



Timing relay, electronic Multifunction, 16 functions 2 change-over contacts
24 to 240 V AC/DC at 50/60 Hz AC 0.05 s to 100 h Overall width 45 mm
screw terminal

product brand name	SIRIUS
product designation	timing relay
design of the product	Multifunctional
product type designation	3RP20
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	300 V
test voltage for isolation test	2 kV
degree of pollution	3
surge voltage resistance rated value	4 000 V
shock resistance according to IEC 60068-2-27	11g / 15 ms
vibration resistance according 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 ... 100 s
relative setting accuracy relating to full-scale value	5 %; +/-
thermal current	5 A
minimum ON period	35 ms
recovery time	150 ms
reference code according to IEC 81346-2	K
relative repeat accuracy	1 %; +/-
influence of the surrounding temperature	±5 %
power supply influence	±1 %
Substance Prohibitance (Date)	05/01/2012
Control circuit/ Control	
type of voltage of the control supply voltage	AC/DC
control supply voltage 1 at AC	
• at 50 Hz	24 ... 240 V
• at 60 Hz	24 ... 240 V
control supply voltage frequency 1	50 ... 60 Hz
control supply voltage 1	
• at DC	24 ... 240 V
operating range factor control supply voltage rated	

value at DC	
<ul style="list-style-type: none"> initial value full-scale value 	0.85 1.1
operating range factor control supply voltage rated value at AC at 50 Hz	
<ul style="list-style-type: none"> initial value full-scale value 	0.8 1.1
operating range factor control supply voltage rated value at AC at 60 Hz	
<ul style="list-style-type: none"> initial value full-scale value 	0.8 1.1
Switching Function	
switching function	
<ul style="list-style-type: none"> ON-delay ON-delay/instantaneous contact passing make contact passing make contact/instantaneous contact OFF delay 	Yes Yes Yes Yes No
switching function	
<ul style="list-style-type: none"> flashing symmetrically with interval start/instantaneous flashing symmetrically with interval start flashing symmetrically with pulse start/instantaneous flashing symmetrically with pulse start flashing asymmetrically with interval start flashing asymmetrically with pulse start 	Yes Yes No No No No
switching function	
<ul style="list-style-type: none"> star-delta circuit with delay time star-delta circuit 	No Yes
switching function with control signal	
<ul style="list-style-type: none"> additive ON-delay passing break contact passing break contact/instantaneous OFF delay OFF delay/instantaneous pulse delayed pulse delayed/instantaneous pulse-shaping pulse-shaping/instantaneous additive ON-delay/instantaneous ON-delay/OFF-delay/instantaneous passing make contact passing make contact/instantaneous contact 	Yes Yes Yes Yes Yes No No Yes Yes Yes Yes No Yes
switching function of interval relay with control signal	
<ul style="list-style-type: none"> retrotriggerable with deactivated control signal/instantaneous contact retrotriggerable with switched-on control signal retrotriggerable with switched-on control signal/instantaneous contact retriggerable with deactivated control signal 	No No No No
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	AgSnO ₂
number of NC contacts	
<ul style="list-style-type: none"> delayed switching instantaneous contact 	0 0
number of NO contacts	

<ul style="list-style-type: none"> • delayed switching • instantaneous contact 	0
number of CO contacts	
<ul style="list-style-type: none"> • delayed switching • instantaneous contact 	2
operational current of auxiliary contacts at AC-15	
<ul style="list-style-type: none"> • at 24 V • at 250 V 	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
Inputs/ Outputs	
product function	
<ul style="list-style-type: none"> • non-volatile 	No
Electromagnetic compatibility	
EMC emitted interference according to IEC 61812-1	EN 61000-6-4(3)
EMC immunity according to IEC 61812-1	EN 61000-6-2
conducted interference	
<ul style="list-style-type: none"> • due to burst according to IEC 61000-4-4 • due to conductor-earth surge according to IEC 61000-4-5 • due to conductor-conductor surge according to IEC 61000-4-5 	2 kV network connection / 1 kV control connection
	2 kV
	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	
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
type of insulation	Basic insulation
category according to EN 954-1	none
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	No
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 	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²)
	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²)
	2x (18 ... 14)
	2x (18 ... 14)
connectable conductor cross-section	
<ul style="list-style-type: none"> • solid • finely stranded with core end processing 	0.5 ... 2.5 mm ²
	0.5 ... 2.5 mm ²
AWG number as coded connectable conductor cross section	
<ul style="list-style-type: none"> • solid • stranded 	18 ... 14
	18 ... 14
tightening torque	0.8 ... 1.2 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	57 mm
width	45 mm
depth	73 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 %

Certificates/ approvals

General Product Approval	EMC	Declaration of Conformity
---------------------------------	------------	----------------------------------



[Confirmation](#)



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?mfb=3RP2005-1BW30>

Cax online generator

<http://support.automation.siemens.com/WWW/CAXorder/default.aspx?lang=en&mfb=3RP2005-1BW30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RP2005-1BW30>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RP2005-1BW30&lang=en

Characteristic: Derating

<https://support.industry.siemens.com/cs/ww/en/ps/3RP2005-1BW30/manual>

last modified:

12/9/2021 