SIEMENS

## Data sheet 3RH2131-1AB00

CONTACTOR RELAY, 3NO+1NC, AC 24V, 50/60 HZ, SIZE S00, SCREW TERMINAL


| | |
|---|---|
| **product brandname** | SIRIUS |
| **Product designation** | contactor relay |
| **Product type designation** | 3RH2 |

| General technical data | |
|---|---|
| **Size of contactor** | S00 |
| **Product extension** | |
| • Auxiliary switch | Yes |
| **Insulation voltage** | |
| • with degree of pollution 3 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 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 (switching cycles)** | |
| • of contactor typical | 30 000 000 |

| | |
|---|---|
| • of the contactor with added electronics-compatible auxiliary switch block typical | 5 000 000 |
| • of the contactor with added auxiliary switch block typical | 10 000 000 |
| **Equipment marking** | |
| • acc. to DIN EN 61346-2 | K |
| • acc. to DIN EN 81346-2 | K |
| **Ambient conditions** | |
| **Ambient temperature** | |
| • during operation | -25 ... +60 °C |
| • during storage | -55 ... +80 °C |
| **Main circuit** | |
| **No-load switching frequency** | |
| • at AC | 10 000 1/h |
| • at DC | 10 000 1/h |
| **Control circuit/ Control** | |
| **Type of voltage of the control supply voltage** | AC |
| **Control supply voltage at AC** | |
| • at 50 Hz rated value | 24 V |
| • at 60 Hz rated value | 24 V |
| **Operating range factor control supply voltage rated value of magnet coil at AC** | |
| • at 50 Hz | 0.8 ... 1.1 |
| • at 60 Hz | 0.85 ... 1.1 |
| **Apparent pick-up power of magnet coil at AC** | 37 V·A |
| **Inductive power factor with closing power of the coil** | 0.8 |
| **Apparent holding power of magnet coil at AC** | 5.7 V·A |
| **Inductive power factor with the holding power of the coil** | 0.25 |
| **Closing delay** | |
| • at AC | 8 ... 33 ms |
| **Opening delay** | |
| • at AC | 4 ... 15 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 |
| Operating current at AC-12 maximum | 10 A |
| **Operating 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 |
| **Operating 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 | 1 A |
| • at 440 V rated value | 0.3 A |
| • at 600 V rated value | 0.15 A |
| **Operating 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 |
| **Operating current with 3 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 | 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 |
| **Operating frequency at DC-12 maximum** | 1 000 1/h |
| **Operating current at 1 current path at DC-13** | |
| • 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 |
| **Operating 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 |
| **Operating current with 3 current paths in series at DC-13** | |
| • at 24 V rated value | 10 A |
| • at 60 V rated value | 4.7 A |
| • at 110 V rated value | 3 A |
| • at 220 V rated value | 1.2 A |
| • at 440 V rated value | 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 of the auxiliary circuit up to 230 V | C characteristic: 6 A; 0.4 kA |
| **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

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|---|---|
| **Design of the fuse link** | |
| • for short-circuit protection of the auxiliary switch required | fuse gL/gG: 10 A |

## Installation/ mounting/ dimensions

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|---|---|
| **Mounting position** | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface |
| **Mounting type** | screw and snap-on mounting onto 35 mm standard mounting rail |
| **Height** | 57.5 mm |
| **Width** | 45 mm |
| **Depth** | 73 mm |
| **Required spacing** | |
| • for grounded parts | |
| — at the side | 6 mm |
| • for live parts | |
| — at the side | 6 mm |

## Connections/Terminals

| | |
|---|---|
| **Type of electrical connection** | |
| • for auxiliary and control current circuit | screw-type terminals |
| **Type of connectable conductor cross-sections** | |
| • for auxiliary contacts | |
| — single or multi-stranded | 2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), 2x 4 mm² |

| | |
|---|---|
| — finely stranded with core end processing | 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) |
| • at AWG conductors for auxiliary contacts | 2x (20 ... 16), 2x (18 ... 14), 2x 12 |

## Safety related data

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| **B10 value** | |
| • with high demand rate acc. to SN 31920 | 1 000 000; With 0.3 x Ie |
| **Proportion of dangerous failures** | |
| • with low demand rate acc. to SN 31920 | 40 % |
| • with high demand rate acc. to SN 31920 | 73 % |
| **Failure rate [FIT]** | |
| • with low demand rate acc. to SN 31920 | 100 FIT |
| **Product function** | |
| • positively driven operation acc. to IEC 60947-5-1 | Yes |
| **T1 value for proof test interval or service life acc. to IEC 61508** | 20 y |

## Certificates/approvals

| General Product Approval | | | | Functional Safety/Safety of Machinery | Declaration of Conformity |
|---|---|---|---|---|---|
| CCC | CSA | UL | EAC | Type Examination | EG-Konf. |

| Test Certificates | | Shipping Approval | | | |
|---|---|---|---|---|---|
| Special Test Certificate | Type Test Certificates/Test Report | ABS | BUREAU VERITAS | GL | LRS |

| Shipping Approval | | | other | |
|---|---|---|---|---|
| PRS | RINA | RMRS | Environmental Confirmations | Confirmation |

VDE

## Further information

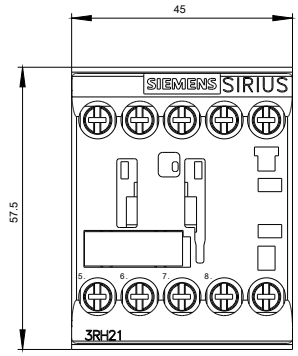
**Information- and Downloadcenter (Catalogs, Brochures,…)**
http://www.siemens.com/industrial-controls/catalogs

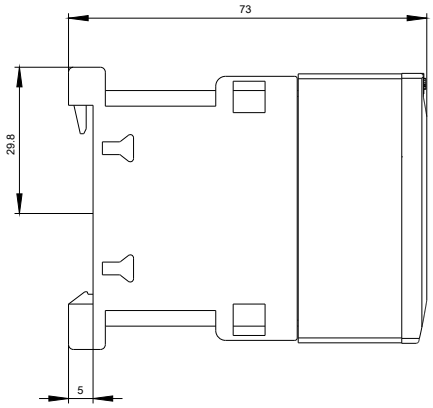
**Industry Mall (Online ordering system)**
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RH2131-1AB00

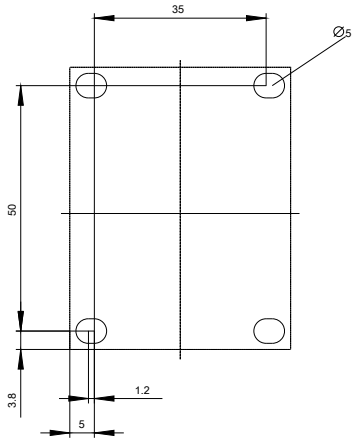
**Cax online generator**
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2131-1AB00

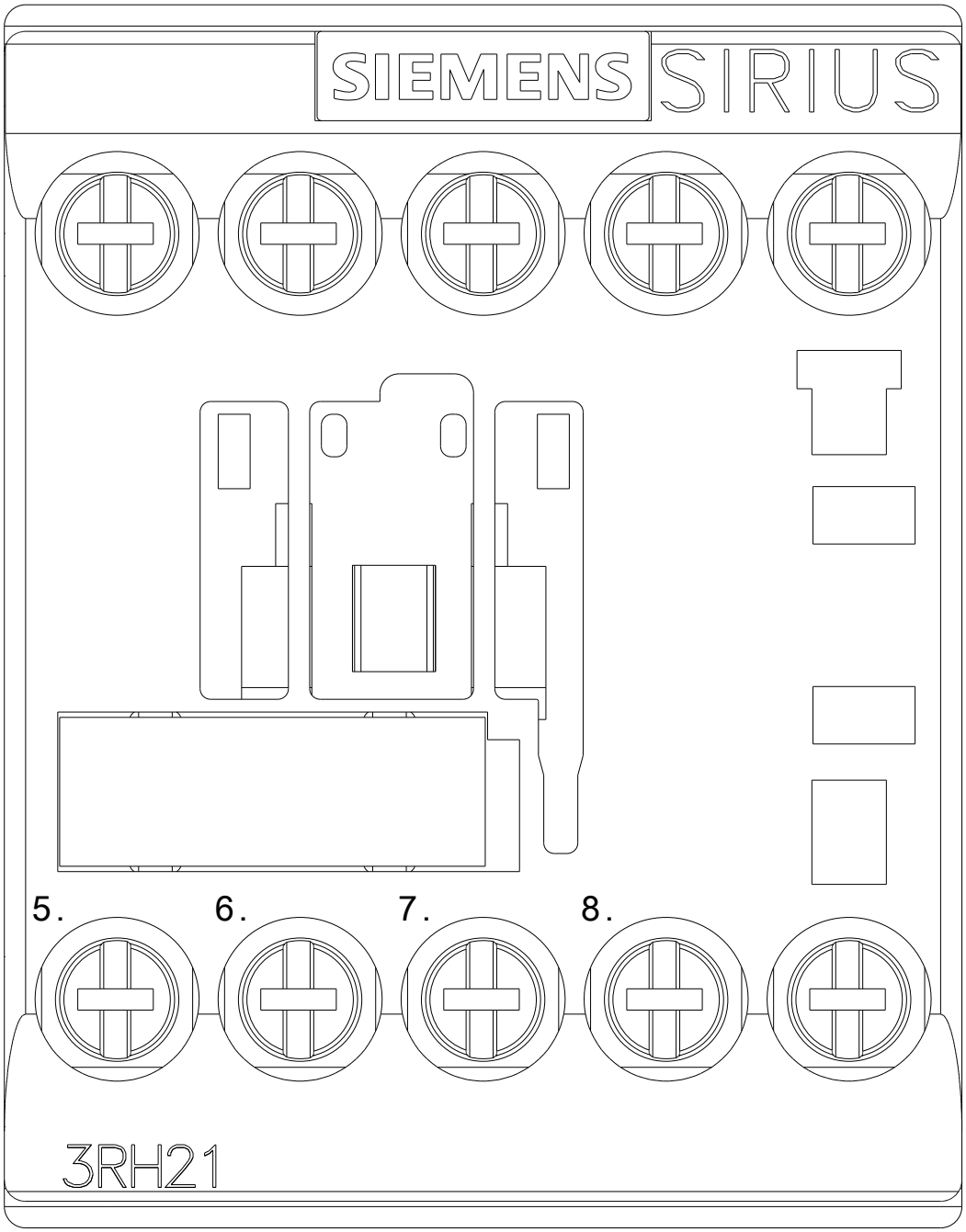
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
https://support.industry.siemens.com/cs/ww/en/ps/3RH2131-1AB00

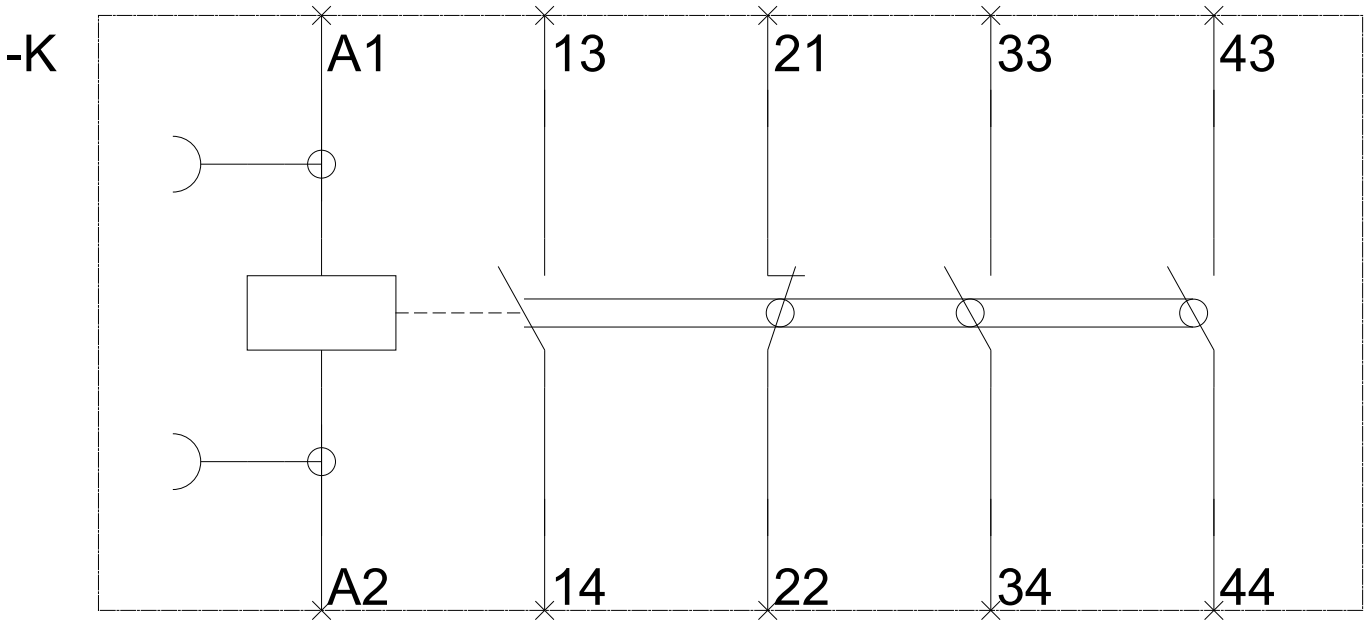
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH2131-1AB00&lang=en





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