

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] total typical	2 W
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
Mechanical service life (switching cycles)	
• typical	10 000 000

Electrical endurance (switching cycles)	
<ul style="list-style-type: none"> • 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 acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750	K
Reference code acc. to DIN EN 81346-2	K
Reference code acc. to DIN EN 61346-2	K
Relative repeat accuracy	1 %

Control circuit/ Control

Type of voltage of the control supply voltage	AC/DC
Control supply voltage 1 at AC	
<ul style="list-style-type: none"> • at 50 Hz 	12 ... 240 V
<ul style="list-style-type: none"> • at 60 Hz 	12 ... 240 V
Control supply voltage frequency 1	50 ... 60 Hz
Control supply voltage 1	
<ul style="list-style-type: none"> • at DC 	12 ... 240 V
Operating range factor control supply voltage rated value at DC	
<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 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 24 V 	0.3 A
<ul style="list-style-type: none"> • at 240 V 	5 A
Duration of inrush current peak	
<ul style="list-style-type: none"> • at 24 V 	0.3 ms
<ul style="list-style-type: none"> • at 240 V 	0.5 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 starting with interval/instantaneous 	Yes
<ul style="list-style-type: none"> • flashing symmetrically starting with interval 	Yes
<ul style="list-style-type: none"> • flashing symmetrically starting with pulse/instantaneous 	Yes
<ul style="list-style-type: none"> • flashing symmetrically starting with pulse 	Yes
<ul style="list-style-type: none"> • flashing asymmetrically starting with interval 	No
<ul style="list-style-type: none"> • flashing asymmetrically starting with pulse 	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 activated control signal 	Yes
<ul style="list-style-type: none"> • retrotriggerable with activated 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	
<ul style="list-style-type: none"> • for short-circuit protection of the auxiliary switch required 	fuse gL/gG: 4 A
Auxiliary circuit	

Material of switching contacts	AgSnO ₂
Number of CO contacts	
• delayed switching	2
Operating current of auxiliary contacts at AC-15	
• at 24 V	3 A
• at 250 V	3 A
Operating 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
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
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

EMI immunity	
• acc. to IEC 61812-1	EN 61000-6-2
Conducted interference	
• 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
Field-bound parasitic coupling 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 against electrical shock	finger-safe
Type of insulation	Basic insulation
Category acc. to EN 954-1	none

Connections/ Terminals

Product function	
• removable terminal for auxiliary and control circuit	Yes
Type of electrical connection	

• for auxiliary and control current circuit	screw-type terminals
Type of connectable conductor cross-sections	
• solid	1x (0.5 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²)
• finely stranded with core end processing	1x (0.5 ... 4 mm ²), 2x (0.5 ... 1.5 mm ²)
• at AWG conductors solid	1x (20 ... 12), 2x (20 ... 14)
• at AWG conductors stranded	1x (20 ... 12), 2x (20 ... 14)
Connectable conductor cross-section	
• solid	0.5 ... 4 mm ²
• finely stranded with core end processing	0.5 ... 4 mm ²
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
Mounting type	screw and snap-on mounting onto 35 mm standard mounting rail
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
Relative humidity	
• during operation	10 ... 95 %

Certificates/ approvals

General Product Approval	EMC	Declaration of Conformity
 CCC	 CSA	 UL
		
 RCM		
 EG-Konf.		

Declaration of Conformity	Test Certificates	Marine / Shipping
Miscellaneous	Type Test Certificates/Test Report	Special Test Certificate
		 LRS
		 PRS
		 RINA

Marine / Shipping	other
 RMRS	 DNV-GL DNVGL.COM/AF
Confirmation	

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

www.siemens.com/sirius/catalogs

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RP2505-1BW30>

Cax online generator

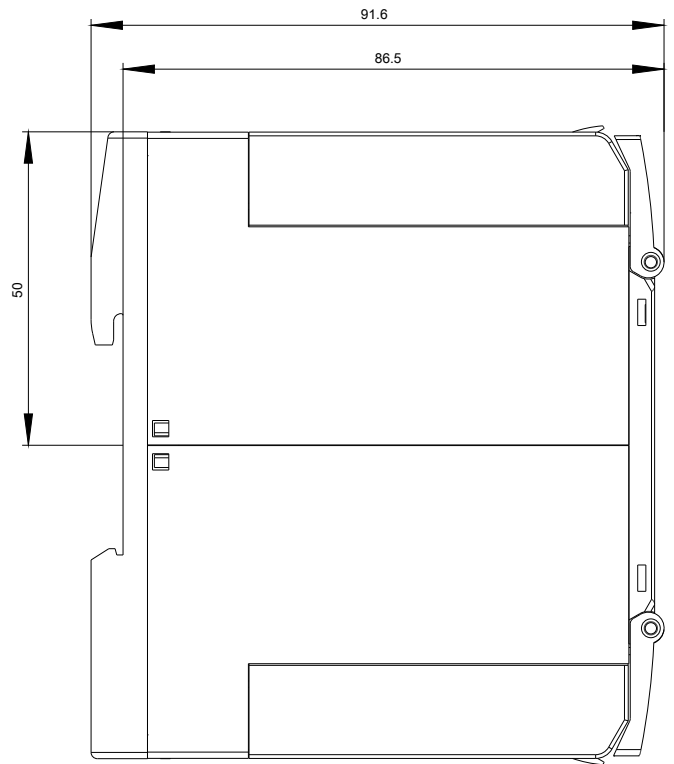
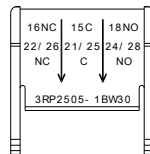
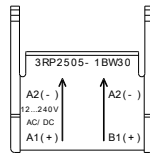
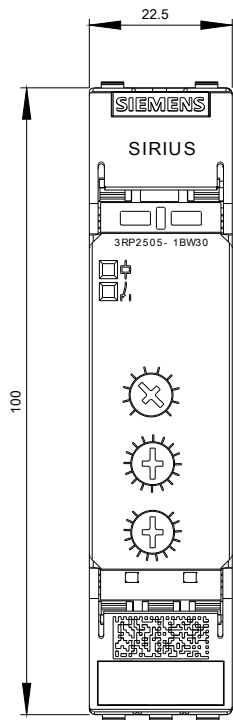
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RP2505-1BW30>

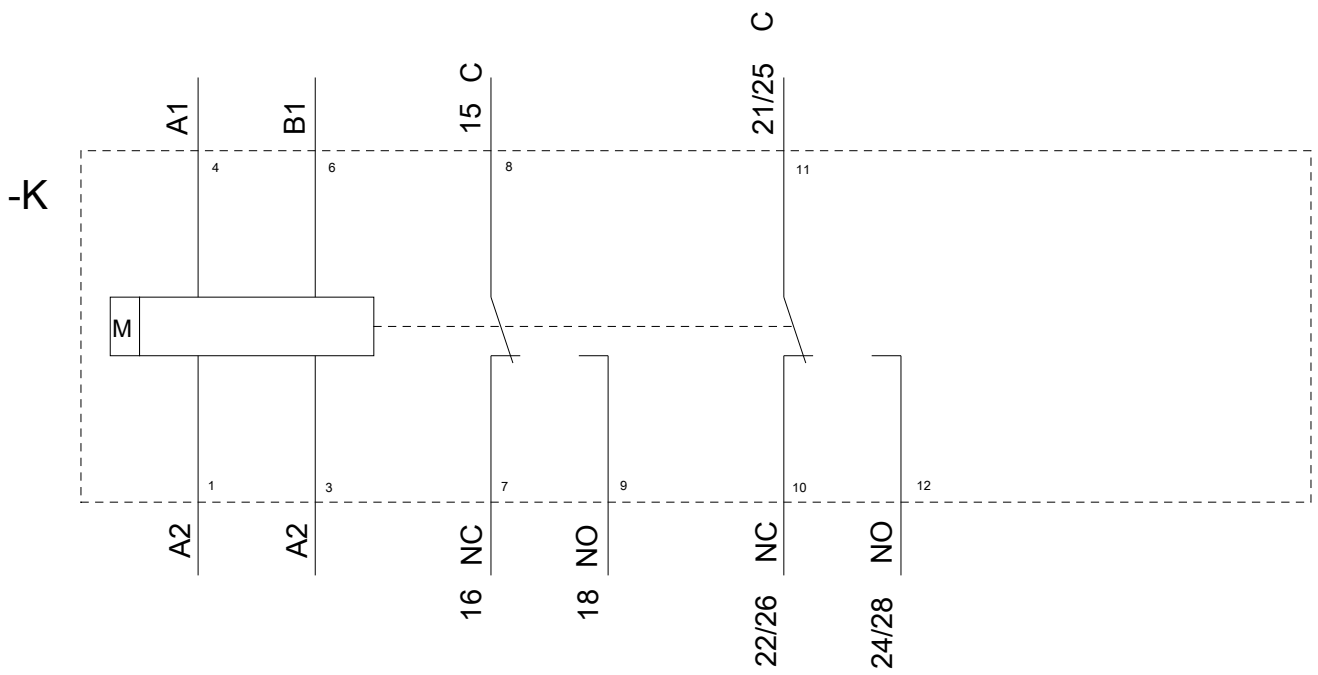
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<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





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