SIEMENS

Data sheet 3RP20 05-1BW30



SOLID-STATE TIME-DELAY RELAY MULTI-FUNCTION, 16 FUNCTIONS 2 CHANGEOVER CONTACTS AC/DC 24 TO 240V 0.05 S TO 100H WIDTH 45MM SCREW TERMINALS

General technical data:		
product brand name		SIRIUS
Product designation		timing relay
mounting position		any
Product function non-volatile		No
Product component		
Relay output		Yes
 semi-conductor output 		No
Installation altitude at height above sea level maximum	m	2 000
Ambient temperature		
 during operation 	°C	-25 +60
during storage	°C	-40 + 85
during transport	°C	-40 + 85
Relative humidity during operation	%	10 95
EMC emitted interference acc. to IEC 61812-1		EN 61000-6-4(3)
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
Conducted interference due to conductor-earth surge acc. to IEC 61000-4-5		2 kV
Conducted interference due to conductor-conductor surge acc. to IEC 61000-4-5		1 kV
Electrostatic discharge acc. to IEC 61000-4-2		4 kV contact discharge / 8 kV air discharge
Field-bound parasitic coupling acc. to IEC 61000-4-3		10 V/m
Surge voltage resistance Rated value	V	4 000

Active power loss total typical	W	2
Equipment marking acc. to DIN 40719 extended		К
according to IEC 204-2 acc. to IEC 750		
Equipment marking acc. to DIN EN 81346-2		K
Category acc. to EN 954-1		none
Protection against electrical shock		finger-safe
Protection class IP		IP20
Mechanical service life (switching cycles) typical		10 000 000
Electrical endurance (switching cycles) at AC-15 at		100 000
230 V typical		
Operating frequency with 3RT2 contactor maximum	1/h	5 000
Shock resistance acc. to IEC 60068-2-27		11g / 15 ms
Relative repeat accuracy	%	1
Recovery time	ms	150
Minimum ON period	ms	35
Degree of pollution		3
Insulation voltage for overvoltage category III	V	300
according to IEC 60664 with degree of pollution 3		
Rated value		
Relative setting accuracy relating to full-scale value	%	5

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
 flashing asymmetrically starting with interval 	No
 flashing asymmetrically starting with pulse 	No
 flashing symmetrically starting with pulse 	No
 flashing symmetrically starting with pulse/instantaneous 	No
 flashing symmetrically starting with interval 	Yes
 flashing symmetrically starting with interval/instantaneous 	Yes
• star-delta circuit	Yes
 star-delta circuit with delay time 	No
Switching function with control signal	
 additive ON delay 	Yes
 passing break contact 	Yes
OFF delay	Yes
pulse-shaping	Yes
OFF delay/instantaneous	Yes

 ON-delay/OFF-delay/instantaneous 	Yes
 passing break contact/instantaneous 	Yes
 additive ON delay/instantaneous 	Yes
ON-delay/OFF-delay	Yes
 passing make contact 	No
 passing make contact/instantaneous contact 	Yes
• pulse delayed	No
 pulse delayed/instantaneous 	No
pulse-shaping/instantaneous	Yes
Switching function of interval relay with control signal	
 retrotriggerable with deactivated control signal/instantaneous contact 	No
 retrotriggerable with activated control signal 	No
 retrotriggerable with activated control signal/instantaneous contact 	No
• retriggerable with deactivated control signal	No
Design of the control terminal non-floating	Yes

Control circuit/ Control:		
Adjustable time	S	0.05 360 000
Type of voltage of the control supply voltage		AC/DC
Control supply voltage frequency 1	Hz	50 60
Control supply voltage 1		
• with AC		
— at 50 Hz	V	24 240
— at 60 Hz	V	24 240
• for DC	V	24 240
Operating range factor control supply voltage rated		
value		
• with AC		
— at 50 Hz		0.8 1.1
— at 60 Hz		0.8 1.1
• for DC		0.85 1.1

Auxiliary circuit:		
Contact reliability of the auxiliary contacts		one incorrect switching operation of 100 million
		switching operations (17 V, 5 mA)
Material of switching contacts		AgSnO2
Operating current of the auxiliary contacts		
● at AC-15		
— at 24 V	Α	3
— at 250 V	Α	3
• at DC-13		
— at 24 V	Α	1

— at 125 V	Α	0.2
— at 250 V	Α	0.1
Design of the fuse link for short-circuit protection of		fuse gL/gG: 4 A
the auxiliary switch required		3-3
Thermal current	Α	5
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
Installation/ mounting/ dimensions:		
Mounting type		screw and snap-on mounting onto 35 mm standard
		mounting rail
Width	mm	45
Height	mm	57
Depth	mm	73
Required spacing with side-by-side mounting		
• upwards	mm	0
• forwards	mm	0
• at the side	mm	0
Backwards	mm	0
downwards	mm	0
Required spacing for grounded parts		
Backwards	mm	0
• at the side	mm	0
• upwards	mm	0
• forwards	mm	0
• downwards	mm	0
Required spacing for live parts		
• downwards	mm	0
Backwards	mm	0
• at the side	mm	0
• forwards	mm	0
• upwards	mm	0

Connections/ Terminals:	
Type of electrical connection for auxiliary and control	screw-type terminals
current circuit	
Type of connectable conductor cross-section	

◆ solid
 ◆ finely stranded
 — with core end processing
 ◆ for AWG conductors
 — stranded
 — solid
 2x (0,5 ...1,5 mm²), 2x (0,75 ... 2,5 mm²)
 2x (18 ... 14)
 2x (18 ... 14)
 7 ightening torque
 N·m
 0.8 ... 1.2

Certificates/ approvals:

General Product Approval EMC Declaration of Conformity Certificates











Special Test Certificate

Shipping Approval















Shipping Approval other



Environmental Confirmations

Further information

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

http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system)

http://www.siemens.com/industrymall

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RP20051BW30

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

https://support.industry.siemens.com/cs/ww/en/ps/3RP20051BW30

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RP20051BW30&lang=en

