



Timing relay, Multifunction 2 change-over contacts, 27 functions 7 time ranges (0.05 s...100 h) 400-440 V AC at 50/60 Hz AC with LED Spring-type terminal (push-in)

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	
• 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	500 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 (switching cycles) typical	10 000 000
electrical endurance (switching 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	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
control supply voltage 1 at AC	
• at 50 Hz	400 ... 440 V
• at 60 Hz	400 ... 440 V
control supply voltage frequency 1	50 ... 60 Hz
operating range factor control supply voltage rated value at AC at 50 Hz	

<ul style="list-style-type: none"> <li>initial value</li> </ul>	0.85
<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>	0.85
<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 440 V</li> </ul>	1.5 A
<b>duration of inrush current peak</b>	
<ul style="list-style-type: none"> <li>at 440 V</li> </ul>	0.1 ms
<b>Switching Function</b>	
<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
<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>	
<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> </ul>	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> <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> <li>at 400 V</li> </ul>	3 A 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
<b>Inputs/ Outputs</b>	
<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
<b>Electromagnetic compatibility</b>	
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
<b>Safety related data</b>	
<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
<b>Connections/ Terminals</b>	
<b>product component removable terminal for auxiliary and control circuit</b>	Yes
type of electrical connection for auxiliary and control circuit	spring-loaded terminals (push-in)
<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>finely stranded without core end processing</li> <li>at AWG cables solid</li> <li>at AWG cables stranded</li> </ul>	0.5 ... 4 mm <sup>2</sup> 0.5 ... 2.5 mm <sup>2</sup> 0.5 ... 4 mm <sup>2</sup> 20 ... 12 20 ... 12
<b>connectable conductor cross-section</b>	
<ul style="list-style-type: none"> <li>solid</li> <li>finely stranded with core end processing</li> <li>finely stranded without core end processing</li> </ul>	0.5 ... 4 mm <sup>2</sup> 0.5 ... 2.5 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 ... 12
<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>	100 mm
<b>width</b>	22.5 mm

<b>depth</b>	90 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 0 mm</li> <li>— backwards 0 mm</li> <li>— upwards 0 mm</li> <li>— downwards 0 mm</li> <li>— at the side 0 mm</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards 0 mm</li> <li>— backwards 0 mm</li> <li>— upwards 0 mm</li> <li>— at the side 0 mm</li> <li>— downwards 0 mm</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards 0 mm</li> <li>— backwards 0 mm</li> <li>— upwards 0 mm</li> <li>— downwards 0 mm</li> <li>— at the side 0 mm</li> </ul> </li> </ul>	

<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
<b>ambient temperature</b>	
<ul style="list-style-type: none"> <li>• during operation -25 ... +60 °C</li> <li>• during storage -40 ... +85 °C</li> <li>• during transport -40 ... +85 °C</li> </ul>	
relative humidity during operation	10 ... 95 %

<b>Certificates/ approvals</b>	
<b>General Product Approval</b>	<b>EMC</b>



[Confirmation](#)



<b>Declaration of Conformity</b>	<b>Test Certificates</b>	<b>Marine / Shipping</b>
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EG-Konf.

[Type Test Certificates/Test Report](#)



LRS



PRS

<b>Marine / Shipping</b>	<b>other</b>
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RINA



RMRS



DNV GL

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<b>Further information</b>
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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?mfb=3RP2505-2BT20>

Cax online generator

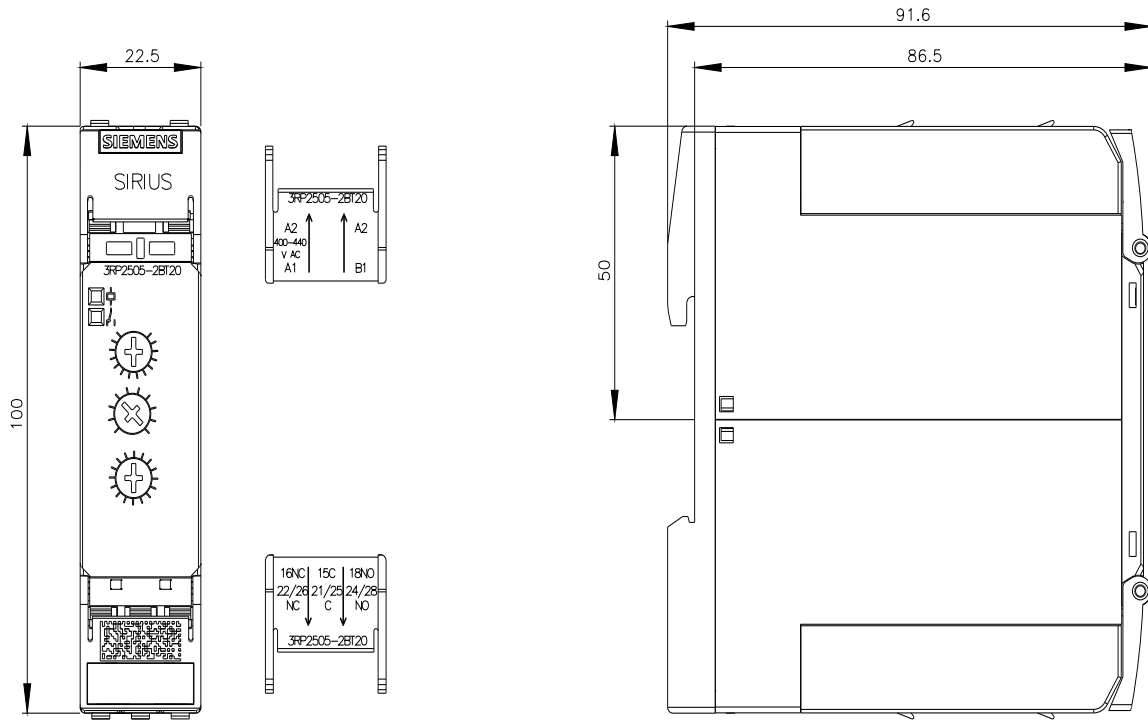
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RP2505-2BT20>

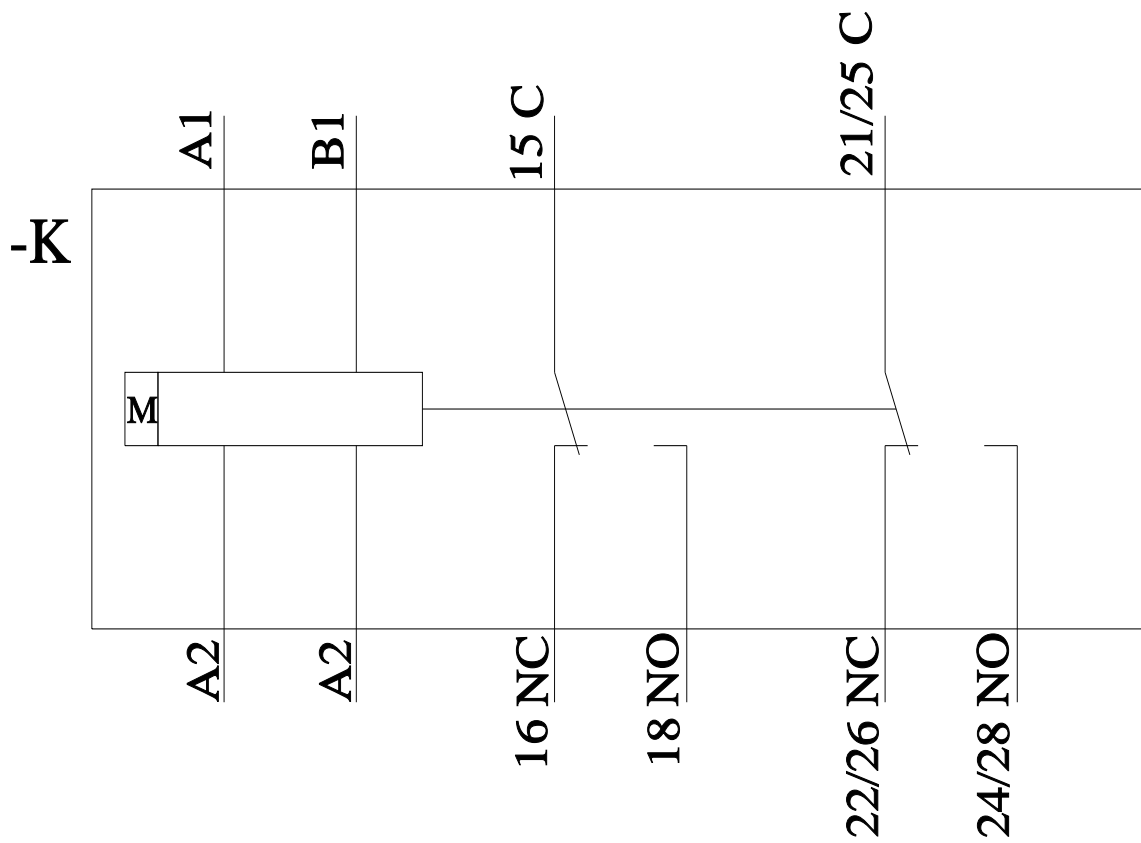
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RP2505-2BT20>

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

**Characteristic: Derating**





last modified:

12/9/2021 