



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
<b>General technical data</b>	
product component	Yes
• relay output	No
• 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
protection class IP	IP20
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
<b>Control circuit/ Control</b>	
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
control supply voltage 1	
• at DC	12 ... 240 V
operating range factor control supply voltage rated value at DC	

<ul style="list-style-type: none"> <li>• initial value</li> </ul>	0.8
<ul style="list-style-type: none"> <li>• full-scale value</li> </ul>	1.1
<b>operating range factor control supply voltage rated value at AC at 50 Hz</b>	
<ul style="list-style-type: none"> <li>• initial value</li> </ul>	0.8
<ul style="list-style-type: none"> <li>• full-scale value</li> </ul>	1.1
<b>operating range factor control supply voltage rated value at AC at 60 Hz</b>	
<ul style="list-style-type: none"> <li>• initial value</li> </ul>	0.8
<ul style="list-style-type: none"> <li>• full-scale value</li> </ul>	1.1
<b>inrush current peak</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> </ul>	0.3 A
<ul style="list-style-type: none"> <li>• at 240 V</li> </ul>	5 A
<b>duration of inrush current peak</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> </ul>	0.3 ms
<ul style="list-style-type: none"> <li>• at 240 V</li> </ul>	0.5 ms

### Switching Function

<b>switching function</b>	
<ul style="list-style-type: none"> <li>• ON-delay</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• ON-delay/instantaneous contact</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• passing make contact</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• passing make contact/instantaneous contact</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• OFF delay</li> </ul>	No
<b>switching function</b>	
<ul style="list-style-type: none"> <li>• flashing symmetrically with interval start/instantaneous</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• flashing symmetrically with interval start</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• flashing symmetrically with pulse start/instantaneous</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• flashing symmetrically with pulse start</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• flashing asymmetrically with interval start</li> </ul>	No
<ul style="list-style-type: none"> <li>• flashing asymmetrically with pulse start</li> </ul>	No
<b>switching function</b>	
<ul style="list-style-type: none"> <li>• star-delta circuit with delay time</li> </ul>	No
<ul style="list-style-type: none"> <li>• star-delta circuit</li> </ul>	Yes
<b>switching function with control signal</b>	
<ul style="list-style-type: none"> <li>• additive ON-delay</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• passing break contact</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• passing break contact/instantaneous</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• OFF delay</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• OFF delay/instantaneous</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• pulse delayed</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• pulse delayed/instantaneous</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• pulse-shaping</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• pulse-shaping/instantaneous</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• additive ON-delay/instantaneous</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• ON-delay/OFF-delay/instantaneous</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• passing make contact</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• passing make contact/instantaneous contact</li> </ul>	Yes
<b>switching function of interval relay with control signal</b>	
<ul style="list-style-type: none"> <li>• retrotriggerable with deactivated control signal/instantaneous contact</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• retrotriggerable with switched-on control signal</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• retrotriggerable with switched-on control signal/instantaneous contact</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• retriggerable with deactivated control signal</li> </ul>	Yes
<b>design of the control terminal non-floating</b>	Yes

### Short-circuit protection

design of the fuse link for short-circuit protection of the auxiliary switch required	fuse gL/gG: 4 A
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### Auxiliary circuit

<b>material of switching contacts</b>	AgSnO <sub>2</sub>
<b>number of NC contacts</b>	
<ul style="list-style-type: none"> <li>• delayed switching</li> </ul>	0

<ul style="list-style-type: none"> <li>instantaneous contact</li> </ul>	0
<b>number of NO contacts</b>	
<ul style="list-style-type: none"> <li>delayed switching</li> <li>instantaneous contact</li> </ul>	0 0
<b>number of CO contacts</b>	
<ul style="list-style-type: none"> <li>delayed switching</li> <li>instantaneous contact</li> </ul>	2 0
<b>operational current of auxiliary contacts at AC-15</b>	
<ul style="list-style-type: none"> <li>at 24 V</li> <li>at 250 V</li> </ul>	3 A 3 A
<b>operational current of auxiliary contacts at DC-13</b>	
<ul style="list-style-type: none"> <li>at 24 V</li> <li>at 125 V</li> <li>at 250 V</li> </ul>	1 A 0.2 A 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>switching capacity current with inductive load</b>	0.01 ... 3 A

#### Inputs/ Outputs

<b>product function</b>	
<ul style="list-style-type: none"> <li>at the relay outputs switchover delayed/without delay</li> <li>non-volatile</li> </ul>	Yes 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
<b>conducted interference</b>	
<ul style="list-style-type: none"> <li>due to burst according to IEC 61000-4-4</li> <li>due to conductor-earth surge according to IEC 61000-4-5</li> <li>due to conductor-conductor surge according to IEC 61000-4-5</li> </ul>	2 kV network connection / 1 kV control connection 2 kV 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

<b>protection class IP on the front according to IEC 60529</b>	IP20
<b>type of insulation</b>	Basic insulation
<b>category according to EN 954-1</b>	none

#### Connections/ Terminals

<b>product component removable terminal for auxiliary and control circuit</b>	Yes
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> <li>finely stranded with core end processing</li> <li>at AWG cables solid</li> <li>at AWG cables stranded</li> </ul>	1x (0.5 ... 4.0 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> ) 1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> ) 1x (20 ... 12), 2x (20 ... 14) 1x (20 ... 12), 2x (20 ... 14)
<b>connectable conductor cross-section</b>	
<ul style="list-style-type: none"> <li>solid</li> <li>finely stranded with core end processing</li> </ul>	0.5 ... 4 mm <sup>2</sup> 0.5 ... 4 mm <sup>2</sup>
<b>AWG number as coded connectable conductor cross section</b>	
<ul style="list-style-type: none"> <li>solid</li> <li>stranded</li> </ul>	20 ... 12 20 ... 14
<b>tightening torque</b>	0.6 ... 0.8 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>	100 mm
<b>width</b>	22.5 mm
<b>depth</b>	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
<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**



[Confirmation](#)



**Declaration of Conformity**

**Test Certificates**

**Marine / Shipping**



[Special Test Certificate](#)

[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=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,...)

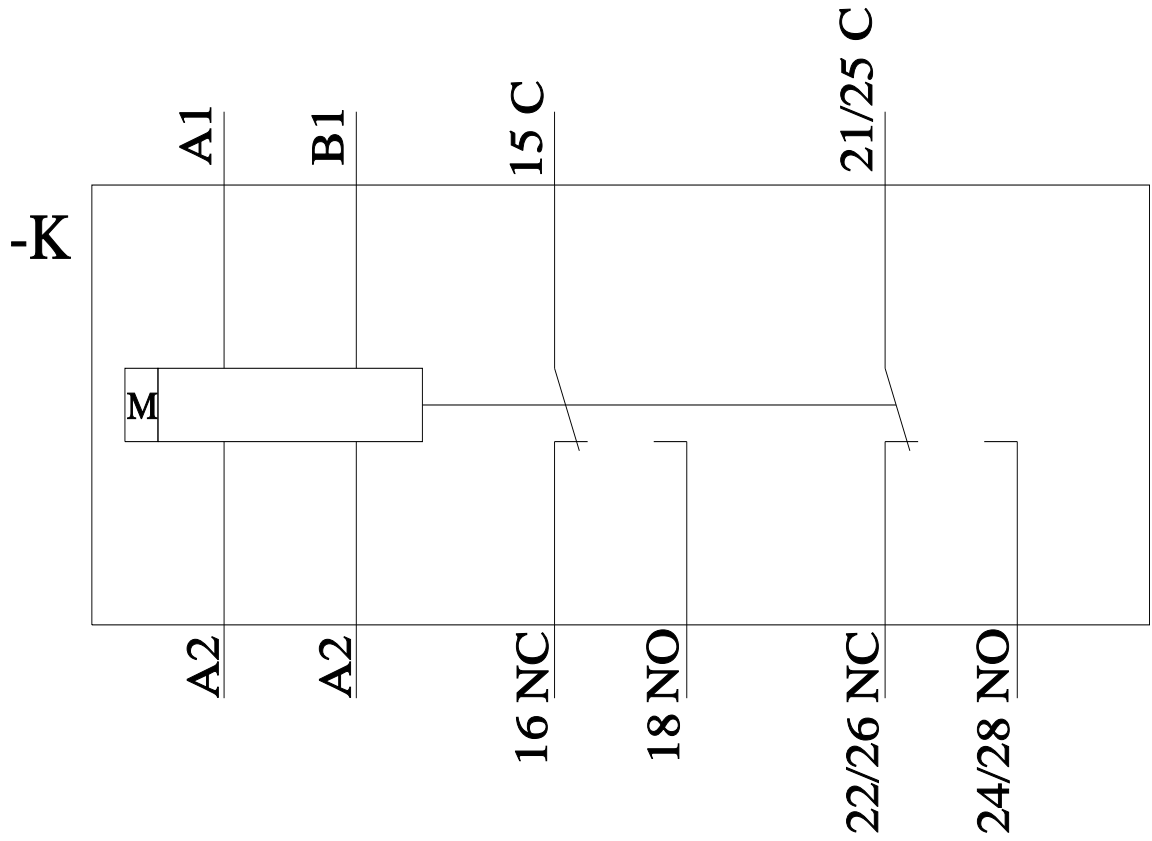
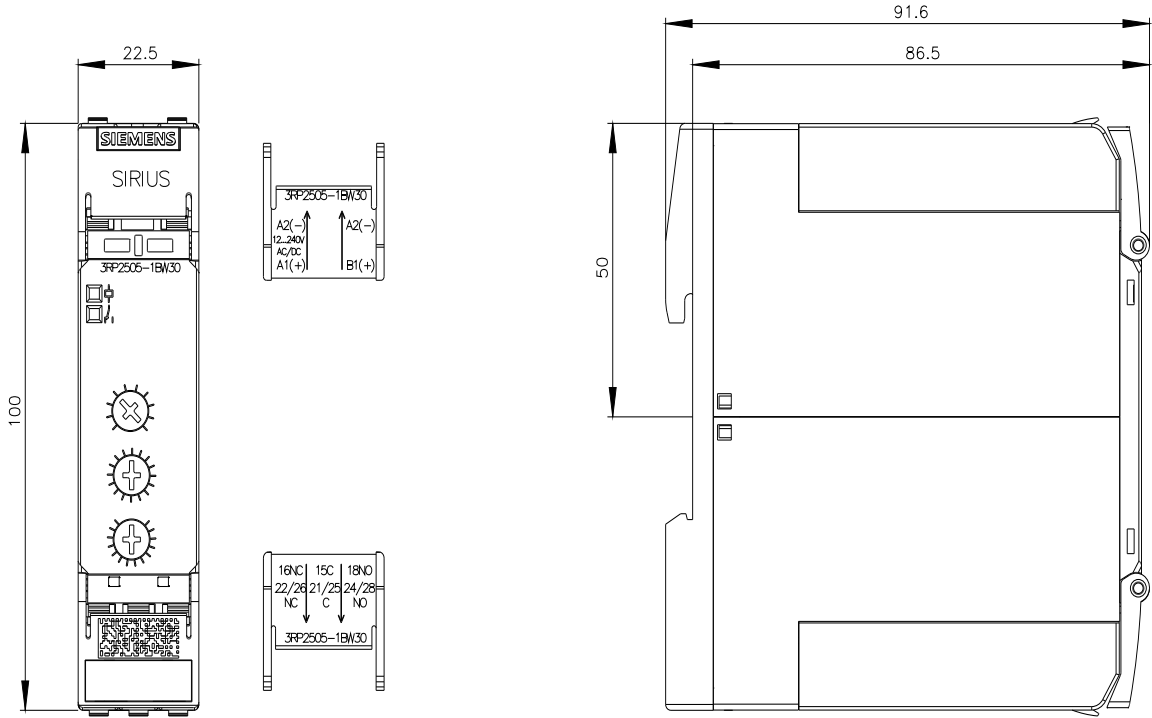
<https://support.industry.siemens.com/cs/ww/en/ps/3RP2505-1BW30>

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](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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