



Timing relay, electronic Multifunction, 8 functions 1 change-over contact 24 V AC/DC, 100 to 127 V AC 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 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 acc. to IEC 60068-2-27                                                                       | 11g / 15 ms            |
| vibration resistance acc. to IEC 60068-2-6                                                                    | 10 ... 55 Hz / 0.35 mm |
| mechanical service life (switching cycles) typical                                                            | 10 000 000             |
| electrical endurance (switching cycles) at AC-15 at 230 V typical                                             | 100 000                |
| adjustable time                                                                                               | 0.05 ... 100 s         |
| relative setting accuracy relating to full-scale value                                                        | 5 %                    |
| thermal current                                                                                               | 5 A                    |
| minimum ON period                                                                                             | 35 ms                  |
| recovery time                                                                                                 | 150 ms                 |
| reference code acc. to IEC 81346-2                                                                            | K                      |
| relative repeat accuracy                                                                                      | 1 %                    |
| Substance Prohibitation (Date)                                                                                | 01.05.2012 00:00:00    |
| <b>Control circuit/ Control</b>                                                                               |                        |
| type of voltage of the control supply voltage                                                                 | AC/DC                  |
| control supply voltage 1 at AC                                                                                |                        |
| • at 50 Hz rated value                                                                                        | 24 V                   |
| • at 60 Hz rated value                                                                                        | 24 V                   |
| control supply voltage 2 at AC                                                                                |                        |
| • at 50 Hz                                                                                                    | 100 ... 127 V          |
| • at 60 Hz                                                                                                    | 100 ... 127 V          |
| control supply voltage frequency 1                                                                            | 50 ... 60 Hz           |

|                                                                                       |                 |
|---------------------------------------------------------------------------------------|-----------------|
| <b>control supply voltage 1</b>                                                       |                 |
| • at DC rated value                                                                   | 24 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                                                                       | 0.85            |
| • full-scale value                                                                    | 1.1             |
| <b>operating range factor control supply voltage rated value at AC at 60 Hz</b>       |                 |
| • initial value                                                                       | 0.85            |
| • full-scale value                                                                    | 1.1             |
| <b>Switching Function</b>                                                             |                 |
| <b>switching function</b>                                                             |                 |
| • ON-delay                                                                            | Yes             |
| • ON-delay/instantaneous contact                                                      | No              |
| • passing make contact                                                                | Yes             |
| • passing make contact/instantaneous contact                                          | No              |
| • OFF delay                                                                           | No              |
| <b>switching function</b>                                                             |                 |
| • flashing symmetrically with interval start/instantaneous                            | No              |
| • 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                                                                  | No              |
| <b>switching function with control signal</b>                                         |                 |
| • additive ON-delay                                                                   | Yes             |
| • passing break contact                                                               | Yes             |
| • passing break contact/instantaneous                                                 | No              |
| • OFF delay                                                                           | Yes             |
| • OFF delay/instantaneous                                                             | No              |
| • pulse delayed                                                                       | No              |
| • pulse delayed/instantaneous                                                         | No              |
| • pulse-shaping                                                                       | Yes             |
| • pulse-shaping/instantaneous                                                         | No              |
| • additive ON-delay/instantaneous                                                     | No              |
| • ON-delay/OFF-delay/instantaneous                                                    | No              |
| • passing make contact                                                                | No              |
| • passing make contact/instantaneous contact                                          | No              |
| <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          |

|                                                                        |                                                                                    |
|------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| number of NC contacts delayed switching                                | 0                                                                                  |
| number of NO contacts delayed switching                                | 0                                                                                  |
| number of CO contacts delayed switching                                | 1                                                                                  |
| <b>operational current of auxiliary contacts at AC-15</b>              |                                                                                    |
| • at 24 V                                                              | 3 A                                                                                |
| • at 250 V                                                             | 3 A                                                                                |
| <b>operational current of auxiliary contacts at DC-13</b>              |                                                                                    |
| • at 24 V                                                              | 1 A                                                                                |
| • at 125 V                                                             | 0.2 A                                                                              |
| • at 250 V                                                             | 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                                                                        |
| <b>influence of the surrounding temperature</b>                        | ±5 %                                                                               |
| <b>power supply influence</b>                                          | ±1 %                                                                               |
| <b>Inputs/ Outputs</b>                                                 |                                                                                    |
| <b>product function</b>                                                |                                                                                    |
| • non-volatile                                                         | No                                                                                 |
| <b>Electromagnetic compatibility</b>                                   |                                                                                    |
| EMC emitted interference acc. to IEC 61812-1                           | EN 61000-6-4(3)                                                                    |
| EMC immunity acc. to IEC 61812-1                                       | EN 61000-6-2                                                                       |
| <b>conducted interference</b>                                          |                                                                                    |
| • due to burst acc. to IEC 61000-4-4                                   | 2 kV network connection / 1 kV control connection                                  |
| • due to conductor-earth surge acc. to IEC 61000-4-5                   | 2 kV                                                                               |
| • due to conductor-conductor surge acc. to IEC 61000-4-5               | 1 kV                                                                               |
| <b>field-based interference acc. to IEC 61000-4-3</b>                  | 10 V/m                                                                             |
| <b>electrostatic discharge acc. to IEC 61000-4-2</b>                   | 4 kV contact discharge / 8 kV air discharge                                        |
| <b>Safety related data</b>                                             |                                                                                    |
| <b>protection class IP on the front acc. to IEC 60529</b>              | IP20                                                                               |
| <b>touch protection on the front acc. to IEC 60529</b>                 | finger-safe, for vertical contact from the front                                   |
| <b>type of insulation</b>                                              | Basic insulation                                                                   |
| <b>category acc. to EN 954-1</b>                                       | none                                                                               |
| <b>Connections/ Terminals</b>                                          |                                                                                    |
| product component removable terminal for auxiliary and control circuit | No                                                                                 |
| type of electrical connection for auxiliary and control circuit        | screw-type terminals                                                               |
| <b>type of connectable conductor cross-sections</b>                    |                                                                                    |
| • solid                                                                | 2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²)                                        |
| • finely stranded with core end processing                             | 2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²)                                        |
| • at AWG cables solid                                                  | 2x (18 ... 14)                                                                     |
| • at AWG cables stranded                                               | 2x (18 ... 14)                                                                     |
| <b>connectable conductor cross-section</b>                             |                                                                                    |
| • solid                                                                | 0.5 ... 2.5 mm²                                                                    |
| • finely stranded with core end processing                             | 0.5 ... 2.5 mm²                                                                    |
| <b>AWG number as coded connectable conductor cross section</b>         |                                                                                    |
| • solid                                                                | 18 ... 14                                                                          |
| • stranded                                                             | 18 ... 14                                                                          |
| <b>tightening torque</b>                                               | 0.8 ... 1.2 N·m                                                                    |
| <b>design of the thread of the connection screw</b>                    | M3                                                                                 |
| <b>Installation/ mounting/ dimensions</b>                              |                                                                                    |
| <b>mounting position</b>                                               | any                                                                                |
| <b>fastening method</b>                                                | screw and snap-on mounting onto 35 mm standard mounting rail                       |
| <b>height</b>                                                          | 57 mm                                                                              |
| <b>width</b>                                                           | 45 mm                                                                              |
| <b>depth</b>                                                           | 73 mm                                                                              |
| <b>required spacing</b>                                                |                                                                                    |

- with side-by-side mounting
  - forwards 0 mm
  - backwards 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 %    |

#### Certificates/ approvals

##### General Product Approval

##### EMC

##### Declaration of Conformity



[Miscellaneous](#)

#### Test Certificates

#### Marine / Shipping

[Type Test Certificates/Test Report](#)



#### Marine / Shipping

#### other



[Confirmation](#)

#### Further information

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=3RP2005-1AQ30>

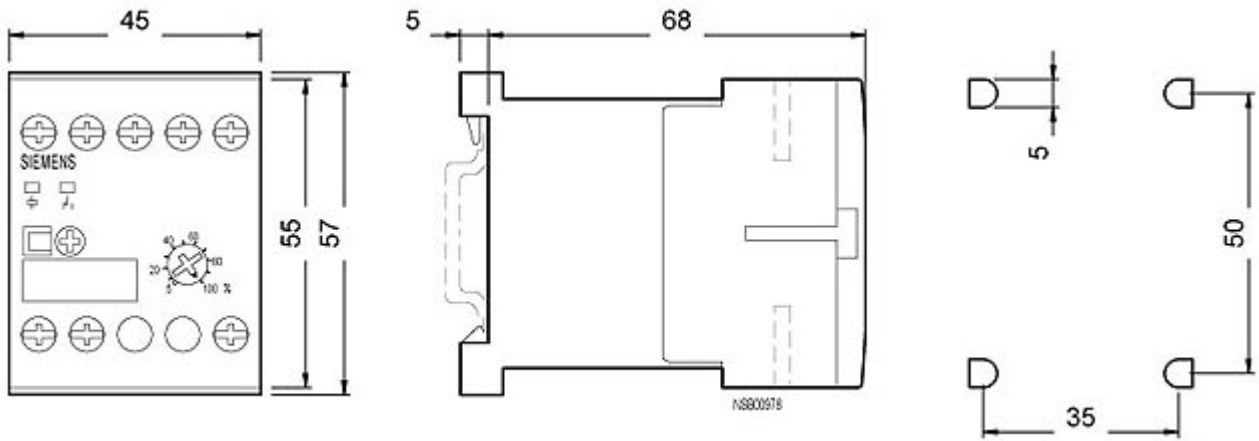
Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RP2005-1AQ30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RP2005-1AQ30>

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



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