



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, 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	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 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 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 acc. 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)	12.09.2014
Control circuit/ Control	
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"> initial value 	0.85
<ul style="list-style-type: none"> full-scale value 	1.1
operating range factor control supply voltage rated value at AC at 60 Hz	
<ul style="list-style-type: none"> initial value 	0.85
<ul style="list-style-type: none"> full-scale value 	1.1
inrush current peak	
<ul style="list-style-type: none"> at 440 V 	1.5 A
duration of inrush current peak	
<ul style="list-style-type: none"> at 440 V 	0.1 ms
Switching Function	
switching function	
<ul style="list-style-type: none"> ON-delay 	Yes
<ul style="list-style-type: none"> ON-delay/instantaneous contact 	Yes
<ul style="list-style-type: none"> passing make contact 	Yes
<ul style="list-style-type: none"> passing make contact/instantaneous contact 	Yes
<ul style="list-style-type: none"> OFF delay 	No
switching function	
<ul style="list-style-type: none"> flashing symmetrically with interval start/instantaneous 	Yes
<ul style="list-style-type: none"> flashing symmetrically with interval start 	Yes
<ul style="list-style-type: none"> flashing symmetrically with pulse start/instantaneous 	Yes
<ul style="list-style-type: none"> flashing symmetrically with pulse start 	Yes
<ul style="list-style-type: none"> flashing asymmetrically with interval start 	No
<ul style="list-style-type: none"> flashing asymmetrically with pulse start 	No
switching function	
<ul style="list-style-type: none"> star-delta circuit with delay time 	No
<ul style="list-style-type: none"> star-delta circuit 	Yes
switching function with control signal	
<ul style="list-style-type: none"> additive ON-delay 	Yes
<ul style="list-style-type: none"> passing break contact 	Yes
<ul style="list-style-type: none"> passing break contact/instantaneous 	Yes
<ul style="list-style-type: none"> OFF delay 	Yes
<ul style="list-style-type: none"> OFF delay/instantaneous 	Yes
<ul style="list-style-type: none"> pulse delayed 	Yes
<ul style="list-style-type: none"> pulse delayed/instantaneous 	Yes
<ul style="list-style-type: none"> pulse-shaping 	Yes
<ul style="list-style-type: none"> pulse-shaping/instantaneous 	Yes
<ul style="list-style-type: none"> additive ON-delay/instantaneous 	Yes
<ul style="list-style-type: none"> ON-delay/OFF-delay/instantaneous 	Yes
<ul style="list-style-type: none"> passing make contact 	Yes
<ul style="list-style-type: none"> passing make contact/instantaneous contact 	Yes
switching function of interval relay with control signal	
<ul style="list-style-type: none"> retrotriggerable with deactivated control signal/instantaneous contact 	Yes
<ul style="list-style-type: none"> retrotriggerable with switched-on control signal 	Yes
<ul style="list-style-type: none"> retrotriggerable with switched-on control signal/instantaneous contact 	Yes
<ul style="list-style-type: none"> 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	
material of switching contacts	AgSnO2
number of NC contacts delayed switching	0
number of NO contacts delayed switching	0
number of CO contacts delayed switching	2
operational current of auxiliary contacts at AC-15	
<ul style="list-style-type: none"> at 24 V 	3 A

<ul style="list-style-type: none"> • at 250 V • at 400 V 	3 A 3 A
operational current of auxiliary contacts at DC-13	
<ul style="list-style-type: none"> • at 24 V • at 125 V • at 250 V 	1 A 0.2 A 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	
<ul style="list-style-type: none"> • at the relay outputs switchover delayed/without delay • non-volatile 	Yes No

Electromagnetic compatibility

EMC emitted interference acc. to IEC 61812-1	ambience A (industrial sector)
EMC immunity acc. to IEC 61812-1	corresponds to degree of severity 3
conducted interference	
<ul style="list-style-type: none"> • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 	2 kV network connection / 1 kV control connection 2 kV 1 kV
field-based interference acc. to IEC 61000-4-3	10 V/m
electrostatic discharge acc. to IEC 61000-4-2	4 kV contact discharge / 8 kV air discharge

Safety related data

protection class IP on the front acc. to IEC 60529	IP20
type of insulation	Basic insulation
category acc. to EN 954-1	none

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	
<ul style="list-style-type: none"> • solid • finely stranded with core end processing • at AWG cables solid • at AWG cables stranded 	1x (0.5 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²) 1x (0.5 ... 4 mm ²), 2x (0.5 ... 1.5 mm ²) 1x (20 ... 12), 2x (20 ... 14) 1x (20 ... 12), 2x (20 ... 14)
connectable conductor cross-section	
<ul style="list-style-type: none"> • solid • finely stranded with core end processing 	0.5 ... 4 mm ² 0.5 ... 4 mm ²
AWG number as coded connectable conductor cross section	
<ul style="list-style-type: none"> • solid • stranded 	20 ... 12 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 standard mounting rail
height	100 mm
width	22.5 mm
depth	90 mm
required spacing	
<ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — backwards — upwards — downwards — at the side 	0 mm 0 mm 0 mm 0 mm 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 %

Certificates/ approvals

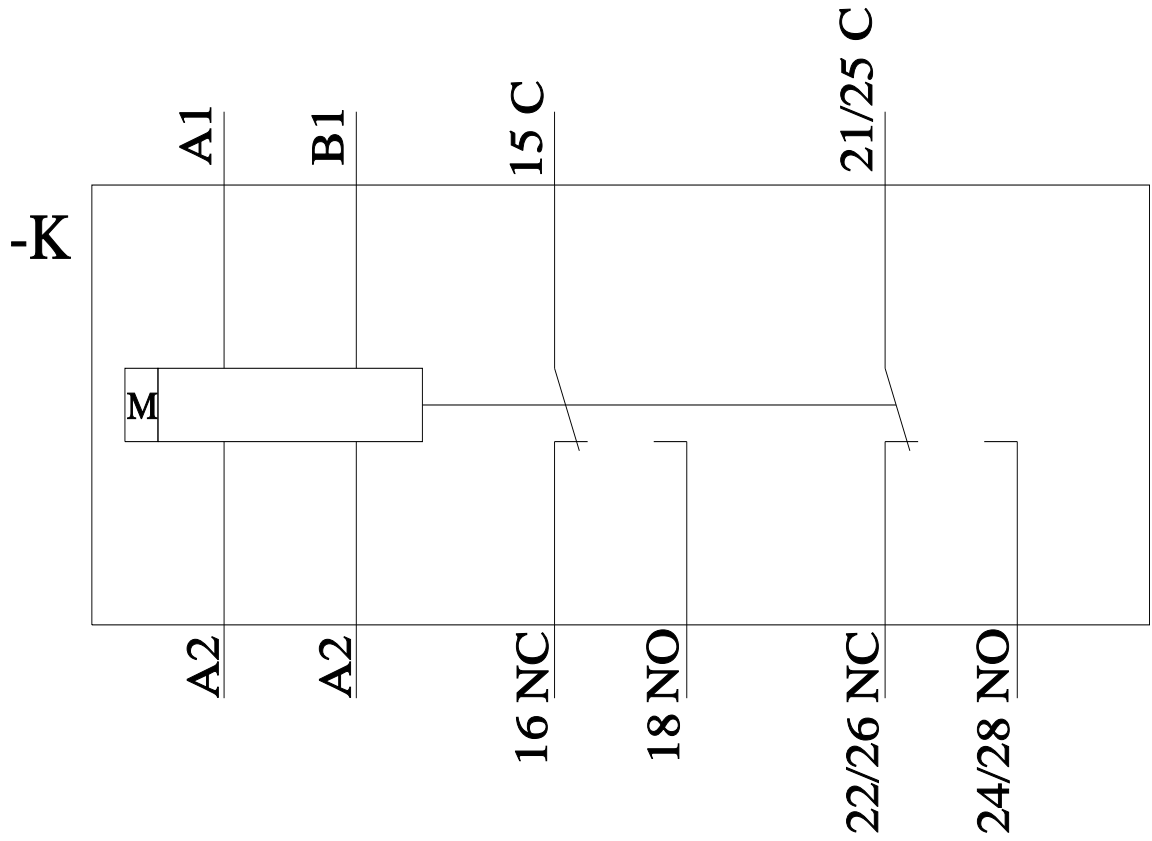
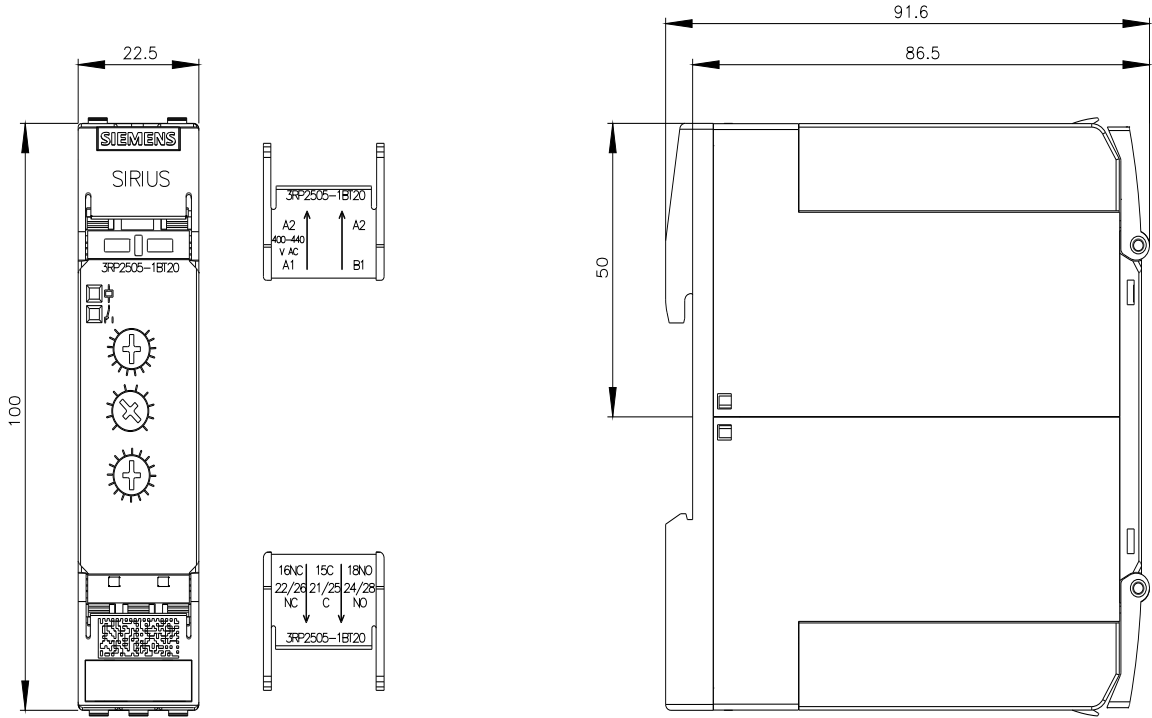
General Product Approval	EMC	Declaration of Conformity
		
		Miscellaneous

Declaration of Conformity	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=3RP2505-1BT20>
- Cax online generator
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RP2505-1BT20>
- Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
<https://support.industry.siemens.com/cs/ww/en/ps/3RP2505-1BT20>
- Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RP2505-1BT20&lang=en
- Characteristic: Derating
<https://support.industry.siemens.com/cs/ww/en/ps/3RP2505-1BT20/manual>



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