



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
<b>General technical data</b>	
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	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	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	±5 %
power supply influence	±1 %
Substance Prohibitance (day/month/year)	05/01/2012
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	0.13 g
<b>Control circuit/ Control</b>	
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	

<ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> <li>• at 60 Hz rated value</li> </ul>	24 ... 240 V
<b>control supply voltage 1 at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	24 ... 240 V
<b>control supply voltage frequency 1</b>	50 ... 60 Hz
<b>control supply voltage at DC rated value</b>	24 ... 240 V
<b>control supply voltage 1 at DC</b>	24 ... 240 V
<b>operating range factor control supply voltage rated value at DC</b>	
<ul style="list-style-type: none"> <li>• initial value</li> <li>• full-scale value</li> </ul>	0.85
	1.1
<b>operating range factor control supply voltage rated value at AC at 50 Hz</b>	
<ul style="list-style-type: none"> <li>• initial value</li> <li>• full-scale value</li> </ul>	0.8
	1.1
<b>operating range factor control supply voltage rated value at AC at 60 Hz</b>	
<ul style="list-style-type: none"> <li>• initial value</li> <li>• full-scale value</li> </ul>	0.8
	1.1
<b>Switching Function</b>	
<b>switching function</b>	
<ul style="list-style-type: none"> <li>• ON-delay</li> <li>• ON-delay/instantaneous contact</li> <li>• passing make contact</li> <li>• passing make contact/instantaneous contact</li> <li>• OFF delay</li> </ul>	Yes
	Yes
	Yes
	Yes
	No
<b>switching function</b>	
<ul style="list-style-type: none"> <li>• flashing symmetrically with interval start/instantaneous</li> <li>• flashing symmetrically with interval start</li> <li>• flashing symmetrically with pulse start/instantaneous</li> <li>• flashing symmetrically with pulse start</li> <li>• flashing asymmetrically with interval start</li> <li>• flashing asymmetrically with pulse start</li> </ul>	Yes
	Yes
	No
	No
	No
	No
<b>switching function</b>	
<ul style="list-style-type: none"> <li>• star-delta circuit with delay time</li> <li>• star-delta circuit</li> </ul>	No
	Yes
<b>switching function with control signal</b>	
<ul style="list-style-type: none"> <li>• additive ON-delay</li> <li>• passing break contact</li> <li>• passing break contact/instantaneous</li> <li>• OFF delay</li> <li>• OFF delay/instantaneous</li> <li>• pulse delayed</li> <li>• pulse delayed/instantaneous</li> <li>• pulse-shaping</li> <li>• pulse-shaping/instantaneous</li> <li>• additive ON-delay/instantaneous</li> <li>• ON-delay/OFF-delay/instantaneous</li> <li>• passing make contact</li> <li>• passing make contact/instantaneous contact</li> </ul>	Yes
	Yes
	Yes
	Yes
	Yes
	No
	No
	Yes
	Yes
	Yes
	No
	Yes
<b>switching function of interval relay with control signal</b>	
<ul style="list-style-type: none"> <li>• retrotriggerable with deactivated control signal/instantaneous contact</li> <li>• retrotriggerable with switched-on control signal</li> <li>• retrotriggerable with switched-on control signal/instantaneous contact</li> <li>• retriggerable with deactivated control signal</li> </ul>	No
	No
	No
	No
<b>design of the control terminal non-floating</b>	Yes
<b>Short-circuit protection</b>	

design of the fuse link for short-circuit protection of the auxiliary switch required	fuse gL/gG: 4 A
<b>Auxiliary circuit</b>	
<b>material of switching contacts</b>	AgSnO <sub>2</sub>
<b>number of NC contacts</b>	
• delayed switching	0
• instantaneous contact	0
<b>number of NO contacts</b>	
• delayed switching	0
• instantaneous contact	0
<b>number of CO contacts</b>	
• delayed switching	2
• instantaneous contact	0
<b>operational current of auxiliary contacts at AC-15</b>	
• at 24 V	3 A
• at 250 V	3 A
<b>operational current of auxiliary contacts at DC-13</b>	
• at 24 V	1 A
• at 125 V	0.2 A
• at 250 V	0.1 A
<b>operating frequency with 3RT2 contactor maximum</b>	5 000 1/h
<b>contact reliability of auxiliary contacts</b>	one incorrect switching operation of 100 million switching operations (17 V, 5 mA)
<b>contact rating of auxiliary contacts according to UL</b>	R300 / B300
<b>Inputs/ Outputs</b>	
<b>product function</b>	
• non-volatile	No
<b>Electromagnetic compatibility</b>	
EMC emitted interference according to IEC 61812-1	EN 61000-6-4(3)
EMC immunity according to IEC 61812-1	EN 61000-6-2
<b>conducted interference</b>	
• 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
<b>field-based interference according to IEC 61000-4-3</b>	10 V/m
<b>electrostatic discharge according to IEC 61000-4-2</b>	4 kV contact discharge / 8 kV air discharge
<b>Safety related data</b>	
category according to EN 954-1	none
<b>Electrical Safety</b>	
<b>protection class IP on the front according to IEC 60529</b>	IP20
<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front
<b>type of insulation</b>	Basic insulation
<b>Connections/ Terminals</b>	
<b>product component removable terminal for auxiliary and control circuit</b>	No
<b>type of electrical connection</b>	
• for auxiliary and control circuit	screw-type terminals
<b>type of connectable conductor cross-sections</b>	
• solid	2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> )
• finely stranded with core end processing	2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> )
• for AWG cables solid	2x (18 ... 14)
• for AWG cables stranded	2x (18 ... 14)
<b>connectable conductor cross-section</b>	
• solid	0.5 ... 2.5 mm <sup>2</sup>
• finely stranded with core end processing	0.5 ... 2.5 mm <sup>2</sup>
<b>AWG number as coded connectable conductor cross section</b>	
• solid	18 ... 14
• stranded	18 ... 14

<b>tightening torque</b>	0.8 ... 1.2 N·m
<b>design of the thread of the connection screw</b>	M3

**Installation/ mounting/ dimensions**

<b>mounting position</b>	any
<b>fastening method</b>	screw and snap-on mounting onto 35 mm DIN rail
<b>height</b>	57 mm
<b>width</b>	45 mm
<b>depth</b>	73 mm

<b>required spacing</b>	
<ul style="list-style-type: none"> <li>• with side-by-side mounting <ul style="list-style-type: none"> <li>— forwards 0 mm</li> <li>— backwards 0 mm</li> <li>— upwards 0 mm</li> <li>— downwards 0 mm</li> <li>— at the side 0 mm</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards 0 mm</li> <li>— backwards 0 mm</li> <li>— upwards 0 mm</li> <li>— at the side 0 mm</li> <li>— downwards 0 mm</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards 0 mm</li> <li>— backwards 0 mm</li> <li>— upwards 0 mm</li> <li>— downwards 0 mm</li> <li>— at the side 0 mm</li> </ul> </li> </ul>	

**Ambient conditions**

installation altitude at height above sea level maximum	2 000 m
<b>ambient temperature</b>	
<ul style="list-style-type: none"> <li>• during operation -25 ... +60 °C</li> <li>• during storage -40 ... +85 °C</li> <li>• during transport -40 ... +85 °C</li> </ul>	
relative humidity during operation	10 ... 95 %

**Approvals Certificates**

<b>Environment</b>	<b>General Product Approval</b>
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[Environmental Con-  
firmations](#)



<b>EMV</b>	<b>Test Certificates</b>	<b>Maritime application</b>
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[Type Test Certificates/Test Report](#)



<b>Maritime application</b>	<b>other</b>
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[Confirmation](#)



**Further information**

**Information on the packaging**

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RP2005-1BW30>

Cax online generator

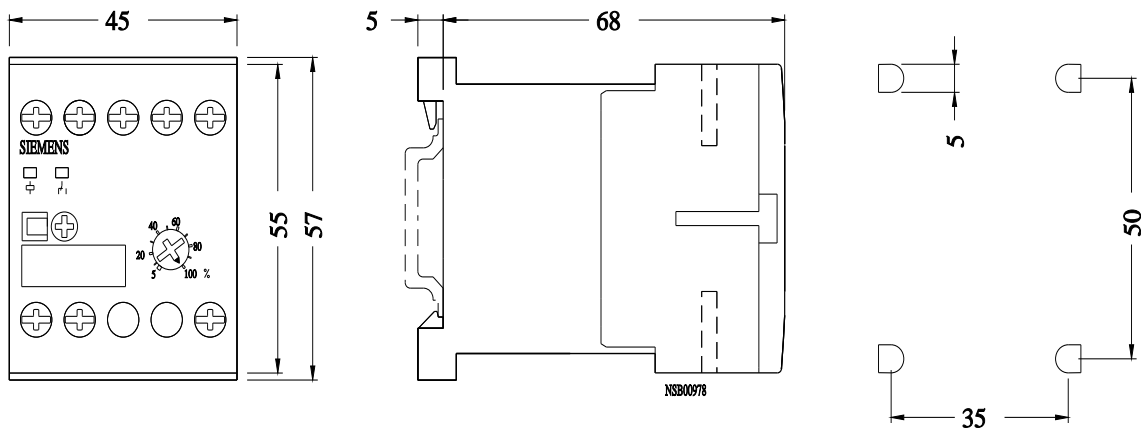
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RP2005-1BW30>

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, ...)

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RP2005-1BW30&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RP2005-1BW30&lang=en)



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