



Timing relay, electronic Multifunction, 16 functions 2 change-over contacts 24 to 240 V AC/DC at 50/60 Hz AC 0.05 s to 100 h Overall width 45 mm screw terminal

|   |   |
|---|---|
| product brand name  | SIRIUS  |
| product designation   | timing relay  |
| design of the product   | Multifunctional   |
| product type designation  | 3RP20   |
| <b>General technical data</b>   |   |
| product feature protective coating on printed-circuit board   | No  |
| product component   |   |
| • relay output  | Yes   |
| • semi-conductor output   | No  |
| product extension required remote control   | No  |
| product extension optional remote control   | No  |
| power loss [W] maximum  | 2 W   |
| insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value | 300 V   |
| test voltage for isolation test   | 2 kV  |
| degree of pollution   | 3   |
| surge voltage resistance rated value  | 4 000 V   |
| shock resistance according to IEC 60068-2-27  | 11g / 15 ms   |
| vibration resistance according to IEC 60068-2-6   | 10 ... 55 Hz / 0.35 mm  |
| mechanical service life (operating cycles) typical  | 10 000 000  |
| electrical endurance (operating cycles) at AC-15 at 230 V typical   | 100 000   |
| adjustable time   | 0.05 s ... 100 h  |
| relative setting accuracy relating to full-scale value  | 5 %; +/-  |
| thermal current   | 5 A   |
| minimum ON period   | 35 ms   |
| recovery time   | 150 ms  |
| reference code according to IEC 81346-2   | K   |
| relative repeat accuracy  | 1 %; +/-  |
| influence of the surrounding temperature  | ±5 %  |
| power supply influence  | ±1 %  |
| Substance Prohibitance (Date)   | 05/01/2012  |
| SVHC substance name   | Lead - 7439-92-1<br>Lead monoxide (lead oxide) - 1317-36-8<br>6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1 |
| Weight  | 0.13 kg   |
| <b>Control circuit/ Control</b>   |   |
| type of voltage of the control supply voltage   | AC/DC   |
| control supply voltage 1 at AC  |   |
| • at 50 Hz  | 24 ... 240 V  |
| • at 60 Hz  | 24 ... 240 V  |
| control supply voltage frequency 1  | 50 ... 60 Hz  |

|   |                 |
|---|-----------------|
| <b>control supply voltage 1 at DC</b>   | 24 ... 240 V    |
| <b>operating range factor control supply voltage rated value at DC</b>                |                 |
| • initial value   | 0.85            |
| • full-scale value  | 1.1             |
| <b>operating range factor control supply voltage rated value at AC at 50 Hz</b>       |                 |
| • initial value   | 0.8             |
| • full-scale value  | 1.1             |
| <b>operating range factor control supply voltage rated value at AC at 60 Hz</b>       |                 |
| • initial value   | 0.8             |
| • full-scale value  | 1.1             |
| <b>Switching Function</b>   |                 |
| <b>switching function</b>   |                 |
| • ON-delay  | Yes             |
| • ON-delay/instantaneous contact  | Yes             |
| • passing make contact  | Yes             |
| • passing make contact/instantaneous contact  | Yes             |
| • OFF delay   | No              |
| <b>switching function</b>   |                 |
| • flashing symmetrically with interval start/instantaneous                            | Yes             |
| • flashing symmetrically with interval start  | Yes             |
| • flashing symmetrically with pulse start/instantaneous                               | No              |
| • flashing symmetrically with pulse start   | No              |
| • flashing asymmetrically with interval start   | No              |
| • flashing asymmetrically with pulse start  | No              |
| <b>switching function</b>   |                 |
| • star-delta circuit with delay time  | No              |
| • star-delta circuit  | Yes             |
| <b>switching function with control signal</b>   |                 |
| • additive ON-delay   | Yes             |
| • passing break contact   | Yes             |
| • passing break contact/instantaneous   | Yes             |
| • OFF delay   | Yes             |
| • OFF delay/instantaneous   | Yes             |
| • pulse delayed   | No              |
| • pulse delayed/instantaneous   | No              |
| • pulse-shaping   | Yes             |
| • pulse-shaping/instantaneous   | Yes             |
| • additive ON-delay/instantaneous   | Yes             |
| • ON-delay/OFF-delay/instantaneous  | Yes             |
| • passing make contact  | No              |
| • passing make contact/instantaneous contact  | Yes             |
| <b>switching function of interval relay with control signal</b>                       |                 |
| • retrotriggerable with deactivated control signal/instantaneous contact              | No              |
| • retrotriggerable with switched-on control signal                                    | No              |
| • retrotriggerable with switched-on control signal/instantaneous contact              | No              |
| • retriggerable with deactivated control signal                                       | No              |
| <b>design of the control terminal non-floating</b>                                    | Yes             |
| <b>Short-circuit protection</b>   |                 |
| design of the fuse link for short-circuit protection of the auxiliary switch required | fuse gL/gG: 4 A |
| <b>Auxiliary circuit</b>  |                 |
| <b>material of switching contacts</b>   | AgSnO2          |
| <b>number of NC contacts</b>  |                 |
| • delayed switching   | 0               |
| • instantaneous contact   | 0               |
| <b>number of NO contacts</b>  |                 |
| • delayed switching   | 0               |

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>instantaneous contact</li> </ul> | 0  |
| <b>number of CO contacts</b>  |  |
| <ul style="list-style-type: none"> <li>delayed switching</li> </ul>     | 2  |
| <ul style="list-style-type: none"> <li>instantaneous contact</li> </ul> | 0  |
| <b>operational current of auxiliary contacts at AC-15</b>               |  |
| <ul style="list-style-type: none"> <li>at 24 V</li> </ul>               | 3 A  |
| <ul style="list-style-type: none"> <li>at 250 V</li> </ul>              | 3 A  |
| <b>operational current of auxiliary contacts at DC-13</b>               |  |
| <ul style="list-style-type: none"> <li>at 24 V</li> </ul>               | 1 A  |
| <ul style="list-style-type: none"> <li>at 125 V</li> </ul>              | 0.2 A  |
| <ul style="list-style-type: none"> <li>at 250 V</li> </ul>              | 0.1 A  |
| <b>operating frequency with 3RT2 contactor maximum</b>                  | 5 000 1/h  |
| <b>contact reliability of auxiliary contacts</b>                        | one incorrect switching operation of 100 million switching operations (17 V, 5 mA) |
| <b>contact rating of auxiliary contacts according to UL</b>             | R300 / B300  |

#### Inputs/ Outputs

|  |    |
|--|----|
| <b>product function</b>  |    |
| <ul style="list-style-type: none"> <li>non-volatile</li> </ul> | No |

#### Electromagnetic compatibility

|   |   |
|---|---|
| EMC emitted interference according to IEC 61812-1   | EN 61000-6-4(3)                                   |
| EMC immunity according to IEC 61812-1   | EN 61000-6-2                                      |
| <b>conducted interference</b>   |   |
| <ul style="list-style-type: none"> <li>due to burst according to IEC 61000-4-4</li> </ul>                     | 2 kV network connection / 1 kV control connection |
| <ul style="list-style-type: none"> <li>due to conductor-earth surge according to IEC 61000-4-5</li> </ul>     | 2 kV  |
| <ul style="list-style-type: none"> <li>due to conductor-conductor surge according to IEC 61000-4-5</li> </ul> | 1 kV  |
| <b>field-based interference according to IEC 61000-4-3</b>  | 10 V/m  |
| <b>electrostatic discharge according to IEC 61000-4-2</b>   | 4 kV contact discharge / 8 kV air discharge       |

#### Safety related data

|                                |      |
|--------------------------------|------|
| category according to EN 954-1 | none |
|--------------------------------|------|

#### Electrical Safety

|  |  |
|--|--|
| <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 |
| <b>type of insulation</b>                                      | Basic insulation                                 |

#### Connections/ Terminals

|  |   |
|--|---|
| <b>product component removable terminal for auxiliary and control circuit</b>              | No  |
| 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>solid</li> </ul>                                    | 2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ) |
| <ul style="list-style-type: none"> <li>finely stranded with core end processing</li> </ul> | 2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ) |
| <ul style="list-style-type: none"> <li>for AWG cables solid</li> </ul>                     | 2x (18 ... 14)  |
| <ul style="list-style-type: none"> <li>for AWG cables stranded</li> </ul>                  | 2x (18 ... 14)  |
| <b>connectable conductor cross-section</b>   |   |
| <ul style="list-style-type: none"> <li>solid</li> </ul>                                    | 0.5 ... 2.5 mm <sup>2</sup>   |
| <ul style="list-style-type: none"> <li>finely stranded with core end processing</li> </ul> | 0.5 ... 2.5 mm <sup>2</sup>   |
| <b>AWG number as coded connectable conductor cross section</b>                             |   |
| <ul style="list-style-type: none"> <li>solid</li> </ul>                                    | 18 ... 14   |
| <ul style="list-style-type: none"> <li>stranded</li> </ul>                                 | 18 ... 14   |
| <b>tightening torque</b>   | 0.8 ... 1.2 N·m   |
| <b>design of the thread of the connection screw</b>  | M3  |

#### Installation/ mounting/ dimensions

|  |  |
|--|--|
| <b>mounting position</b>   | any  |
| <b>fastening method</b>  | screw and snap-on mounting onto 35 mm DIN rail |
| <b>height</b>  | 57 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</li> </ul> |  |
| <ul style="list-style-type: none"> <li>— forwards</li> </ul>                 | 0 mm   |
| <ul style="list-style-type: none"> <li>— backwards</li> </ul>                | 0 mm   |

- upwards 0 mm
- downwards 0 mm
- at the side 0 mm
- for grounded parts
  - forwards 0 mm
  - backwards 0 mm
  - upwards 0 mm
  - at the side 0 mm
  - downwards 0 mm
- for live parts
  - forwards 0 mm
  - backwards 0 mm
  - upwards 0 mm
  - downwards 0 mm
  - at the side 0 mm

### Ambient conditions

|   |                |
|---|----------------|
| installation altitude at height above sea level maximum | 2 000 m        |
| <b>ambient temperature</b>                              |                |
| • during operation                                      | -25 ... +60 °C |
| • during storage  | -40 ... +85 °C |
| • during transport                                      | -40 ... +85 °C |
| relative humidity during operation                      | 10 ... 95 %    |

### Approvals Certificates

|                          |     |
|--------------------------|-----|
| General Product Approval | EMV |
|--------------------------|-----|



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

[KC](#)

[Type Test Certificates/Test Report](#)



|                      |       |             |
|----------------------|-------|-------------|
| Maritime application | other | Environment |
|----------------------|-------|-------------|



[Confirmation](#)

[Environmental Confirmations](#)

### 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=3RP2005-1BW30>

Cax online generator

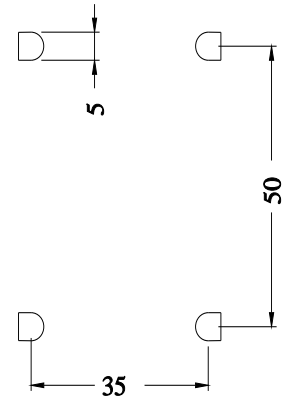
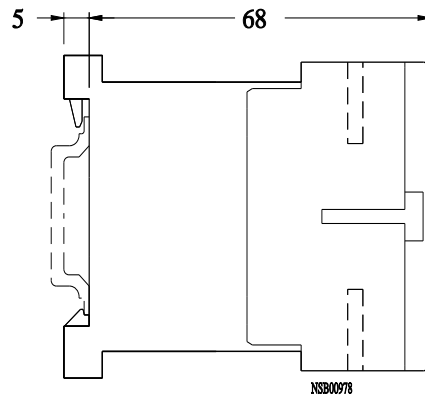
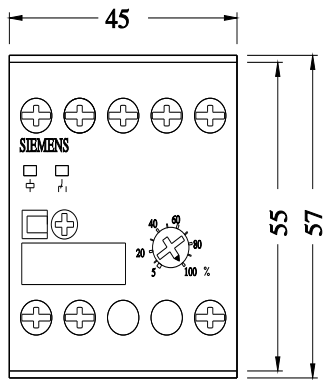
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RP2005-1BW30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RP2005-1BW30>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RP2005-1BW30&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RP2005-1BW30&lang=en)



last modified:

9/5/2025 