

Electronic timing relay ON delay With semiconductor output 90-240 V AC/DC Time range 0.05...100 s Can be snapped on at the front For contactors 3RT2, S2, S3 and 3RH2 S00 contactor relays Screw terminal



Product brand name	SIRIUS
Product designation	function module
Product type designation	3RA28

**General technical data**

<b>Product component</b>	
• semi-conductor output	Yes
<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>	1.5 kV
<b>Degree of pollution</b>	3
<b>Surge voltage resistance rated value</b>	4 kV
<b>Test voltage for surge voltage test</b>	4 800 V
<b>Protection class IP</b>	
• of the terminal	IP20
<b>Shock resistance</b>	

• acc. to IEC 60068-2-27	15g / 11 ms
<b>Vibration resistance</b>	
• acc. to IEC 60068-2-6	10 ... 59 Hz: 0.35 mm, 60 ... 150 Hz: 2g
<b>Mechanical service life (switching cycles)</b>	
• typical	100 000 000
<b>Mechanical service life (switching cycles)</b>	
• with contactor 3R.2 of frame size S2	5 000 000
• with contactor 3R.2 of frame size S3	3 000 000
<b>Electrical endurance (switching cycles)</b>	
• at AC-15 at 230 V typical	10 000 000
<b>Electrical endurance (switching cycles)</b>	
• with contactor 3R.2 of frame size S2	5 000 000
• with contactor 3R.2 of frame size S3	3 000 000
<b>Adjustable time</b>	0.05 ... 100 s
<b>Relative setting accuracy relating to full-scale value</b>	15 %
<b>Recovery time</b>	50 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 %

#### Product Function

<b>Product function star-delta circuit</b>	No
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#### Control circuit/ Control

<b>Type of voltage of the control supply voltage</b>	AC/DC
<b>Control supply voltage 1 at AC</b>	
• at 50 Hz	90 ... 240 V
• at 60 Hz	90 ... 240 V
<b>Control supply voltage frequency 1</b>	50 ... 60 Hz
<b>Control supply voltage 1</b>	
• at DC	90 ... 240 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>Design of the surge suppressor</b>	with varistor
<b>Switching Function</b>	
<b>Switching function</b>	
• ON-delay	Yes
• ON-delay/instantaneous contact	No
• passing make contact	No
• 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	No
• 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>	
• fixed clock cycle beginning with pulse	No
• fixed clock cycle beginning with interval	No
<b>Switching function</b>	
• variably clocked start with impulse	No
• variably clocked start with interval	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	No
• passing break contact	No
• passing break contact/instantaneous	No
• OFF delay	No
• OFF delay/instantaneous	No
• pulse delayed	No
• pulse delayed/instantaneous	No
• pulse-shaping	No
• pulse-shaping/instantaneous	No
• additive ON delay/instantaneous	No
• ON-delay/OFF-delay	No
• ON-delay/OFF-delay/instantaneous	No
• passing make contact	No

<ul style="list-style-type: none"> <li>• passing make contact/instantaneous contact</li> </ul>	No
<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> </ul>	No
<ul style="list-style-type: none"> <li>• retrotriggerable with activated control signal</li> </ul>	No
<ul style="list-style-type: none"> <li>• retrotriggerable with activated control signal/instantaneous contact</li> </ul>	No
<ul style="list-style-type: none"> <li>• retriggerable with deactivated control signal</li> </ul>	No
<b>Design of the control terminal non-floating</b>	Yes

### Auxiliary circuit

<b>Number of NO contacts</b>	
<ul style="list-style-type: none"> <li>• delayed switching</li> </ul>	1
<b>Operating frequency with 3RT2 contactor maximum</b>	2 500 1/h
<b>Influence of the surrounding temperature</b>	±1 %
<b>Power supply influence</b>	±1 %

### Main circuit

<b>Type of voltage</b>	AC/DC
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### 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>	Environment A (industrial area)
<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>	8 kV

### 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>	Yes
<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> <li>• finely stranded with core end processing</li> <li>• finely stranded without core end processing</li> <li>• at AWG conductors solid</li> <li>• at AWG conductors stranded</li> </ul>	<p>0.5 ... 4 mm<sup>2</sup>, 2x (0.5 ... 2.5 mm<sup>2</sup>)</p> <p>1x (0.5 ... 2.5 mm<sup>2</sup>), 2x (0.5 ... 1.5 mm<sup>2</sup>)</p> <p>2x (0.5 ... 1.5 mm<sup>2</sup>)</p> <p>2x (20 ... 14)</p> <p>2x (20 ... 14)</p>
<b>Connectable conductor cross-section</b>	
<ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> <li>• finely stranded without core end processing</li> </ul>	<p>0.5 ... 4 mm<sup>2</sup></p> <p>0.5 ... 2.5 mm<sup>2</sup></p> <p>0.25 ... 1.5 mm<sup>2</sup></p>
<b>AWG number as coded connectable conductor cross section</b>	
<ul style="list-style-type: none"> <li>• solid</li> <li>• stranded</li> </ul>	<p>20 ... 14</p> <p>20 ... 14</p>

### Installation/ mounting/ dimensions

<b>Mounting position</b>	any (like contactor)
<b>Mounting type</b>	clip-on
<b>Height</b>	38 mm
<b>Width</b>	45 mm
<b>Depth</b>	74 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> <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> <li>• for live parts <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>	<p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p>

### Ambient conditions

<b>Installation altitude at height above sea level</b>	
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• maximum 2 000 m

**Relative humidity**

• during operation 0 ... 95 %

**Certificates/ approvals**

**General Product Approval**



**Test Certificates**

[Type Test Certificates/Test Report](#)



LRS

**Marine / Shipping**



**other**

[Confirmation](#)

**Further information**

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

[www.siemens.com/sirius/catalogs](http://www.siemens.com/sirius/catalogs)

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RA2831-1DH10>

**Cax online generator**

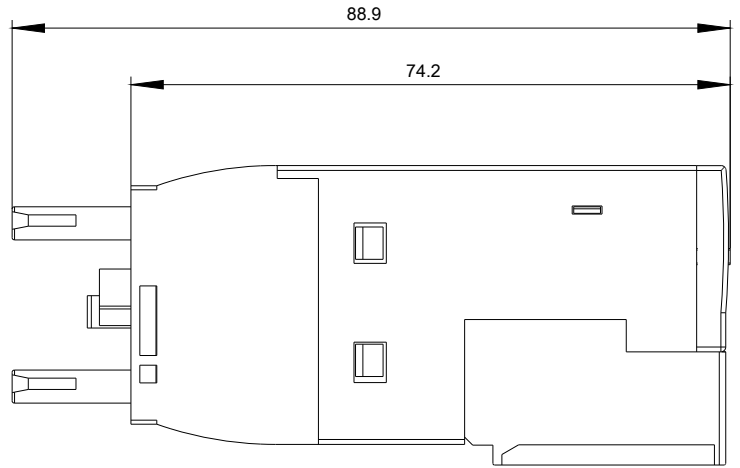
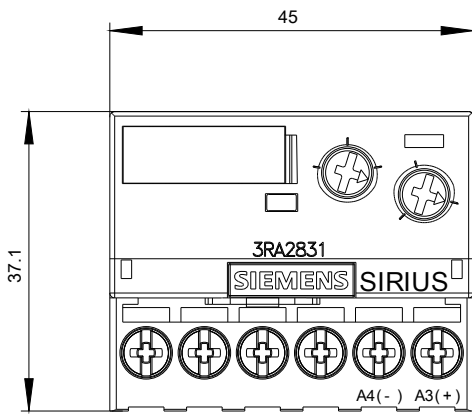
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA2831-1DH10>

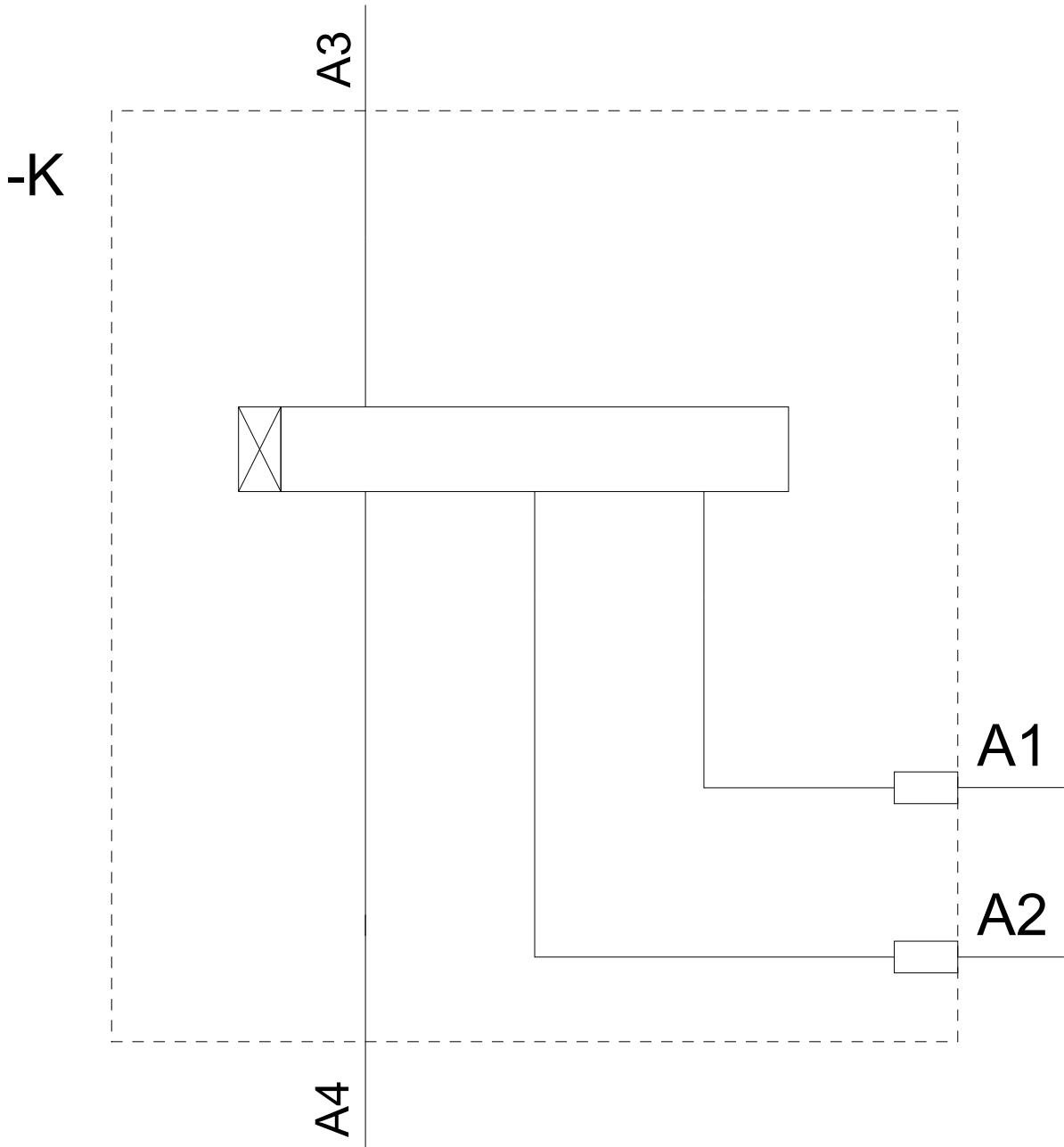
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

<https://support.industry.siemens.com/cs/ww/en/ps/3RA2831-1DH10>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RA2831-1DH10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA2831-1DH10&lang=en)





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