

Timing relay, electronic Multifunction, 8 functions 1 change-over contact 24 V AC/DC, 200 to 240 V AC 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	
<b>Product component</b>	
• Relay output	Yes
• semi-conductor output	No
<b>Product extension required remote control</b>	No
<b>Product extension optional remote control</b>	No
<b>Insulation voltage</b>	
• for overvoltage category III according to IEC 60664	
— with degree of pollution 3 rated value	300 V
<b>Test voltage for isolation test</b>	2 kV
<b>Degree of pollution</b>	3
<b>Surge voltage resistance rated value</b>	4 000 V
<b>Protection class IP</b>	IP20
<b>Shock resistance</b>	

• acc. to IEC 60068-2-27	11g / 15 ms
<b>Vibration resistance</b>	
• acc. to IEC 60068-2-6	10 ... 55 Hz / 0.35 mm
<b>Mechanical service life (switching cycles)</b>	
• typical	10 000 000
<b>Electrical endurance (switching cycles)</b>	
• at AC-15 at 230 V typical	100 000
<b>Adjustable time</b>	0.05 s ... 100 h
<b>Relative setting accuracy relating to full-scale value</b>	5 %
<b>Thermal current</b>	5 A
<b>Minimum ON period</b>	35 ms
<b>Recovery time</b>	150 ms
<b>Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750</b>	K
<b>Reference code acc. to DIN EN 81346-2</b>	K
<b>Reference code acc. to DIN EN 61346-2</b>	K
<b>Relative repeat accuracy</b>	1 %

<b>Control circuit/ Control</b>	
<b>Type of voltage of the control supply voltage</b>	AC/DC
<b>Control supply voltage 1 at AC</b>	
• at 50 Hz rated value	24 V
• at 60 Hz rated value	24 V
<b>Control supply voltage 2 at AC</b>	
• at 50 Hz	200 ... 240 V
• at 60 Hz	200 ... 240 V
<b>Control supply voltage frequency 1</b>	50 ... 60 Hz
<b>Control supply voltage 1</b>	
• at DC rated value	24 V
<b>Operating range factor control supply voltage rated value at DC</b>	
• initial value	0.85
• Full-scale value	1.1
<b>Operating range factor control supply voltage rated value at AC at 50 Hz</b>	
• initial value	0.85
• Full-scale value	1.1
<b>Operating range factor control supply voltage rated value at AC at 60 Hz</b>	
• initial value	0.85
• Full-scale value	1.1

<b>Switching Function</b>	
<b>Switching function</b>	

• ON-delay	Yes
• ON-delay/instantaneous contact	No
• passing make contact	Yes
• passing make contact/instantaneous contact	No
• OFF delay	No
<b>Switching function</b>	
• flashing symmetrically starting with interval/instantaneous	No
• flashing symmetrically starting with interval	Yes
• flashing symmetrically starting with pulse/instantaneous	No
• flashing symmetrically starting with pulse	No
• flashing asymmetrically starting with interval	No
• flashing asymmetrically starting with pulse	No
<b>Switching function</b>	
• star-delta circuit with delay time	No
• star-delta circuit	No
<b>Switching function with control signal</b>	
• additive ON delay	Yes
• passing break contact	Yes
• passing break contact/instantaneous	No
• OFF delay	Yes
• OFF delay/instantaneous	No
• pulse delayed	No
• pulse delayed/instantaneous	No
• pulse-shaping	Yes
• pulse-shaping/instantaneous	No
• additive ON delay/instantaneous	No
• ON-delay/OFF-delay/instantaneous	No
• passing make contact	No
• passing make contact/instantaneous contact	No
<b>Switching function of interval relay with control signal</b>	
• 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
<b>Design of the control terminal non-floating</b>	Yes
<b>Short-circuit protection</b>	
<b>Design of the fuse link</b>	

- for short-circuit protection of the auxiliary switch required

fuse gL/gG: 4 A

#### Auxiliary circuit

<b>Material of switching contacts</b>	AgSnO <sub>2</sub>
<b>Number of NC contacts</b>	0
<ul style="list-style-type: none"> <li>• delayed switching</li> </ul>	0
<b>Number of NO contacts</b>	0
<ul style="list-style-type: none"> <li>• delayed switching</li> </ul>	0
<b>Number of CO contacts</b>	1
<ul style="list-style-type: none"> <li>• delayed switching</li> </ul>	1
<b>Operating current of auxiliary contacts at AC-15</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> </ul>	3 A
<ul style="list-style-type: none"> <li>• at 250 V</li> </ul>	3 A
<b>Operating current of auxiliary contacts at DC-13</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> </ul>	1 A
<ul style="list-style-type: none"> <li>• at 125 V</li> </ul>	0.2 A
<ul style="list-style-type: none"> <li>• at 250 V</li> </ul>	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>Influence of the surrounding temperature</b>	±5 %
<b>Power supply influence</b>	±1 %

#### Inputs/ Outputs

<b>Product function</b>	
<ul style="list-style-type: none"> <li>• non-volatile</li> </ul>	No

#### Electromagnetic compatibility

<b>EMI immunity</b>	
<ul style="list-style-type: none"> <li>• acc. to IEC 61812-1</li> </ul>	EN 61000-6-2
<b>Conducted interference</b>	
<ul style="list-style-type: none"> <li>• due to burst acc. to IEC 61000-4-4</li> </ul>	2 kV network connection / 1 kV control connection
<ul style="list-style-type: none"> <li>• due to conductor-earth surge acc. to IEC 61000-4-5</li> </ul>	2 kV
<ul style="list-style-type: none"> <li>• due to conductor-conductor surge acc. to IEC 61000-4-5</li> </ul>	1 kV
<b>Field-bound parasitic coupling acc. to IEC 61000-4-3</b>	10 V/m
<b>Electrostatic discharge acc. to IEC 61000-4-2</b>	4 kV contact discharge / 8 kV air discharge

#### Safety related data

<b>Protection against electrical shock</b>	finger-safe
<b>Type of insulation</b>	Basic insulation
<b>Category acc. to EN 954-1</b>	none

## Connections/ Terminals

<b>Product function</b>	
<ul style="list-style-type: none"> <li>removable terminal for auxiliary and control circuit</li> </ul>	No
<b>Type of electrical connection</b>	
<ul style="list-style-type: none"> <li>for auxiliary and control current circuit</li> </ul>	screw-type terminals
<b>Type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>solid</li> </ul>	2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>finely stranded with core end processing</li> </ul>	2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>at AWG conductors solid</li> </ul>	2x (18 ... 14)
<ul style="list-style-type: none"> <li>at AWG conductors stranded</li> </ul>	2x (18 ... 14)
<b>Connectable conductor cross-section</b>	
<ul style="list-style-type: none"> <li>solid</li> </ul>	0.5 ... 2.5 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>finely stranded with core end processing</li> </ul>	0.5 ... 2.5 mm <sup>2</sup>
<b>AWG number as coded connectable conductor cross section</b>	
<ul style="list-style-type: none"> <li>solid</li> </ul>	18 ... 14
<ul style="list-style-type: none"> <li>stranded</li> </ul>	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>Mounting type</b>	screw and snap-on mounting onto 35 mm standard mounting 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</li> <li>— Backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul>	0 mm
<ul style="list-style-type: none"> <li>for grounded parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— Backwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> </ul>	0 mm
<ul style="list-style-type: none"> <li>for live parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— Backwards</li> </ul> </li> </ul>	0 mm

- upwards
- downwards
- at the side

0 mm  
0 mm  
0 mm

### Ambient conditions

#### Installation altitude at height above sea level

- maximum

2 000 m

#### Relative humidity

- during operation

10 ... 95 %

### Certificates/ approvals

#### General Product Approval



CCC



UL



RCM



EG-Konf.

#### Declaration of Conformity

[Miscellaneous](#)

#### Test Certificates

#### Marine / Shipping

[Type Test Certificates/Test Report](#)



BUREAU  
VERITAS



LRS



PRS



RINA



RMRS

#### Marine / Shipping

#### other



[Confirmation](#)

### Further information

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

[www.siemens.com/ic10](http://www.siemens.com/ic10)

#### Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RP2005-1AP30>

#### Cax online generator

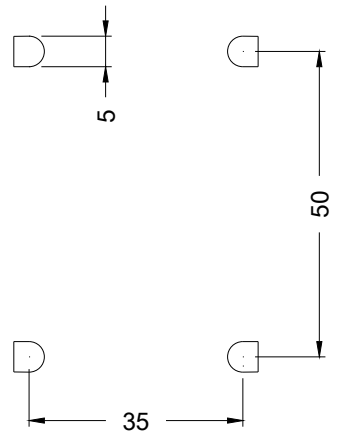
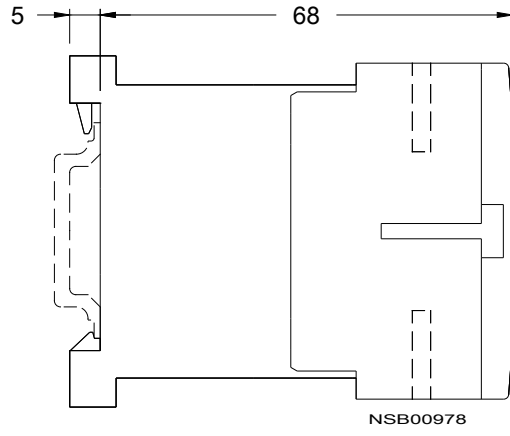
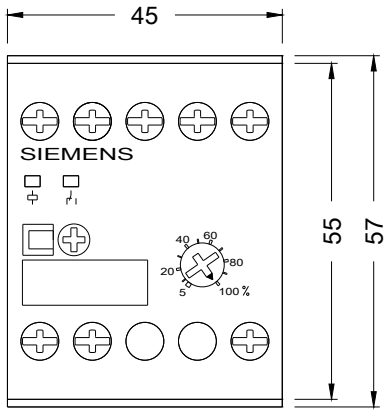
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RP2005-1AP30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RP2005-1AP30>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RP2005-1AP30&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RP2005-1AP30&lang=en)



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