SIEMENS

Data sheet 3RP2505-1BT20



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 feature protective coating on printed-circuit board	No
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
shock resistance according to IEC 60068-2-27	11 g / 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
ON period/maximum minimum	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 (day/month/year)	09/12/2014
SVHC substance name	Lead CAS-No. 7439-92-1 Lead monoxide (lead oxide) CAS-No. 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5 Melamine CAS-No. 108-78-1 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol CAS-No. 119-47-1
Net Weight	0.139 kg
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	

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● at 50 Hz rated value	400 ... 440 V
● at 60 Hz rated value	400 ... 440 V
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	
● initial value	0.85
● full-scale value	1.1
operating range factor control supply voltage rated value at AC at 60 Hz	
● initial value	0.85
● full-scale value	1.1
inrush current peak	
● at 440 V	1.5 A
duration of inrush current peak	
● at 440 V	0.1 ms
Switching Function	
switching function	
● 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 with interval start/instantaneous	Yes
● flashing symmetrically with interval start	Yes
● flashing symmetrically with pulse start/instantaneous	Yes
● flashing symmetrically with pulse start	Yes
● flashing asymmetrically with interval start	No
● flashing asymmetrically with pulse start	No
switching function	
● star-delta circuit with delay time	No
● star-delta circuit	Yes
switching function with control signal	
● additive ON-delay	Yes
● passing break contact	Yes
● passing break contact/instantaneous	Yes
● OFF delay	Yes
● OFF delay/instantaneous	Yes
● pulse delayed	Yes
● pulse delayed/instantaneous	Yes
● pulse-shaping	Yes
● pulse-shaping/instantaneous	Yes
● additive ON-delay/instantaneous	Yes
● ON-delay/OFF-delay/instantaneous	Yes
● passing make contact	Yes
● passing make contact/instantaneous contact	Yes
switching function of interval relay with control signal	
● retrotriggerable with deactivated control signal/instantaneous contact	Yes
● retrotriggerable with switched-on control signal	Yes
● retrotriggerable with switched-on 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

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Auxiliary circuit	
material of switching contacts	AgSnO2
number of NC contacts	
● delayed switching	0
● instantaneous contact	0
number of NO contacts	
● delayed switching	0
● instantaneous contact	0
number of CO contacts	
● delayed switching	2
● instantaneous contact	0
operational current of auxiliary contacts at AC-15	
● at 24 V	3 A
● at 250 V	3 A
● at 400 V	3 A
operational 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
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
ampacity of the output relay at DC-13	
● at 24 V	1 A
● at 125 V	0.2 A
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
conducted interference	
● due to burst according to IEC 61000-4-4	2 kV network connection / 1 kV control connection
● due to conductor-earth surge according to IEC 61000-4-5	2 kV
● due to conductor-conductor surge according to IEC 61000-4-5	1 kV
field-based interference according to IEC 61000-4-3	10 V/m
electrostatic discharge according to IEC 61000-4-2	4 kV contact discharge / 8 kV air discharge
Safety related data	
category according to EN 954-1	none
Electrical Safety	
protection class IP on the front according to IEC 60529	IP20
type of insulation	Basic insulation
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	Yes
type of electrical connection	screw terminal
● for auxiliary and control circuit	screw-type terminals
type of connectable conductor cross-sections	
● solid	1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²)
● finely stranded with core end processing	1x (0.5 ... 4 mm²), 2x (0.5 ... 1.5 mm²)
● for AWG cables solid	1x (20 ... 12), 2x (20 ... 14)
connectable conductor cross-section	
● solid	0.5 ... 4 mm²
● finely stranded with core end processing	0.5 ... 4 mm²
AWG number as coded connectable conductor cross section	

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● solid	20 ... 12
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 DIN 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
ambient temperature	
● during operation	-25 ... +60 °C
● during storage	-40 ... +85 °C
● during transport	-40 ... +85 °C
relative humidity during operation	10 ... 95 %

Approvals Certificates

Environment	General Product Approval				
Environmental Confirmations	CCC	cULus	EAC	CE EG-Konf.	UKCA

EMV		Test Certificates	Maritime application		
	RCM	Type Test Certificates/Test Report	BUREAU VERITAS	DNV	Lloyd's Register LRS

Maritime application			other	
PRS	RINA	RMRS	Confirmation	产品合格 QC PASS

Further information

Information on the packaging

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Information for data generation and storage
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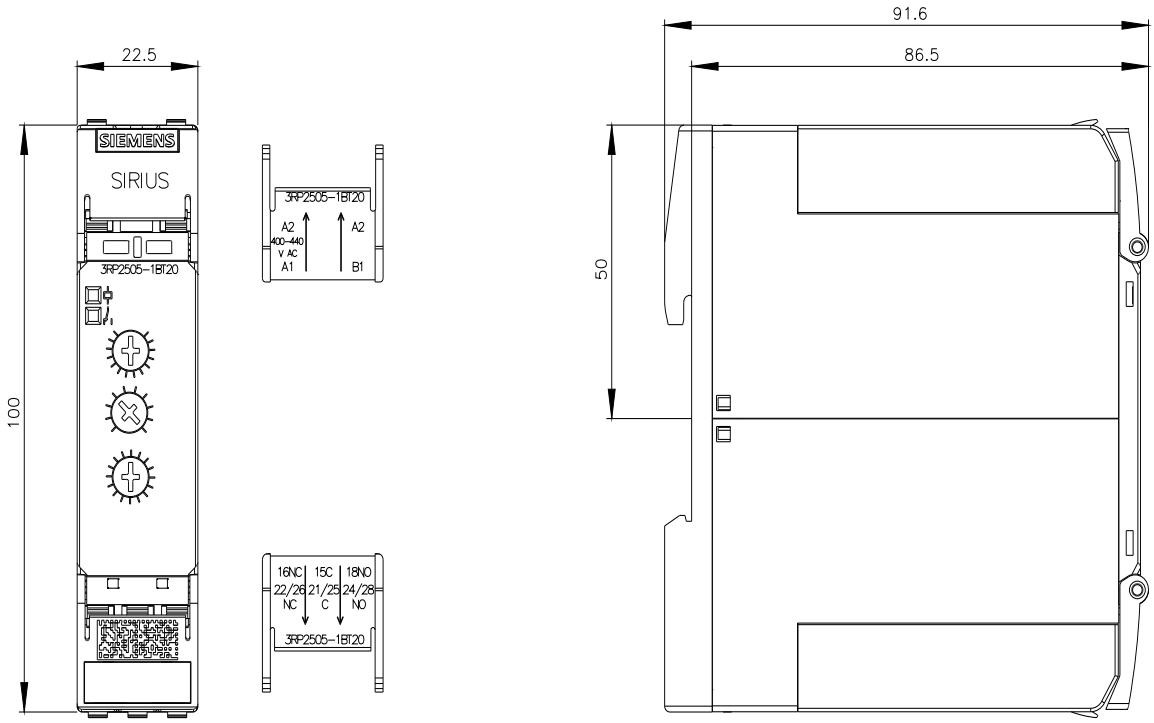
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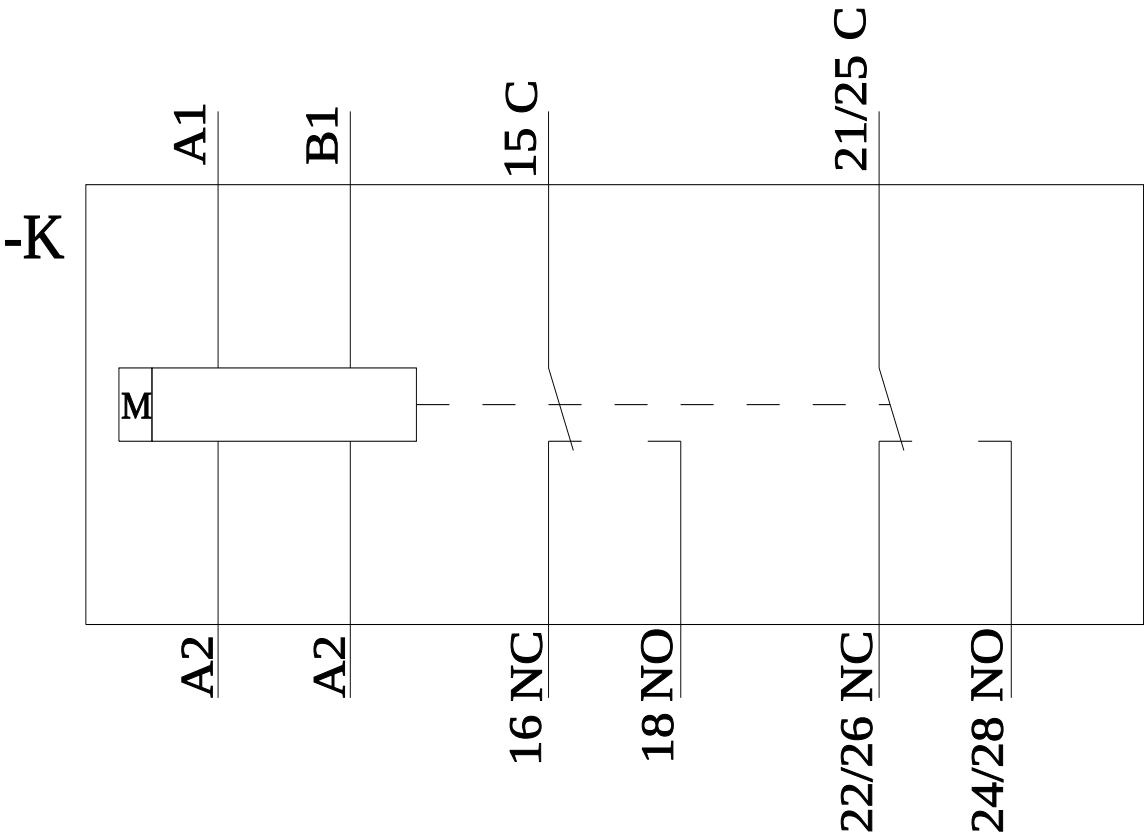
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Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RP2505-1BT20

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