SIEMENS

## Data sheet 3RP2505-1BW30

Timing relay, Multifunction 2 change-over contacts, 27 functions 7 time ranges (0.05 s...100 h) 12-240 V AC/DC at 50/60 Hz AC with LED, Screw terminal

| | |
|---|---|
| **product brand name** | SIRIUS |
| **product designation** | timing relay |
| **design of the product** | 27 functions |
| **product type designation** | 3RP25 |
| **General technical data** | |
| **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** | 2.5 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** | 250 ms |
| **reference code according to IEC 81346-2** | K |
| **relative repeat accuracy** | 1 %; +/- |
| **influence of the surrounding temperature** | 1% in the whole temperature range to the set runtime |
| **power supply influence** | 1% in the whole voltage range to the set runtime |
| **Substance Prohibitance (Date)** | 09/12/2014 |
| **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** | 0.172 kg |
| **Control circuit/ Control** | |
| **type of voltage of the control supply voltage** | AC/DC |
| **control supply voltage 1 at AC** | |
| ● at 50 Hz | 12 ... 240 V |
| ● at 60 Hz | 12 ... 240 V |
| **control supply voltage frequency 1** | 50 ... 60 Hz |


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| | |
|---|---|
| **control supply voltage 1 at DC** | 12 ... 240 V |
| **operating range factor control supply voltage rated value at DC** | |
| ● initial value | 0.8 |
| ● full-scale value | 1.1 |
| **operating range factor control supply voltage rated value at AC at 50 Hz** | |
| ● initial value | 0.8 |
| ● full-scale value | 1.1 |
| **operating range factor control supply voltage rated value at AC at 60 Hz** | |
| ● initial value | 0.8 |
| ● full-scale value | 1.1 |
| **inrush current peak** | |
| ● at 24 V | 0.3 A |
| ● at 240 V | 5 A |
| **duration of inrush current peak** | |
| ● at 24 V | 0.3 ms |
| ● at 240 V | 0.5 ms |
| **Switching Function** | |
| **switching function** | |
| ● ON-delay | Yes |
| ● ON-delay/instantaneous contact | Yes |
| ● passing make contact | Yes |
| ● passing make contact/instantaneous contact | Yes |
| ● OFF delay | No |
| **switching function** | |
| ● flashing symmetrically with interval start/instantaneous | Yes |
| ● flashing symmetrically with interval start | Yes |
| ● flashing symmetrically with pulse start/instantaneous | Yes |
| ● flashing symmetrically with pulse start | Yes |
| ● flashing asymmetrically with interval start | No |
| ● flashing asymmetrically with pulse start | No |
| **switching function** | |
| ● star-delta circuit with delay time | No |
| ● star-delta circuit | Yes |
| **switching function with control signal** | |
| ● additive ON-delay | Yes |
| ● passing break contact | Yes |
| ● passing break contact/instantaneous | Yes |
| ● OFF delay | Yes |
| ● OFF delay/instantaneous | Yes |
| ● pulse delayed | Yes |
| ● pulse delayed/instantaneous | Yes |
| ● pulse-shaping | Yes |
| ● pulse-shaping/instantaneous | Yes |
| ● additive ON-delay/instantaneous | Yes |
| ● ON-delay/OFF-delay/instantaneous | Yes |
| ● passing make contact | Yes |
| ● passing make contact/instantaneous contact | Yes |
| **switching function of interval relay with control signal** | |
| ● retrotriggerable with deactivated control signal/instantaneous contact | Yes |
| ● retrotriggerable with switched-on control signal | Yes |
| ● retrotriggerable with switched-on control signal/instantaneous contact | Yes |
| ● retriggerable with deactivated control signal | Yes |
| **design of the control terminal non-floating** | Yes |
| **Short-circuit protection** | |
| design of the fuse link for short-circuit protection of the auxiliary switch required | fuse gL/gG: 4 A |
| **Auxiliary circuit** | |


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| | |
|---|---|
| **material of switching contacts** | AgSnO2 |
| **number of NC contacts** | |
| ● delayed switching | 0 |
| ● instantaneous contact | 0 |
| **number of NO contacts** | |
| ● delayed switching | 0 |
| ● instantaneous contact | 0 |
| **number of CO contacts** | |
| ● delayed switching | 2 |
| ● instantaneous contact | 0 |
| **operational current of auxiliary contacts at AC-15** | |
| ● at 24 V | 3 A |
| ● at 250 V | 3 A |
| **operational current of auxiliary contacts at DC-13** | |
| ● at 24 V | 1 A |
| ● at 125 V | 0.2 A |
| ● at 250 V | 0.1 A |
| **operating frequency with 3RT2 contactor maximum** | 5 000 1/h |
| **contact reliability of auxiliary contacts** | one incorrect switching operation of 100 million switching operations (17 V, 5 mA) |
| **contact rating of auxiliary contacts according to UL** | R300 / B300 |
| **switching capacity current with inductive load** | 0.01 ... 3 A |
| **Inputs/ Outputs** | |
| **product function** | |
| ● at the relay outputs switchover delayed/without delay | Yes |
| ● non-volatile | No |
| **Electromagnetic compatibility** | |
| EMC emitted interference according to IEC 61812-1 | ambience A (industrial sector) |
| EMC immunity according to IEC 61812-1 | corresponds to degree of severity 3 |
| **conducted interference** | |
| ● due to burst according to IEC 61000-4-4 | 2 kV network connection / 1 kV control connection |
| ● due to conductor-earth surge according to IEC 61000-4-5 | 2 kV |
| ● due to conductor-conductor surge according to IEC 61000-4-5 | 1 kV |
| **field-based interference according to IEC 61000-4-3** | 10 V/m |
| **electrostatic discharge according to IEC 61000-4-2** | 4 kV contact discharge / 8 kV air discharge |
| **Safety related data** | |
| category according to EN 954-1 | none |
| Electrical Safety | |
| **protection class IP on the front according to IEC 60529** | IP20 |
| **type of insulation** | Basic insulation |
| **Connections/ Terminals** | |
| **product component removable terminal for auxiliary and control circuit** | Yes |
| type of electrical connection for auxiliary and control circuit | screw-type terminals |
| **type of connectable conductor cross-sections** | |
| ● solid | 1x (0.5 ... 4.0 mm²), 2x (0.5 ... 2.5 mm²) |
| ● finely stranded with core end processing | 1x (0.5 ... 4 mm²), 2x (0.5 ... 1.5 mm²) |
| ● for AWG cables solid | 1x (20 ... 12), 2x (20 ... 14) |
| ● for AWG cables stranded | 1x (20 ... 12), 2x (20 ... 14) |
| **connectable conductor cross-section** | |
| ● solid | 0.5 ... 4 mm² |
| ● finely stranded with core end processing | 0.5 ... 4 mm² |
| **AWG number as coded connectable conductor cross section** | |
| ● solid | 20 ... 12 |
| ● stranded | 20 ... 14 |
| **tightening torque** | 0.6 ... 0.8 N·m |
| **design of the thread of the connection screw** | M3 |
| **Installation/ mounting/ dimensions** | |
| **mounting position** | any |
| **fastening method** | screw and snap-on mounting onto 35 mm DIN rail |


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| | |
|---|---|
| **height** | 100 mm |
| **width** | 22.5 mm |
| **depth** | 90 mm |
| **required spacing** | |
| ● 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 |
| **ambient temperature** | |
| ● 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 |
|---|---|---|---|---|---|
| CCC | EG-Konf. | UKCA | UL | EAC | RCM |

| EMV | Test Certificates | | Marine / Shipping | | |
|---|---|---|---|---|---|
| KC | Special Test Certific-ate | Type Test Certific-ates/Test Report | BUREAU VERITAS | DNV | LRS |

| Marine / Shipping | | | other | Railway | Environment |
|---|---|---|---|---|---|
| PRS | RINA | RMRS | Confirmation | Confirmation | Environmental Con-firmations |

## 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=3RP2505-1BW30
**Cax online generator**
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RP2505-1BW30
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
https://support.industry.siemens.com/cs/ww/en/ps/3RP2505-1BW30


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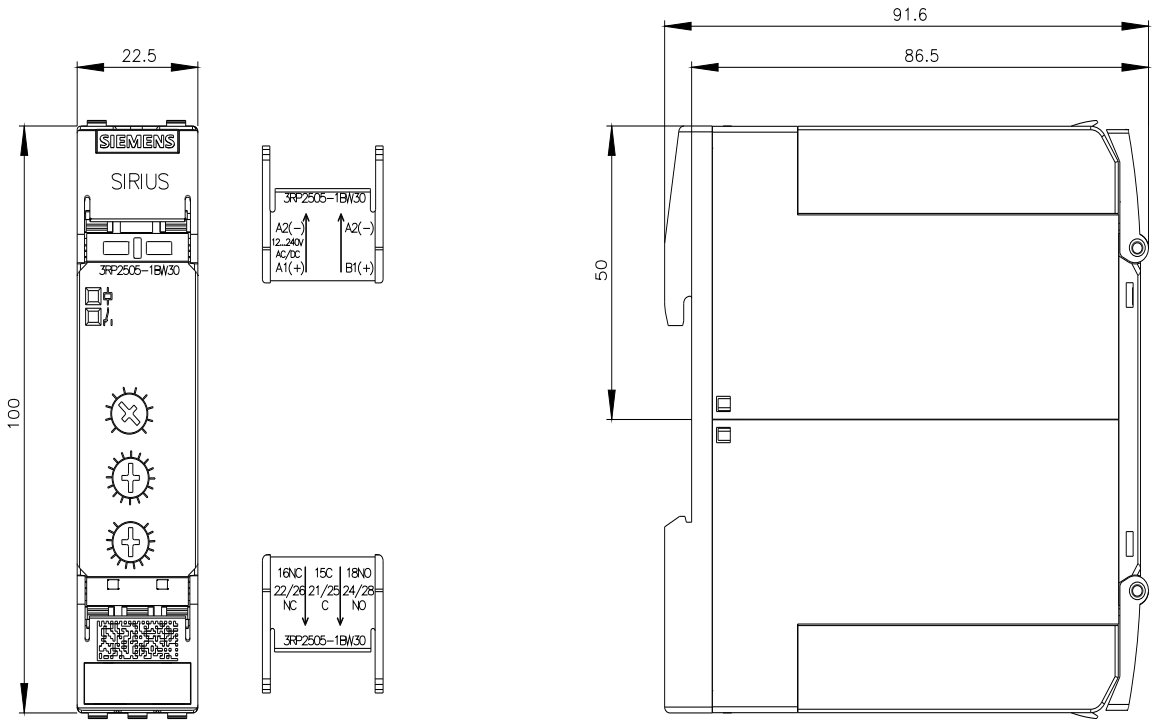
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RP2505-1BW30&lang=en
**Characteristic: Derating**
https://support.industry.siemens.com/cs/ww/en/ps/3RP2505-1BW30/manual





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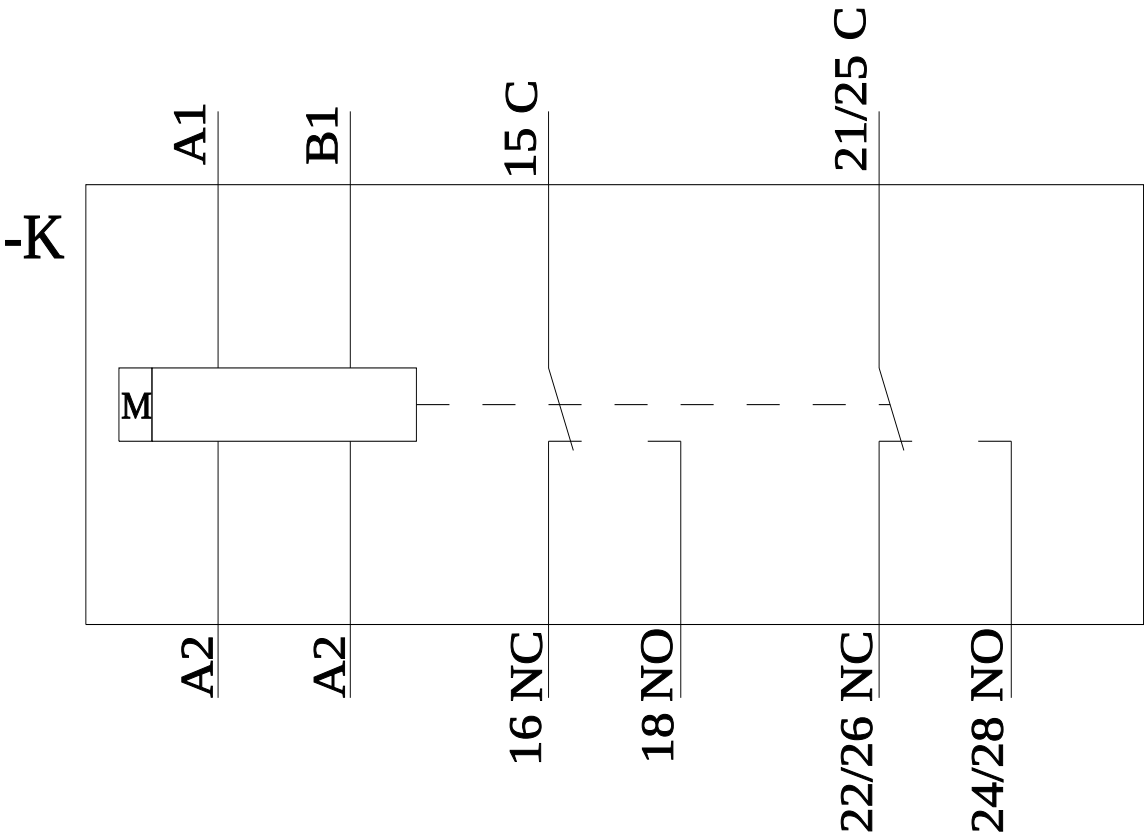


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