



Coupling contactor relay, 4 NO, 24 V DC, 0.7 ... 1.25* US, with integrated suppressor diode, Size S00, screw terminal suitable for PLC outputs

| | |
|--------------------------|---|
| product brand name | SIRIUS |
| product designation | Coupling relay for switching auxiliary circuits |
| product type designation | 3RH2 |

General technical data

| | |
|---|------------------------|
| size of contactor | S00 |
| product extension auxiliary switch | No |
| 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) | |
| • of contactor typical | 30 000 000 |
| reference code according to IEC 81346-2 | K |
| Substance Prohibition (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 % |

Main circuit

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|-----------------------------|------------|
| 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 | DC |
| control supply voltage at DC | |
| • rated value | 24 V |
| operating range factor control supply voltage rated value of magnet coil at DC | |
| • initial value | 0.7 |
| • full-scale value | 1.25 |
| design of the surge suppressor | suppressor diode |
| closing power of magnet coil at DC | 2.8 W |
| holding power of magnet coil at DC | 2.8 W |
| closing delay | |

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|---|---|
| <ul style="list-style-type: none"> • at DC | 25 ... 130 ms |
| opening delay | |
| <ul style="list-style-type: none"> • at DC | 7 ... 20 ms |
| arcing time | 10 ... 15 ms |
| Auxiliary circuit | |
| number of NO contacts for auxiliary contacts | 4 |
| <ul style="list-style-type: none"> • instantaneous contact | 4 |
| identification number and letter for switching elements | 40 E |
| operational current at AC-12 maximum | 10 A |
| operational current at AC-15 | |
| <ul style="list-style-type: none"> • at 230 V rated value | 10 A |
| <ul style="list-style-type: none"> • at 400 V rated value | 3 A |
| <ul style="list-style-type: none"> • at 500 V rated value | 2 A |
| <ul style="list-style-type: none"> • at 690 V rated value | 1 A |
| operational current at 1 current path at DC-12 | |
| <ul style="list-style-type: none"> • at 24 V rated value | 10 A |
| <ul style="list-style-type: none"> • at 110 V rated value | 3 A |
| <ul style="list-style-type: none"> • at 220 V rated value | 1 A |
| <ul style="list-style-type: none"> • at 440 V rated value | 0.3 A |
| <ul style="list-style-type: none"> • at 600 V rated value | 0.15 A |
| operational current with 2 current paths in series at DC-12 | |
| <ul style="list-style-type: none"> • at 24 V rated value | 10 A |
| <ul style="list-style-type: none"> • at 60 V rated value | 10 A |
| <ul style="list-style-type: none"> • at 110 V rated value | 4 A |
| <ul style="list-style-type: none"> • at 220 V rated value | 2 A |
| <ul style="list-style-type: none"> • at 440 V rated value | 1.3 A |
| <ul style="list-style-type: none"> • at 600 V rated value | 0.65 A |
| operational current with 3 current paths in series at DC-12 | |
| <ul style="list-style-type: none"> • at 24 V rated value | 10 A |
| <ul style="list-style-type: none"> • at 60 V rated value | 10 A |
| <ul style="list-style-type: none"> • at 110 V rated value | 10 A |
| <ul style="list-style-type: none"> • at 220 V rated value | 3.6 A |
| <ul style="list-style-type: none"> • at 440 V rated value | 2.5 A |
| <ul style="list-style-type: none"> • at 600 V rated value | 1.8 A |
| operating frequency at DC-12 maximum | 1 000 1/h |
| operational current at 1 current path at DC-13 | |
| <ul style="list-style-type: none"> • at 24 V rated value | 10 A |
| <ul style="list-style-type: none"> • at 110 V rated value | 1 A |
| <ul style="list-style-type: none"> • at 220 V rated value | 0.3 A |
| <ul style="list-style-type: none"> • at 440 V rated value | 0.14 A |
| <ul style="list-style-type: none"> • at 600 V rated value | 0.1 A |
| operational current with 2 current paths in series at DC-13 | |
| <ul style="list-style-type: none"> • at 24 V rated value | 10 A |
| <ul style="list-style-type: none"> • at 60 V rated value | 3.5 A |
| <ul style="list-style-type: none"> • at 110 V rated value | 1.3 A |
| <ul style="list-style-type: none"> • at 220 V rated value | 0.9 A |
| <ul style="list-style-type: none"> • at 440 V rated value | 0.2 A |
| <ul style="list-style-type: none"> • at 600 V rated value | 0.1 A |
| operational current with 3 current paths in series at DC-13 | |
| <ul style="list-style-type: none"> • at 24 V rated value | 10 A |
| <ul style="list-style-type: none"> • at 60 V rated value | 4.7 A |
| <ul style="list-style-type: none"> • at 110 V rated value | 3 A |
| <ul style="list-style-type: none"> • at 220 V rated value | 1.2 A |
| <ul style="list-style-type: none"> • at 440 V rated value | 0.5 A |
| <ul style="list-style-type: none"> • 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 | |
| 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 style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards 10 mm — upwards 10 mm — downwards 10 mm — at the side 0 mm • for grounded parts <ul style="list-style-type: none"> — forwards 10 mm — upwards 10 mm — at the side 6 mm — downwards 10 mm • for live parts <ul style="list-style-type: none"> — 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 style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — solid or 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 cables for auxiliary contacts 2x (20 ... 16), 2x (18 ... 14), 2x 12 | |
| Safety related data | |
| product function positively driven operation according to IEC 60947-5-1 | Yes |
| B10 value with high demand rate according to SN 31920 | 1 000 000; With 0.3 x I _e |
| proportion of dangerous failures | |
| <ul style="list-style-type: none"> • with low demand rate according to SN 31920 40 % • with high demand rate according to SN 31920 73 % | |
| failure rate [FIT] with low demand rate according to SN 31920 | 100 FIT |
| T1 value for proof test interval or service life according to IEC 61508 | 20 a |
| 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 | |



[Confirmation](#)



[KC](#)



| | | | |
|-----|---------------------------------------|---------------------------|-------------------|
| EMC | Functional Safety/Safety of Machinery | Declaration of Conformity | Test Certificates |
|-----|---------------------------------------|---------------------------|-------------------|



[Type Examination Certificate](#)



EG-Konf.

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

Test Certificates

Marine / Shipping

[Miscellaneous](#)



Marine / Shipping

other

Railway

Dangerous Good



[Confirmation](#)



[Vibration and Shock](#)

[Transport Information](#)

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=3RH2140-1KB40>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2140-1KB40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RH2140-1KB40>

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

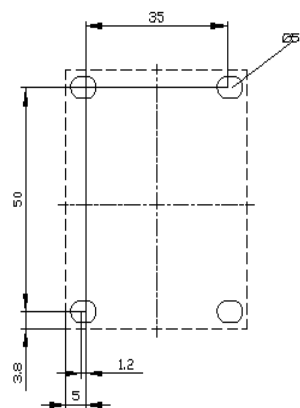
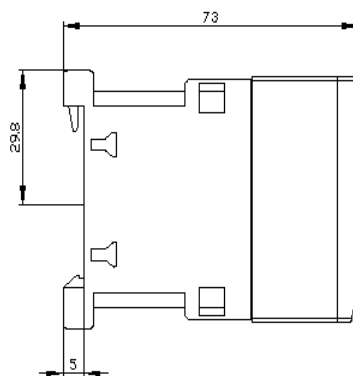
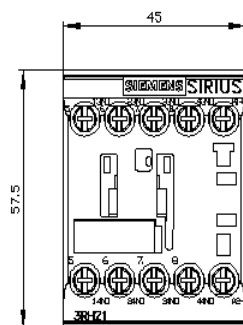
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH2140-1KB40&lang=en

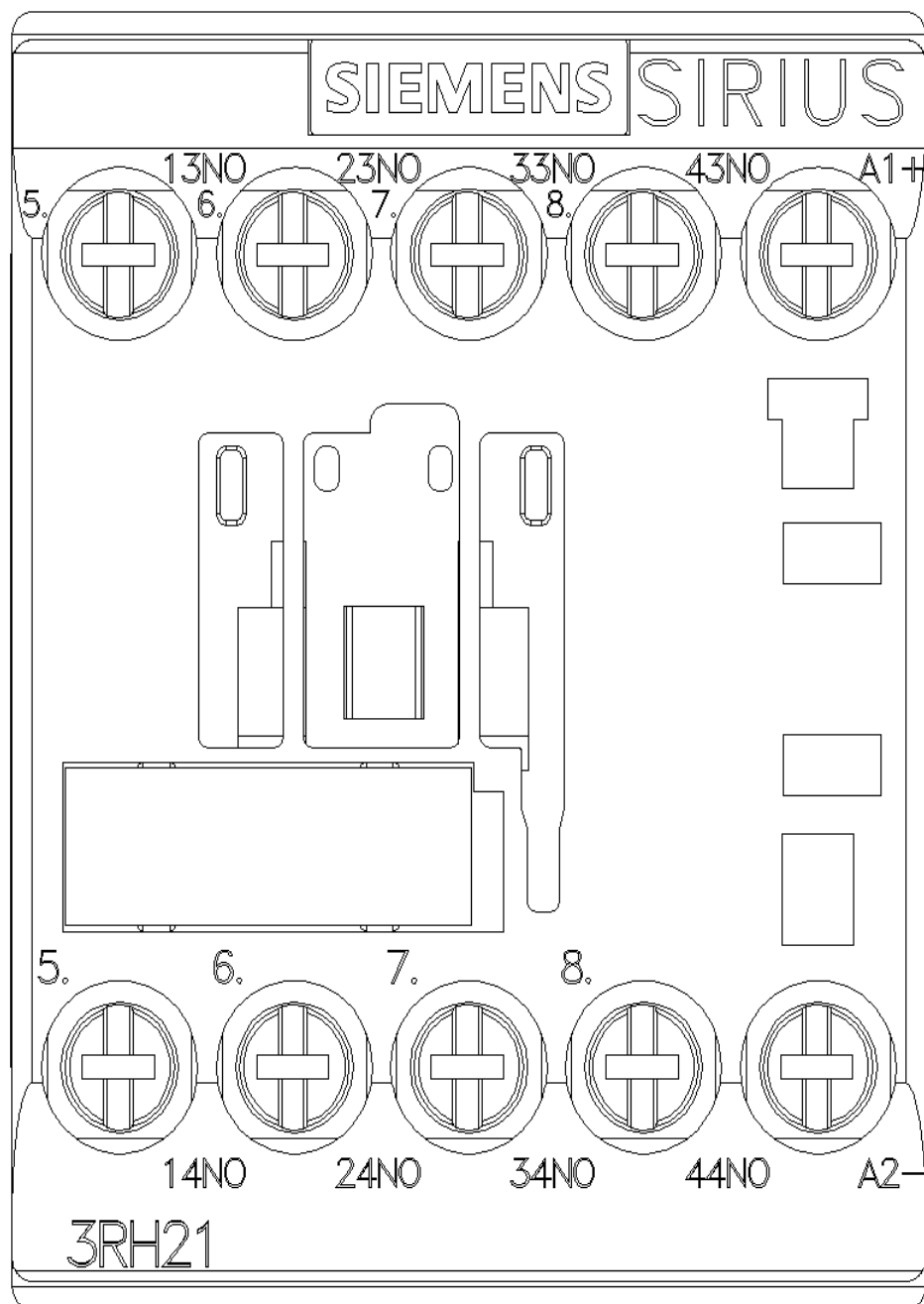
Characteristic: Tripping characteristics, I^2t , Let-through current

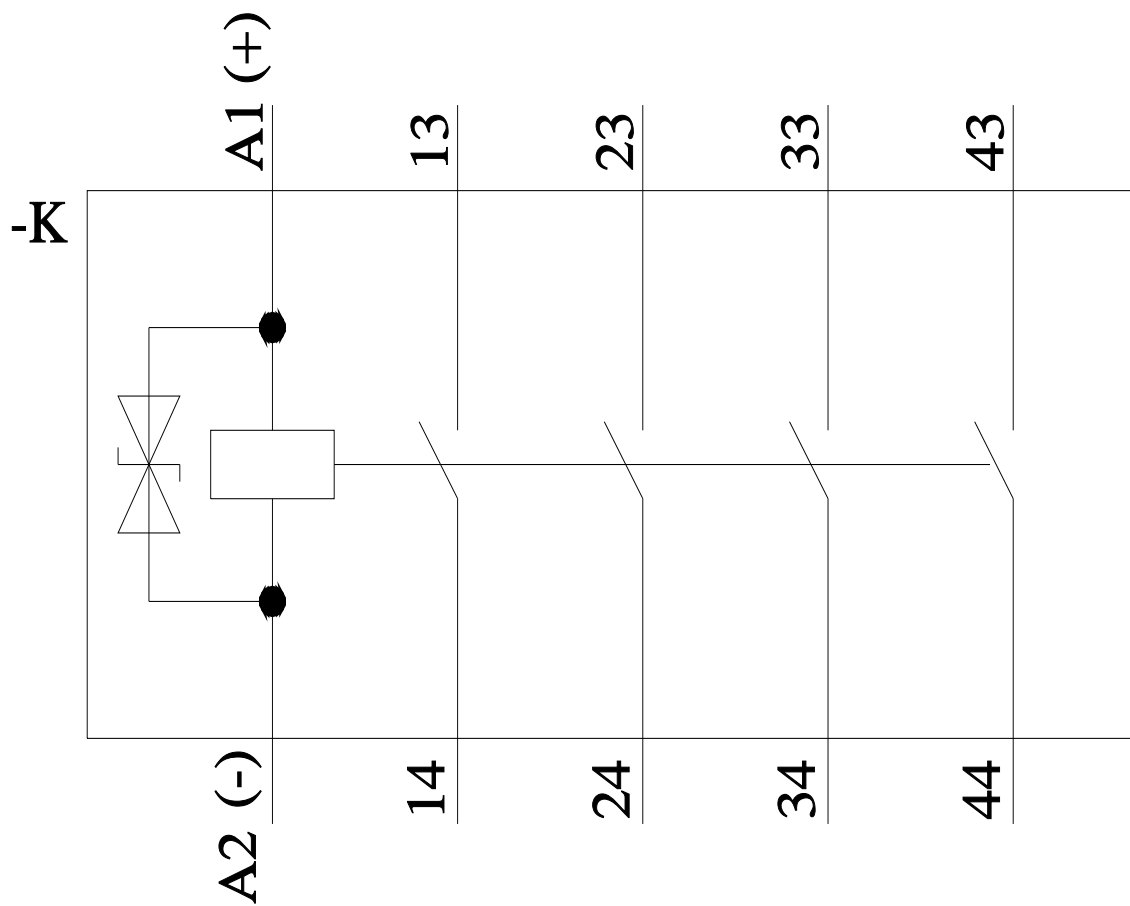
<https://support.industry.siemens.com/cs/ww/en/ps/3RH2140-1KB40/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2140-1KB40&objecttype=14&gridview=view1>







last modified:

11/21/2022 [↗](#)