



contactor relay, 2 NO + 2 NC, 72 V DC, 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      | 4 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 DC   | 10 g / 5 ms, 5 g / 10 ms |
| shock resistance with sine pulse  |                          |
| • at DC   | 15 g / 5 ms, 8 g / 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 (day/month/year)  | 10/01/2009               |
| Net Weight  | 0.286 g                  |
| <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>Main circuit</b>   |                          |
| no-load switching frequency   |                          |
| • at AC   | 10 000 1/h               |
| • at DC   | 10 000 1/h               |
| <b>Control circuit/ Control</b>   |                          |
| type of voltage of the control supply voltage   | DC                       |
| control supply voltage at DC rated value  | 72 V                     |
| operating range factor control supply voltage rated value of magnet coil at DC        |                          |

|   |               |
|---|---------------|
| <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  |
| <b>Auxiliary circuit</b>  |               |
| <b>number of NC contacts for auxiliary contacts</b>                       | 2             |
| <ul style="list-style-type: none"> <li>• instantaneous contact</li> </ul> | 2             |
| <b>number of NO contacts for auxiliary contacts</b>                       | 2             |
| <ul style="list-style-type: none"> <li>• instantaneous contact</li> </ul> | 2             |
| <b>identification number and letter for switching elements</b>            | 22 E          |
| operational current at AC-12 maximum                                      | 10 A          |
| <b>operational current at AC-15</b>                                       |               |
| <ul style="list-style-type: none"> <li>• at 230 V rated value</li> </ul>  | 10 A          |
| <ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>  | 3 A           |
| <ul style="list-style-type: none"> <li>• at 500 V rated value</li> </ul>  | 2 A           |
| <ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>  | 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> </ul>   | 10 A          |
| <ul style="list-style-type: none"> <li>• at 60 V rated value</li> </ul>   | 6 A           |
| <ul style="list-style-type: none"> <li>• at 110 V rated value</li> </ul>  | 3 A           |
| <ul style="list-style-type: none"> <li>• at 220 V rated value</li> </ul>  | 1 A           |
| <ul style="list-style-type: none"> <li>• at 440 V rated value</li> </ul>  | 0.3 A         |
| <ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>  | 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> </ul>   | 10 A          |
| <ul style="list-style-type: none"> <li>• at 60 V rated value</li> </ul>   | 10 A          |
| <ul style="list-style-type: none"> <li>• at 110 V rated value</li> </ul>  | 4 A           |
| <ul style="list-style-type: none"> <li>• at 220 V rated value</li> </ul>  | 2 A           |
| <ul style="list-style-type: none"> <li>• at 440 V rated value</li> </ul>  | 1.3 A         |
| <ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>  | 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> </ul>   | 10 A          |
| <ul style="list-style-type: none"> <li>• at 60 V rated value</li> </ul>   | 10 A          |
| <ul style="list-style-type: none"> <li>• at 110 V rated value</li> </ul>  | 10 A          |
| <ul style="list-style-type: none"> <li>• at 220 V rated value</li> </ul>  | 3.6 A         |
| <ul style="list-style-type: none"> <li>• at 440 V rated value</li> </ul>  | 2.5 A         |
| <ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>  | 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> </ul>   | 10 A          |
| <ul style="list-style-type: none"> <li>• at 60 V rated value</li> </ul>   | 2 A           |
| <ul style="list-style-type: none"> <li>• at 110 V rated value</li> </ul>  | 1 A           |
| <ul style="list-style-type: none"> <li>• at 220 V rated value</li> </ul>  | 0.3 A         |
| <ul style="list-style-type: none"> <li>• at 440 V rated value</li> </ul>  | 0.14 A        |
| <ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>  | 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> </ul>   | 10 A          |
| <ul style="list-style-type: none"> <li>• at 60 V rated value</li> </ul>   | 3.5 A         |
| <ul style="list-style-type: none"> <li>• at 110 V rated value</li> </ul>  | 1.3 A         |
| <ul style="list-style-type: none"> <li>• at 220 V rated value</li> </ul>  | 0.9 A         |
| <ul style="list-style-type: none"> <li>• at 440 V rated value</li> </ul>  | 0.2 A         |
| <ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>  | 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> </ul>   | 10 A          |

|   |   |
|---|---|
| <ul style="list-style-type: none"> <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>   | 4.7 A<br>3 A<br>1.2 A<br>0.5 A<br>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  |
| design of the fuse link for short-circuit protection of the auxiliary switch required   | gG: 10 A (690 V, 1 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<br>10 mm<br>10 mm<br>0 mm<br><br>10 mm<br>10 mm<br>6 mm<br>10 mm<br><br>10 mm<br>10 mm<br>10 mm<br>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 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ), 2x 4 mm <sup>2</sup><br>2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )<br>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<br>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 %<br>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 31920</b>  | 100 FIT   |
| ISO 13849   |   |
| <b>device type according to ISO 13849-1</b>   | 3   |
| <b>overdimensioning according to ISO 13849-2 necessary</b>  | 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

|  |   |
|--|---|
| Environmental Product Declaration  |   |
| <ul style="list-style-type: none"> <li>global warming potential [CO2 eq] / during manufacturing</li> <li>global warming potential [CO2 eq] / during operation</li> <li>global warming potential [CO2 eq] / after end of life</li> <li>global warming potential [CO2 eq] / total</li> </ul> | <ul style="list-style-type: none"> <li>1.3 kg</li> <li>132 kg</li> <li>-0.227 kg</li> <li>133 kg</li> </ul> |

|             |                          |
|-------------|--------------------------|
| Environment | General Product Approval |
|-------------|--------------------------|

[Environmental Confirmations](#)



|                          |     |                   |
|--------------------------|-----|-------------------|
| General Product Approval | EMV | Functional Safety |
|--------------------------|-----|-------------------|



EG-Konf.



RCM

[Type Examination Certificate](#)

|                   |                      |
|-------------------|----------------------|
| Test Certificates | Maritime application |
|-------------------|----------------------|

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



ABS



BUREAU VERITAS



DNV



LRS

|                      |       |         |
|----------------------|-------|---------|
| Maritime application | other | Railway |
|----------------------|-------|---------|



RINA



RMRS

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QC PASS

[Special Test Certificate](#)

### Dangerous goods

[Transport Information](#)

### Further information

Information on the packaging

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

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RH2122-1BJ80>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RH2122-1BJ80>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RH2122-1BJ80&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH2122-1BJ80&lang=en)

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2122-1BJ80>

Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp\\_prod\\_noCOMP="HAUPT"></mmp\\_prod\\_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)







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