

Coupling contactor relay railway 2 NO + 2 NC, 110 V DC, 0.7 ... 1.25\* US, with varistor integrated, Size S00, Spring-type terminal

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

### General technical data

|                                                                 |                        |
|-----------------------------------------------------------------|------------------------|
| <b>size of contactor</b>                                        | S00                    |
| product extension auxiliary switch                              | No                     |
| insulation voltage with degree of pollution 3 at AC rated value | 690 V                  |
| <b>degree of pollution</b>                                      | 3                      |
| <b>surge voltage resistance rated value</b>                     | 6 kV                   |
| <b>shock resistance at rectangular impulse</b>                  |                        |
| • at DC                                                         | 10g / 5 ms, 5g / 10 ms |
| <b>shock resistance with sine pulse</b>                         |                        |
| • at DC                                                         | 15g / 5 ms, 8g / 10 ms |
| <b>mechanical service life (operating cycles)</b>               |                        |
| • of contactor typical                                          | 30 000 000             |
| <b>reference code according to IEC 81346-2</b>                  | K                      |
| <b>Substance Prohibition (Date)</b>                             | 10/01/2009             |

### Ambient conditions

|                                                                       |                |
|-----------------------------------------------------------------------|----------------|
| installation altitude at height above sea level maximum               | 2 000 m        |
| <b>ambient temperature</b>                                            |                |
| • during operation                                                    | -25 ... +60 °C |
| • during storage                                                      | -55 ... +80 °C |
| <b>relative humidity minimum</b>                                      | 10 %           |
| <b>relative humidity at 55 °C according to IEC 60068-2-30 maximum</b> | 95 %           |

### Main circuit

|                                    |            |
|------------------------------------|------------|
| <b>no-load switching frequency</b> |            |
| • 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>                                  | DC            |
| <b>control supply voltage at DC</b>                                                   |               |
| • rated value                                                                         | 110 V         |
| <b>operating range factor control supply voltage rated value of magnet coil at DC</b> |               |
| • initial value                                                                       | 0.7           |
| • full-scale value                                                                    | 1.25          |
| <b>design of the surge suppressor</b>                                                 | with varistor |
| <b>closing power of magnet coil at DC</b>                                             | 2.8 W         |
| <b>holding power of magnet coil at DC</b>                                             | 2.8 W         |
| <b>closing delay</b>                                                                  |               |
| • at DC                                                                               | 25 ... 130 ms |
| <b>opening delay</b>                                                                  |               |
| • at DC                                                                               | 7 ... 20 ms   |
| <b>arcing time</b>                                                                    | 10 ... 15 ms  |

### Auxiliary circuit

|                                                                |      |
|----------------------------------------------------------------|------|
| <b>number of NC contacts for auxiliary contacts</b>            | 2    |
| • instantaneous contact                                        | 2    |
| <b>number of NO contacts for auxiliary contacts</b>            | 2    |
| • instantaneous contact                                        | 2    |
| <b>identification number and letter for switching elements</b> | 22 E |

operational current at AC-12 maximum

**operational current at AC-15**

- at 230 V rated value
- at 400 V rated value
- at 500 V rated value
- at 690 V rated value

**operational current at 1 current path at DC-12**

- at 24 V rated value
- at 110 V rated value
- at 220 V rated value
- at 440 V rated value
- at 600 V rated value

**operational current with 2 current paths in series at DC-12**

- at 24 V rated value
- at 60 V rated value
- at 110 V rated value
- at 220 V rated value
- at 440 V rated value
- at 600 V rated value

**operational current with 3 current paths in series at DC-12**

- at 24 V rated value
- at 60 V rated value
- at 110 V rated value
- at 220 V rated value
- at 440 V rated value
- at 600 V rated value

**operating frequency at DC-12 maximum**

**operational current at 1 current path at DC-13**

- at 24 V rated value
- at 110 V rated value
- at 220 V rated value
- at 440 V rated value
- at 600 V rated value

**operational current with 2 current paths in series at DC-13**

- at 24 V rated value
- at 60 V rated value
- at 110 V rated value
- at 220 V rated value
- at 440 V rated value
- at 600 V rated value

**operational current with 3 current paths in series at DC-13**

- at 24 V rated value
- at 60 V rated value
- at 110 V rated value
- at 220 V rated value
- at 440 V rated value
- at 600 V rated value

**operating frequency at DC-13 maximum**

design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V

**contact reliability of auxiliary contacts**

10 A

10 A  
3 A  
2 A  
1 A

10 A  
3 A  
1 A  
0.3 A  
0.15 A

10 A  
10 A  
4 A  
2 A  
1.3 A  
0.65 A

10 A  
10 A  
10 A  
3.6 A  
2.5 A  
1.8 A  
1 000 1/h

10 A  
1 A  
0.3 A  
0.14 A  
0.1 A

10 A  
3.5 A  
1.3 A  
0.9 A  
0.2 A  
0.1 A

10 A  
4.7 A  
3 A  
1.2 A  
0.5 A  
0.26 A  
1 000 1/h

C characteristic: 6 A; 0.4 kA

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 70 mm                                                                                                         |
| width                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 45 mm                                                                                                         |
| depth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 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 |

#### Connections/ Terminals

|                                                                                                                                                                                                                                                                                                              |                                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| type of electrical connection for auxiliary and control circuit                                                                                                                                                                                                                                              | spring-loaded 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> <li>— finely stranded without core end processing</li> </ul> </li> <li>• at AWG cables for auxiliary contacts</li> </ul> | 2x (0,5 ... 4 mm <sup>2</sup> )<br>2x (0.5 ... 2.5 mm <sup>2</sup> )<br>2x (0.5 ... 2.5 mm <sup>2</sup> )<br>2x (20 ... 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 <sub>e</sub>             |
| <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 %                                     |
| 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                                             |
| <b>protection class IP on the front according to IEC 60529</b>                                                                                        | IP20                                             |
| <b>touch protection on the front according to IEC 60529</b>                                                                                           | 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 | Marine / Shipping |
|-----|---------------------------------------|---------------------------|-------------------|-------------------|
|-----|---------------------------------------|---------------------------|-------------------|-------------------|



[Type Examination Certificate](#)



[Type Test Certificates/Test Report](#)



##### 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=3RH2122-2LF40>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2122-2LF40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RH2122-2LF40>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RH2122-2LF40&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH2122-2LF40&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RH2122-2LF40/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2122-2LF40&objecttype=14&gridview=view1>

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