), 2x 12
<b>Safety related data</b>	
<b>product function</b>	
<ul style="list-style-type: none"> <li>• positively driven operation according to IEC 60947-5-1</li> <li>• suitable for safety function</li> </ul>	Yes Yes
suitability for use safety-related switching OFF	Yes
<b>service life maximum</b>	20 a
<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>	40 % 73 %
<b>B10 value with high demand rate according to SN 31920</b>	1 000 000; With 0.3 x I <sub>e</sub>
<b>failure rate [FIT] with low demand rate according to SN</b>	100 FIT

31920	
ISO 13849	
device type according to ISO 13849-1	3
overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
safety device type according to IEC 61508-2	Type A
Electrical Safety	
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

#### Approvals Certificates

##### General Product Approval



KC



EMV	Functional Safety	Test Certificates	Maritime application
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[Type Examination Certificate](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Maritime application	other
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[Miscellaneous](#)

other	Railway	Environment
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[Confirmation](#)

[Special Test Certificate](#)



[Environmental Confirmations](#)

#### Further information

##### Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

##### 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=3RH2122-1AP00>

##### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2122-1AP00>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RH2122-1AP00>

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

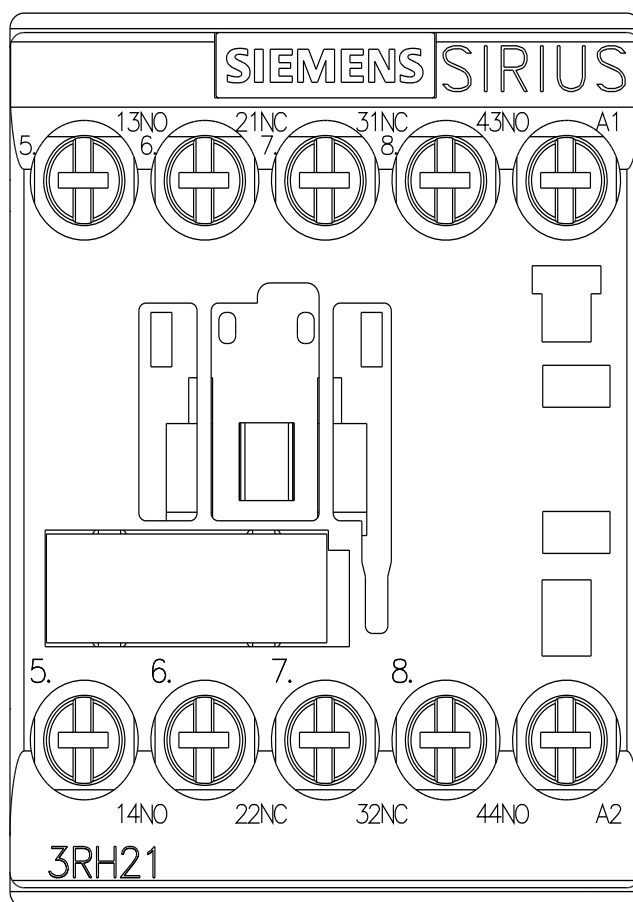
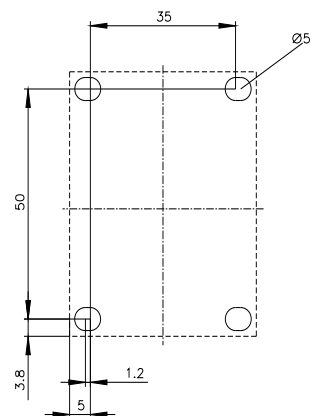
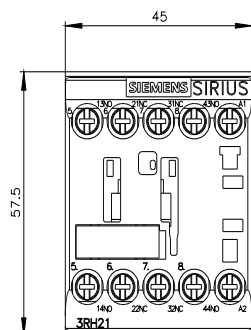
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RH2122-1AP00&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH2122-1AP00&lang=en)

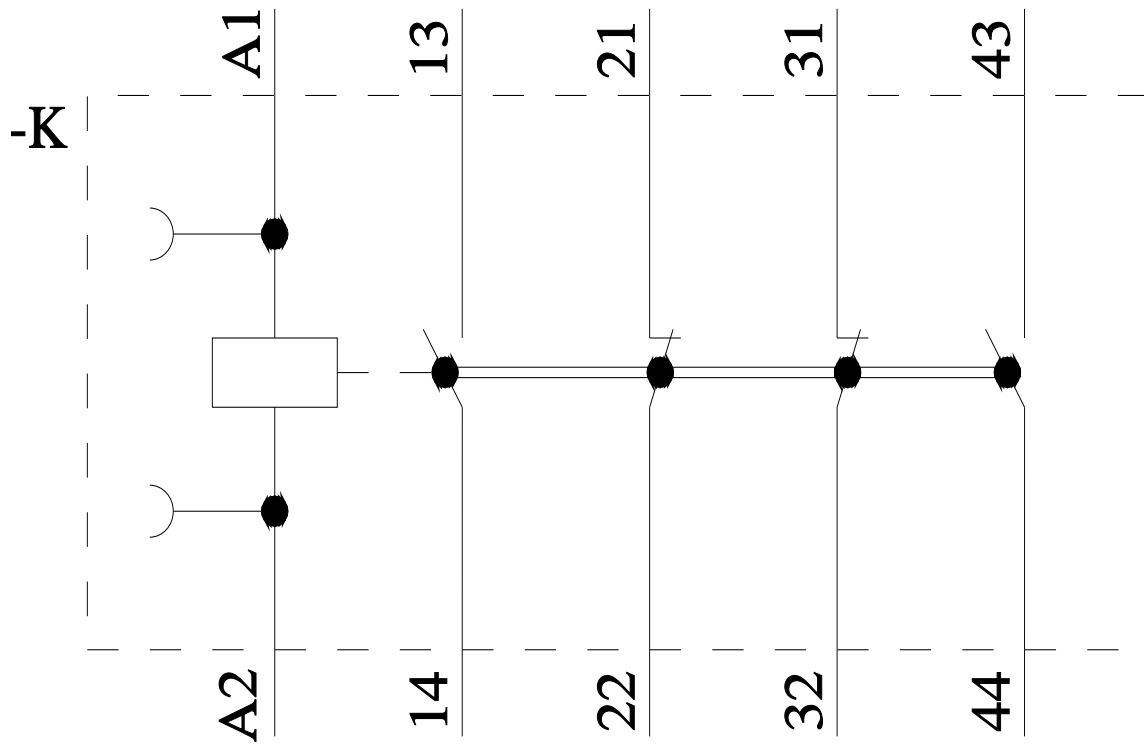
##### Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RH2122-1AP00/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2122-1AP00&objecttype=14&gridview=view1>





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