

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
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
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	150 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	
• 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	
• initial value	0.85
• 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

Switching Function

Switching function	
• ON-delay	Yes
• ON-delay/instantaneous contact	Yes
• passing make contact	Yes

<ul style="list-style-type: none"> • passing make contact/instantaneous contact • OFF delay 	<p>Yes</p> <p>No</p>
Switching function <ul style="list-style-type: none"> • flashing symmetrically starting with interval/instantaneous • flashing symmetrically starting with interval • flashing symmetrically starting with pulse/instantaneous • flashing symmetrically starting with pulse • flashing asymmetrically starting with interval • flashing asymmetrically starting with pulse 	<p>Yes</p> <p>Yes</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p>
Switching function <ul style="list-style-type: none"> • star-delta circuit with delay time • star-delta circuit 	<p>No</p> <p>Yes</p>
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 	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>Yes</p>
Switching function of interval relay with control signal <ul style="list-style-type: none"> • retrotriggerable with deactivated control signal/instantaneous contact • retrotriggerable with activated control signal • retrotriggerable with activated control signal/instantaneous contact • retriggerable with deactivated control signal 	<p>No</p> <p>No</p> <p>No</p> <p>No</p>
Design of the control terminal non-floating	<p>Yes</p>
Short-circuit protection	
Design of the fuse link <ul style="list-style-type: none"> • for short-circuit protection of the auxiliary switch required 	<p>fuse gL/gG: 4 A</p>
Auxiliary circuit	
Material of switching contacts	<p>AgSnO2</p>

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	±5 %
Power supply influence	±1 %

Inputs/ Outputs

Product function	
• 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	No






Type of electrical connection	
<ul style="list-style-type: none"> • for auxiliary and control current circuit 	screw-type terminals
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • solid 	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²)
<ul style="list-style-type: none"> • finely stranded with core end processing 	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²)
<ul style="list-style-type: none"> • at AWG conductors solid 	2x (18 ... 14)
<ul style="list-style-type: none"> • at AWG conductors stranded 	2x (18 ... 14)
Connectable conductor cross-section	
<ul style="list-style-type: none"> • solid 	0.5 ... 2.5 mm ²
<ul style="list-style-type: none"> • finely stranded with core end processing 	0.5 ... 2.5 mm ²
AWG number as coded connectable conductor cross section	
<ul style="list-style-type: none"> • solid 	18 ... 14
<ul style="list-style-type: none"> • stranded 	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
Mounting type	screw and snap-on mounting onto 35 mm standard mounting rail
Height	57 mm
Width	45 mm
Depth	73 mm
Required spacing	
<ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — Backwards — upwards — downwards — at the side 	0 mm
	0 mm
	0 mm
	0 mm
	0 mm
<ul style="list-style-type: none"> • for grounded parts <ul style="list-style-type: none"> — forwards — Backwards — upwards — at the side — downwards 	0 mm
	0 mm
	0 mm
	0 mm
	0 mm
<ul style="list-style-type: none"> • for live parts <ul style="list-style-type: none"> — forwards — Backwards — upwards — downwards — at the side 	0 mm
	0 mm
	0 mm
	0 mm
	0 mm

Ambient conditions

Installation altitude at height above sea level <ul style="list-style-type: none">• maximum	2 000 m
Relative humidity <ul style="list-style-type: none">• during operation	10 ... 95 %

Certificates/ approvals

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

Test Certificates	Marine / Shipping
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[Type Test Certificates/Test Report](#)



Marine / Shipping

other

[Confirmation](#)



Further information

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

www.siemens.com/ic10

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RP2005-1BW30>

Cax online generator

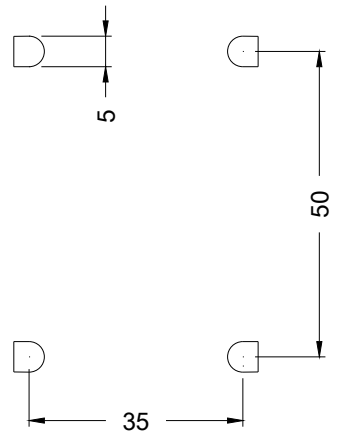
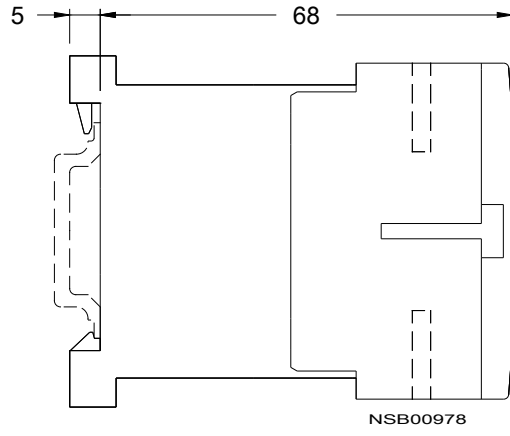
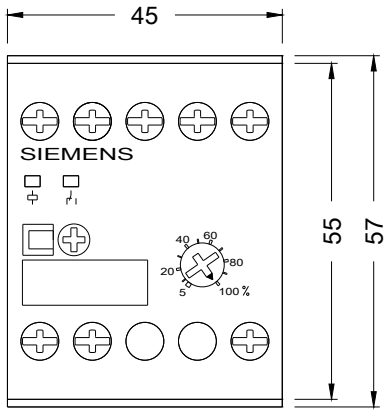
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RP2005-1BW30>

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



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