## SIEMENS

## Data sheet

## 3RH2131-1BP40



Contactor relay, 3 NO + 1 NC, 230 V DC, Size S00, screw terminal

| product brand name  | SIRIUS                 |
|---|------------------------|
| product designation   | Auxiliary contactor    |
| product type designation  | 3RH2                   |
| General technical data  |                        |
| 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   | 10g / 5 ms, 5g / 10 ms |
| shock resistance with sine pulse  |                        |
| • at DC   | 15g / 5 ms, 8g / 10 ms |
| mechanical service life (operating cycles)  |                        |
| <ul> <li>of contactor typical</li> </ul>  | 30 000 000             |
| <ul> <li>of the contactor with added electronically optimized<br/>auxiliary switch block typical</li> </ul> | 5 000 000              |
| <ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>                              | 10 000 000             |
| reference code according to IEC 81346-2   | К                      |
| Substance Prohibitance (Date)   | 10/01/2009             |
| Ambient conditions  |                        |
| 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 %                   |
| Environmental footprint   |                        |
| Environmental Product Declaration(EPD)  | Yes                    |
| Global Warming Potential [CO2 eq] total   | 133 kg                 |
| Global Warming Potential [CO2 eq] during manufacturing  | 1.3 kg                 |
| Global Warming Potential [CO2 eq] during operation  | 132 kg                 |
| Global Warming Potential [CO2 eq] after end of life   | -0.227 kg              |
| Main circuit  |                        |
| no-load switching frequency   |                        |
| • at AC   | 10 000 1/h             |
| • at DC   | 10 000 1/h             |
| Control circuit/ Control  |                        |

| 4   | DO             |
|---|----------------|
| type of voltage of the control supply voltage                                     | DC             |
| control supply voltage at DC  |                |
| rated value   | 230 V          |
| operating range factor control supply voltage rated value of<br>magnet coil at DC |                |
| <ul> <li>initial value</li> </ul>   | 0.8            |
| • full-scale value  | 1.1            |
| closing power of magnet coil at DC  | 4 W            |
| holding power of magnet coil at DC  | 4 W            |
| closing delay   |                |
| • at DC   | 30 100 ms      |
| opening delay   |                |
| • at DC   | 7 13 ms        |
| arcing time   | 10 15 ms       |
| Auxiliary circuit   |                |
| number of NC contacts for auxiliary contacts                                      | 1              |
| instantaneous contact   | 1              |
| number of NO contacts for auxiliary contacts                                      | 3              |
| instantaneous contact   | 3              |
| identification number and letter for switching elements                           | 31 E           |
| operational current at AC-12 maximum  | 10 A           |
| operational current at AC-15  |                |
| 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            |
| operational current at 1 current path at DC-12                                    |                |
| • at 24 V rated value   | 10 A           |
| at 110 V rated value  | 3 A            |
| at 220 V rated value  | 1A             |
| at 440 V rated value  | 0.3 A          |
| at 600 V rated value  | 0.15 A         |
| operational current with 2 current paths in series at DC-12                       |                |
| • 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         |
| operational current with 3 current paths in series at DC-12                       | 10.4           |
| at 24 V rated value   | 10 A<br>10 A   |
| <ul> <li>at 60 V rated value</li> <li>at 110 V rated value</li> </ul>             | 10 A<br>10 A   |
| at 110 V rated value     at 220 V rated value                                     | 3.6 A          |
| at 220 V rated value     at 440 V rated value                                     | 2.5 A          |
| at 440 V rated value     at 600 V rated value                                     | 2.5 A<br>1.8 A |
| operating frequency at DC-12 maximum  | 1 000 1/h      |
| operational current at 1 current path at DC-13                                    |                |
| • at 24 V rated value   | 10 A           |
| at 110 V rated value  | 1A             |
| at 220 V rated value  | 0.3 A          |
| at 440 V rated value  | 0.14 A         |
| at 600 V rated value  | 0.1 A          |
| operational current with 2 current paths in series at DC-13                       |                |
| • 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          |
| operational current with 3 current paths in series at DC-13                       |                |
|   |                |

| <ul> <li>at 24 V rated value</li> </ul>   | 10 A   |
|---|--|
| <ul> <li>at 60 V rated value</li> </ul>   | 4.7 A  |
| <ul> <li>at 110 V rated value</li> </ul>  | 3 A  |
| <ul> <li>at 220 V rated value</li> </ul>  | 1.2 A  |
| <ul> <li>at 440 V rated value</li> </ul>  | 0.5 A  |
| • at 600 V rated value  | 0.26 A   |
| operating frequency at DC-13 maximum  | 1 000 1/h  |
| design of the miniature circuit breaker for short-circuit protection                  | C characteristic: 6 A; 0.4 kA  |
| of the auxiliary circuit up to 230 V  |  |
| contact reliability of auxiliary contacts   | 1 faulty switching per 100 million (17 V, 1 mA)  |
| UL/CSA ratings  |  |
| contact rating of auxiliary contacts according to UL                                  | A600 / Q600  |
| Short-circuit protection  |  |
| design of the fuse link for short-circuit protection of the auxiliary switch required | fuse gL/gG: 10 A   |
| Installation/ mounting/ dimensions  |  |
| mounting position   | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface |
| fastening method  | screw and snap-on mounting onto 35 mm DIN rail   |
| height  | 57.5 mm  |
| width   | 45 mm  |
| depth   | 73 mm  |
| required spacing  |  |
| <ul> <li>with side-by-side mounting</li> </ul>  |  |
| — forwards  | 10 mm  |
| — upwards   | 10 mm  |
| — downwards   | 10 mm  |
| — at the side   | 0 mm   |
| <ul> <li>for grounded parts</li> </ul>  |  |
| — forwards  | 10 mm  |
| — upwards   | 10 mm  |
| — at the side   | 6 mm   |
| — downwards   | 10 mm  |
| <ul> <li>for live parts</li> </ul>  |  |
| — forwards  | 10 mm  |
| — upwards   | 10 mm  |
| — downwards   | 10 mm  |
| — at the side   | 6 mm   |
| Connections/ Terminals  |  |
| type of electrical connection for auxiliary and control circuit                       | screw-type terminals   |
| type of connectable conductor cross-sections  |  |
| <ul> <li>for auxiliary contacts</li> </ul>  |  |
| — solid or stranded   | 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²  |
| <ul> <li>finely stranded with core end processing</li> </ul>                          | 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)  |
| for AWG cables for auxiliary contacts   | 2x (20 16), 2x (18 14), 2x 12  |
| Safety related data   |  |
| proportion of dangerous failures  |  |
| with low demand rate according to SN 31920  | 40 %   |
| <ul> <li>with high demand rate according to SN 31920</li> </ul>                       | 73 %   |
| failure rate [FIT] with low demand rate according to SN 31920                         | 100 FIT  |
| B10 value with high demand rate according to SN 31920                                 | 1 000 000; With 0.3 x le   |
| product function positively driven operation according to                             | Yes  |
| IEC 60947-5-1<br>IEC 61508  |  |
| T1 value for proof test interval or service life according to                         | 20 a   |
| IEC 61508<br>Electrical Safety  |  |
| protection class IP on the front according to IEC 60529                               | IP20   |
| touch protection on the front according to IEC 60529                                  |  |
| Approvals Certificates  | finger-safe, for vertical contact from the front   |
|   |  |
| General Product Approval  |  |

| SF<br>CSA             | CE<br>EG-Konf.      | UK<br>CA                   | <u>Confirmation</u>                         | CCC                                     |                   |
|-----------------------|---------------------|----------------------------|---|---|-------------------|
| General Product Appro | oval                | EMV                        | Test Certificates                           |   | Marine / Shipping |
| KC                    | EAC                 | RCM                        | <u>Special Test Certific-</u><br><u>ate</u> | Type Test Certific-<br>ates/Test Report | ABS               |
| Marine / Shipping     |                     |                            |   |   |                   |
| BUREAU<br>VERITAS     |                     | Llovd's<br>Register<br>urs | PRS   | RINA                                    | KMRS RMRS         |
| other                 |                     | Dangerous Good             |   |   |                   |
| Miscellaneous         | <b>Confirmation</b> | Transport Information      |   |   |                   |

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=3RH2131-1BP40

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2131-1BP40

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

https://support.industry.siemens.com/cs/ww/en/ps/3RH2131-1BP40

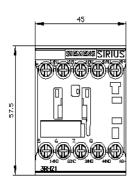
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

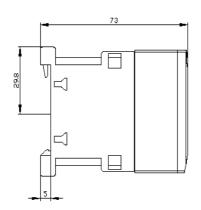
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RH2131-1BP40&lang=en

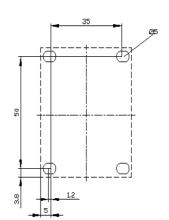
Characteristic: Tripping characteristics, I2t, Let-through current

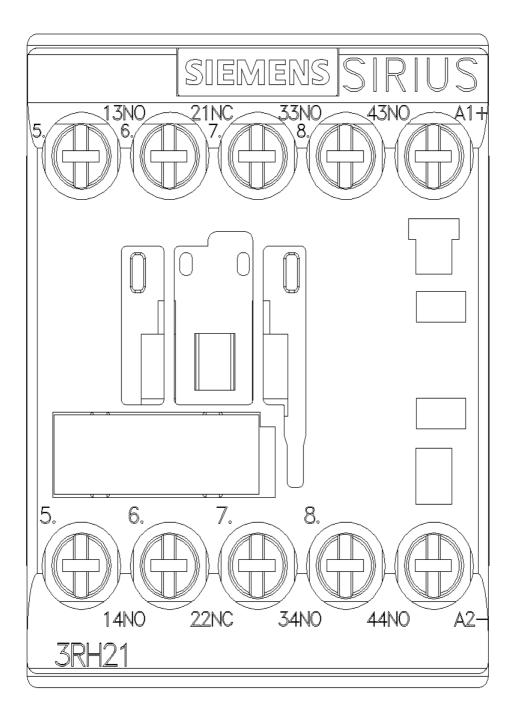
https://support.industry.siemens.com/cs/ww/en/ps/3RH2131-1BP40/char

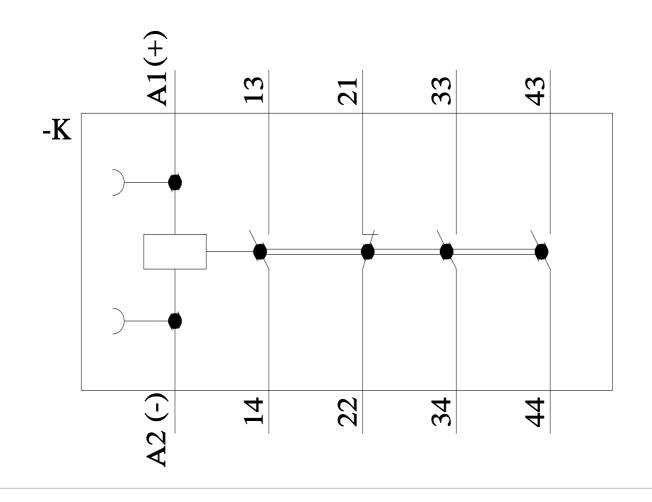
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2131-1BP40&objecttype=14&gridview=view1











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