

Function module star-delta (wye-delta) consisting of basic module and 2 coupling modules with integrated connecting cable Time range 0.5...60 s 24...240 V AC/DC For 3RT2 S00-S3 contactors and 3RH2 S00 contactor relays Varistor for attenuation of the contactor coils integrated



<b>product brand name</b>	SIRIUS
<b>product designation</b>	function module
<b>design of the product</b>	comprising basic module and two coupling modules
<b>product type designation</b>	3RA28
<b>General technical data</b>	
<b>size of contactor can be combined company-specific</b>	S00, S0, S2, S3
product component semi-conductor output	No
<b>product extension required remote control</b>	No
<b>product extension optional remote control</b>	No
insulation voltage 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
protection class IP of the terminal	IP20
shock resistance acc. to IEC 60068-2-27	15g / 11 ms
vibration resistance acc. to IEC 60068-2-6	10 ... 59 Hz: 0.35 mm, 60 ... 150 Hz: 2g
mechanical service life (switching cycles) typical	10 000 000
<b>mechanical service life (switching cycles)</b>	
• with contactor 3R.2 of frame size S00	10 000 000
• with contactor 3R.2 of frame size S0	10 000 000
• with contactor 3R.2 of frame size S2	10 000 000
• with contactor 3R.2 of frame size S3	10 000 000
electrical endurance (switching cycles) at AC-15 at 230 V typical	100 000
<b>electrical endurance (switching cycles)</b>	
• with contactor 3R.2 of frame size S00	100 000
• with contactor 3R.2 of frame size S0	100 000
• with contactor 3R.2 of frame size S2	100 000
• with contactor 3R.2 of frame size S3	100 000
<b>adjustable time</b>	0.5 ... 60 s
<b>relative setting accuracy relating to full-scale value</b>	15 %
<b>recovery time</b>	150 ms
<b>reference code acc. to IEC 81346-2</b>	K
<b>relative repeat accuracy</b>	1 %
<b>Product Function</b>	
<b>product function star-delta circuit</b>	Yes

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	24 ... 240 V
• at 60 Hz	24 ... 240 V
<b>control supply voltage frequency 1</b>	50 ... 60 Hz
• control supply voltage 1 at DC	24 ... 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
Switching Function	
<b>switching function</b>	
• ON-delay	No
• ON-delay/instantaneous contact	No
• passing make contact	No
• passing make contact/instantaneous contact	No
• OFF delay	No
<b>switching function</b>	
• flashing symmetrically with interval start/instantaneous	No
• flashing symmetrically with interval start	No
• flashing symmetrically with pulse start/instantaneous	No
• flashing symmetrically with pulse start	No
• flashing asymmetrically with interval start	No
• flashing asymmetrically with pulse start	No
<b>switching function</b>	
• constant clock cycle with pulse start	No
• constant clock cycle with interval start	No
<b>switching function</b>	
• variably clocked with pulse start	No
• variably clocked with interval start	No
<b>switching function</b>	
• star-delta circuit with delay time	No
• star-delta circuit	Yes
<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 switched-on control signal</li> </ul>	No
<ul style="list-style-type: none"> <li>• retrotriggerable with switched-on 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>	No
<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 NO contacts</b>	
<ul style="list-style-type: none"> <li>• delayed switching</li> </ul>	2
<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>	±2 %
<b>Main circuit</b>	
<b>type of voltage</b>	AC/DC
<b>Inputs/ Outputs</b>	
<b>product function</b>	
<ul style="list-style-type: none"> <li>• at the relay outputs switchover delayed/without delay</li> </ul>	No
<ul style="list-style-type: none"> <li>• non-volatile</li> </ul>	No
<b>Electromagnetic compatibility</b>	
EMC immunity acc. to IEC 61812-1	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-based interference acc. to IEC 61000-4-3</b>	10 V/m
<b>electrostatic discharge acc. to IEC 61000-4-2</b>	8 kV
<b>Safety related data</b>	
<b>touch protection against electrical shock</b>	finger-safe
<b>protection class IP on the front acc. to IEC 60529</b>	IP20
<b>type of insulation</b>	Basic insulation
<b>category acc. to EN 954-1</b>	none
<b>Connections/ Terminals</b>	
product function removable terminal for auxiliary and control circuit	No
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	any (like contactor)
<b>fastening method</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> </ul> </li> </ul>	0 mm 0 mm 0 mm 0 mm 0 mm  0 mm 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
• ambient temperature during storage	-40 ... +85 °C
• ambient temperature during transport	-40 ... +85 °C
relative humidity during operation	0 ... 95 %

#### Certificates/ approvals

General Product Approval	Declaration of Conformity	Test Certificates
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[Miscellaneous](#)

[Type Test  
Certificates/Test  
Report](#)

#### Marine / Shipping



#### Marine / Shipping

other

Railway



[Confirmation](#)

[Vibration and Shock](#)

#### 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?mlfb=3RA2816-0EW20>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA2816-0EW20>

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

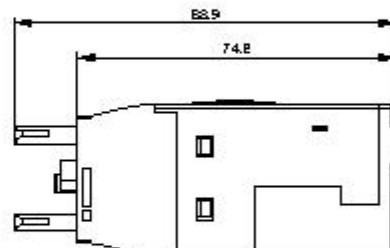
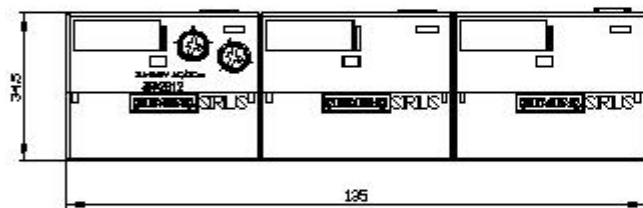
<https://support.industry.siemens.com/cs/ww/en/ps/3RA2816-0EW20>

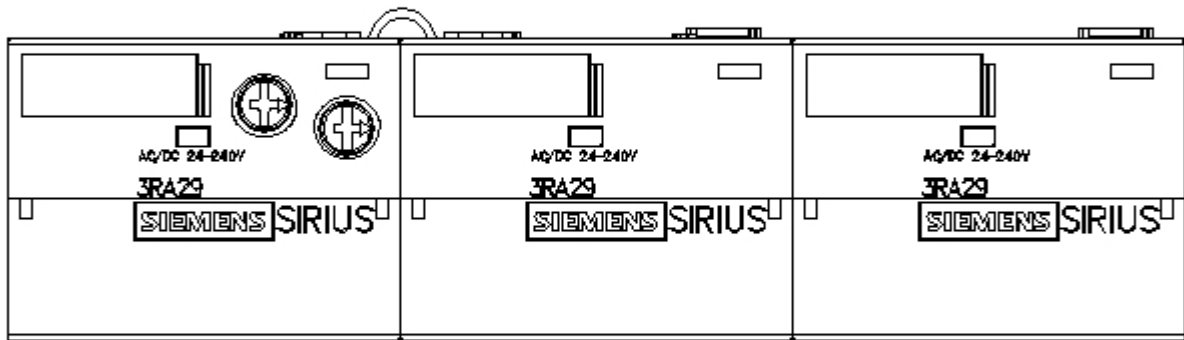
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

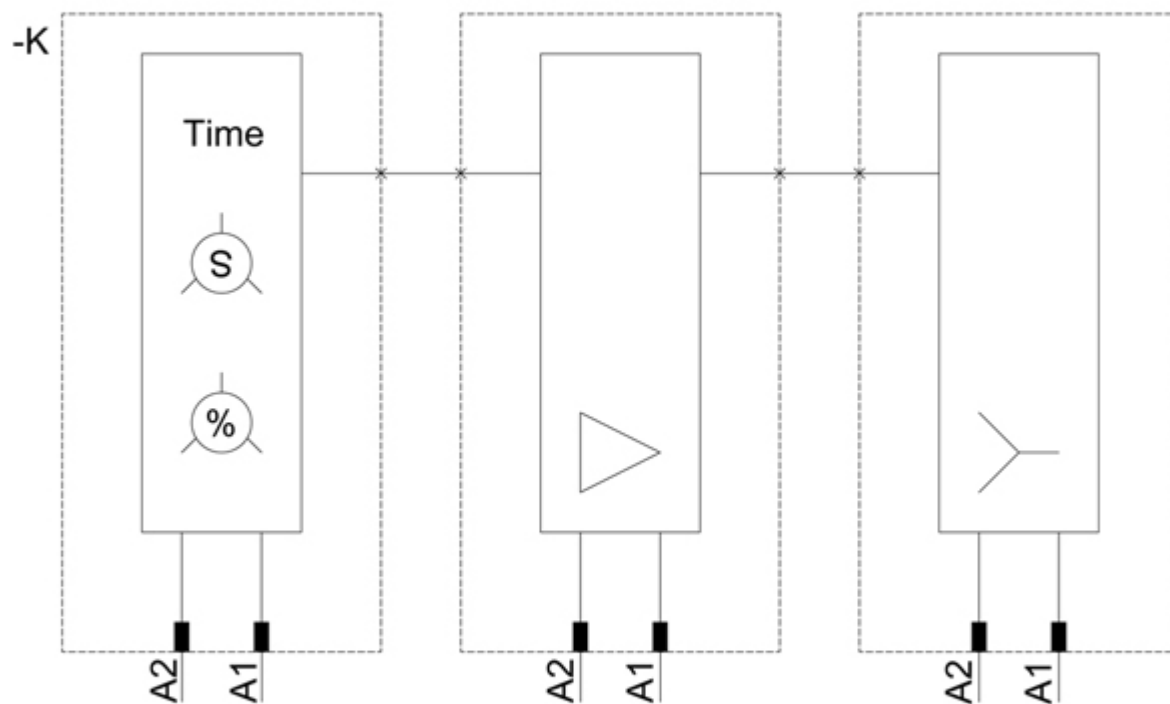
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RA2816-0EW20&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA2816-0EW20&lang=en)

Characteristic: Derating

<https://support.industry.siemens.com/cs/ww/en/ps/3RA2816-0EW20/manual>







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