

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
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	

• 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	250 ms
reference code acc. to DIN EN 81346-2	K
relative repeat accuracy	1 %

Control circuit/ Control

type of voltage of the control supply voltage	AC/DC
control supply voltage 1 at AC	
• 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	
• 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	
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• 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 starting with interval/instantaneous	Yes
• flashing symmetrically starting with interval	Yes
• flashing symmetrically starting with pulse/instantaneous	Yes
• flashing symmetrically starting with pulse	Yes
• flashing asymmetrically starting with interval	No
• flashing asymmetrically starting with pulse	No
switching function	
• star-delta circuit with delay time	No
• star-delta circuit	Yes
• switching function with control signal additive ON delay	Yes
• switching function with control signal passing break contact	Yes
• switching function with control signal passing break contact/instantaneous	Yes
• switching function with control signal OFF delay	Yes
• switching function with control signal OFF delay/instantaneous	Yes
• switching function with control signal pulse delayed	Yes
• switching function with control signal pulse delayed/instantaneous	Yes
• switching function with control signal pulse-shaping	Yes
• switching function with control signal pulse-shaping/instantaneous	Yes
• switching function with control signal additive ON delay/instantaneous	Yes
• switching function with control signal ON-delay/OFF-delay/instantaneous	Yes
• switching function with control signal passing make contact	Yes
• switching function with control signal passing make contact/instantaneous contact	Yes
switching function of interval relay with control signal	

• retrotriggerable with deactivated control signal/instantaneous contact	Yes
• retrotriggerable with activated control signal	Yes
• retrotriggerable with activated 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

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
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 • 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-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 circuit	screw-type terminals
type of connectable conductor cross-sections	
• solid • finely stranded with core end processing • at AWG conductors solid • at AWG conductors 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	
• 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	
• 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
• 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 — backwards	0 mm 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 %

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	 BUREAU VERITAS	 LRS	 PRS

Marine / Shipping	other				
 RINA	 RMRS	 DNV GL	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,...)

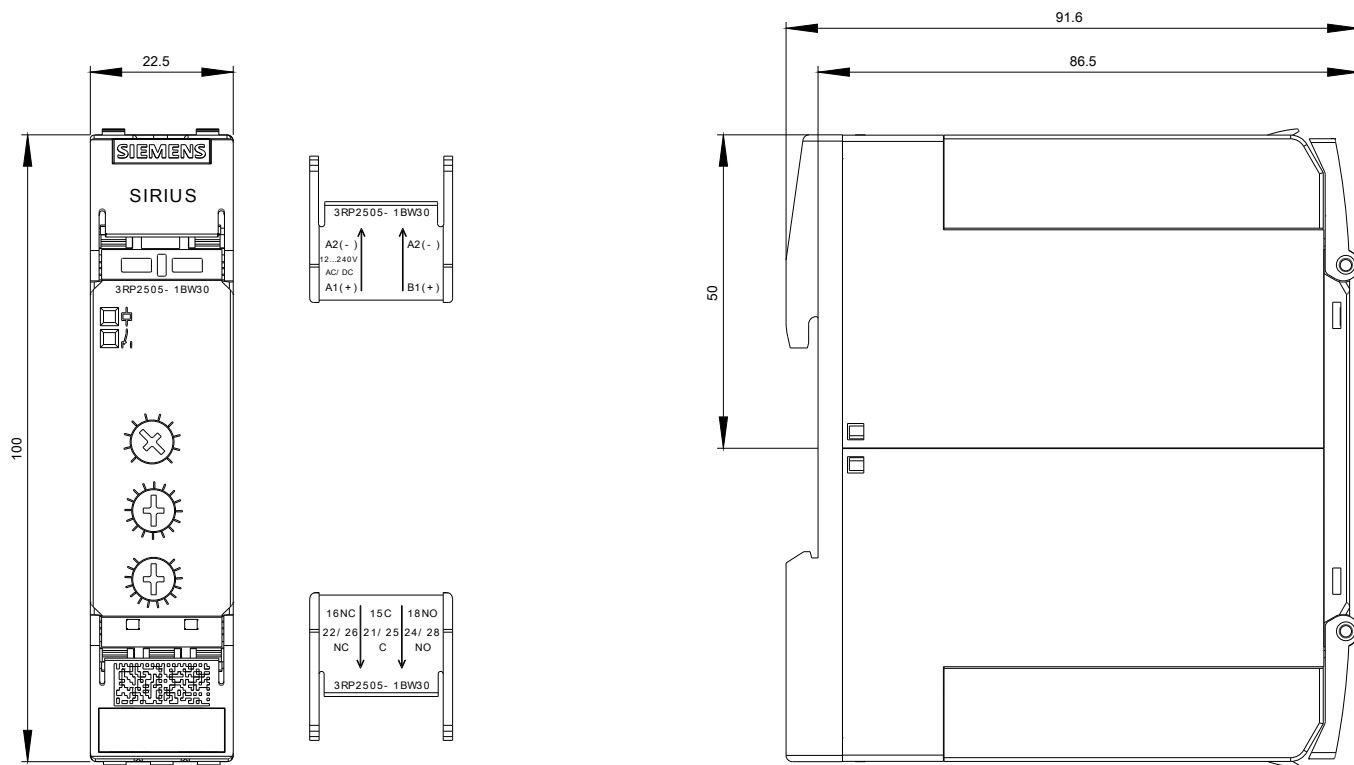
<https://support.industry.siemens.com/cs/ww/en/ps/3RP2505-1BW30>

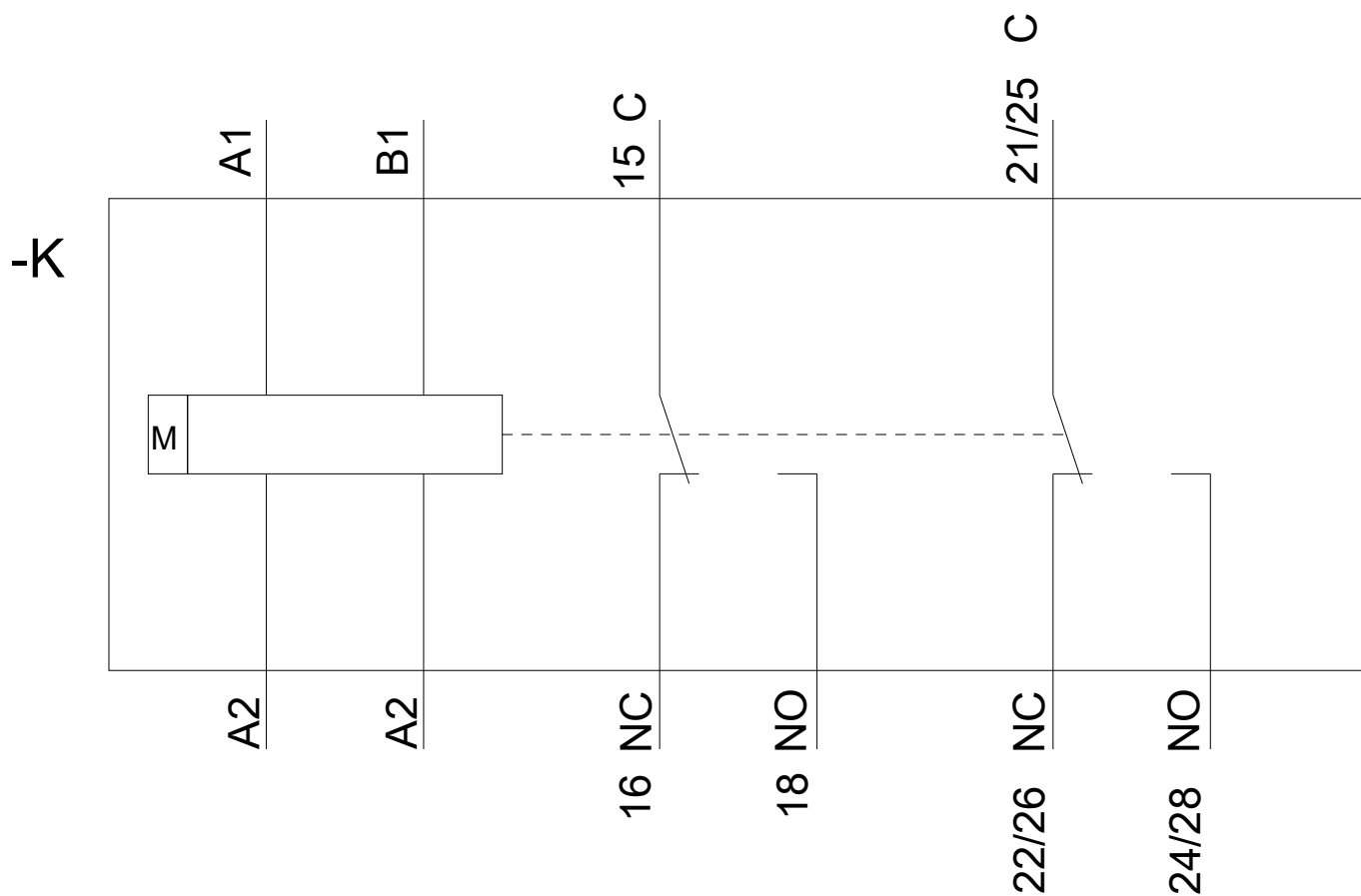
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RP2505-1BW30&lang=en

Characteristic: Derating

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





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