

SIRIUS, Central unit 3RK3 ASIsafe Extended for modular Safety system  
3RK3 2/4 F-DI, 4 DI, 1 F-RO, 1 F-DO, 24 V DC Monitoring of ASI slaves  
Control of 10 safe outputs on AS-Interface bus parameterizable using  
software Safety ES 45 mm width screw terminal Up to SIL3 (IEC 61508) Up  
to Performance Level E (ISO 13849-1) 2 extension modules connectable

product brand name	SIRIUS
product category	Modular Safety System
product designation	Central unit
design of the product	2/4 F-DI, 4 DI, 1 F-RO, 1 F-DO
suitability for use for monitoring of optoelectronic protective devices according to IEC 61496-1	Yes
suitability for use	
• monitoring of floating sensors	Yes
• monitoring of non-floating sensors	Yes
• position switch monitoring	Yes
• EMERGENCY-OFF circuit monitoring	Yes
• valve monitoring	Yes
• opto-electronic protection device monitoring	Yes
• proximity switch monitoring	Yes
• safety-related circuits	Yes

General technical data

product function	
• EMERGENCY STOP function	Yes
• protective door monitoring	Yes
• protective door monitoring with tumbler	Yes
• muting, 2 sensor-parallel	Yes
• muting, 4 sensor-parallel	Yes
• muting, 4 sensor-sequential	Yes
• monitoring parameterizable	Yes
• evaluation: electro-sensitive protective equipment	Yes
• evaluation: selector switch	Yes
• pressure-sensitive mat monitoring	Yes
• evaluation: two-hand operator panel	Yes
• evaluation: enabling switch	Yes
• monitored start-up	Yes
• two-hand control according to EN 574	Yes
number of function blocks typical	300
insulation voltage rated value	300 V
degree of pollution	3
surge voltage resistance rated value	2 500 V
consumed current for rated value of supply voltage	1.685 A
protection class IP	IP20
• of the enclosure	IP20
• of the terminal	IP20
shock resistance	15g / 11 ms
vibration resistance according to IEC 60068-2-6	5 ... 500 Hz: 0.75 mm
operating frequency maximum	1 000 1/h

<b>mechanical service life (operating cycles) typical</b>	10 000 000
<b>reference code according to IEC 81346-2</b>	K
<b>Substance Prohibitance (Date)</b>	05/28/2009
<b>product function suitable for AS-i Power24V</b>	Yes
<b>product function diagnostics with CTT2 slave</b>	Yes
<b>protocol is supported ASIsafe (Safety at work) protocol</b>	Yes
<b>number of safe signals for remote shutdown or cross traffic by means of AS-interface</b>	10
<b>consumed current from profile conductors of the AS-Interface</b>	
• at 30 V maximum	45 mA
• at 24 V with AS-i Power24V maximum	45 mA

#### Ambient conditions

<b>installation altitude at height above sea level maximum</b>	2 000 m
<b>ambient temperature</b>	
• during operation	-20 ... +60 °C
• during storage	-40 ... +85 °C
• during transport	-40 ... +85 °C
<b>air pressure according to SN 31205</b>	70 ... 106 kPa

#### Electromagnetic compatibility

<b>installation environment regarding EMC</b>	This product is suitable for Class A environments only. In household environments, this device can cause unwanted radio interference. The user is required to implement appropriate measures in this case.
<b>conducted interference</b>	
• due to burst according to IEC 61000-4-4	2 kV (power ports) / 1 kV (signal ports)
• 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

#### Safety related data

<b>Safety Integrity Level (SIL)</b>	
• according to IEC 62061	3
• according to IEC 61508	SIL CL 3
<b>SIL Claim Limit (subsystem) according to EN 62061</b>	Kat. 4 / SIL3 / Ple
<b>performance level (PL) according to ISO 13849-1</b>	e
<b>category according to EN ISO 13849-1</b>	4
<b>stop category according to EN 60204-1</b>	0 / 1
<b>diagnostics test interval by internal test function maximum</b>	1 000 s
<b>PFHD with high demand rate according to EN 62061</b>	0.000000007 1/h
<b>hardware fault tolerance according to IEC 61508</b>	1
<b>touch protection against electrical shock</b>	finger-safe
<b>category according to EN 954-1</b>	4

#### Inputs/ Outputs

<b>product function</b>	
• parameterizable inputs	Yes
• parameterizable outputs	Yes
<b>number of inputs</b>	
• safety-related	4
• non-safety-related	4
<b>input delay time</b>	0 ... 150 ms
<b>ingress acquisition time at digital input maximum</b>	60 ms
<b>input delay time at digital input maximum</b>	150 ms
<b>number of outputs</b>	
• safety-related 2-channel	2
• for testing contact-based sensors	2
<b>number of outputs as contact-affected switching element safety-related</b>	
• single channel	0
• 2-channel	1
<b>number of outputs as contact-less semiconductor switching element</b>	
• safety-related 2-channel	1

<ul style="list-style-type: none"> <li>• non-safety-related</li> </ul>	0
<b>design of the contactless switching element safety-related</b>	P potential
<b>pulse duration of the contactless semiconductor contact block for switching off safety-related maximum</b>	1 ms
<b>recovery time of the safe outputs</b>	420 ms
<b>dark period of the common drivers</b>	1 ms
switching capacity current of semiconductor outputs at DC-13 at 24 V	1.5 A

#### Communication/ Protocol

<b>protocol optional is supported</b>	
<ul style="list-style-type: none"> <li>• PROFIBUS DP protocol</li> </ul>	Yes; when using the DP interface module; 64 bit cyclical data
protocol is supported AS-Interface protocol	Yes

#### Control circuit/ Control

<b>type of voltage</b>	DC
<b>control supply voltage rated value</b>	24 V
<b>inrush current peak</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> </ul>	70 A
<b>duration of inrush current peak</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> </ul>	1 ms
<b>operating power rated value</b>	4.5 W

#### Installation/ mounting/ dimensions

<b>mounting position</b>	vertical
<b>fastening method</b>	Snap-mounted to DIN rail or screw-mounted with additional push-in lug
<b>height</b>	111 mm
<b>width</b>	45 mm
<b>depth</b>	124 mm

#### Connections/ Terminals

<b>product function removable terminal</b>	Yes
<b>type of electrical connection</b>	screw-type terminals
<b>type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>• solid</li> </ul>	1x (0.5 ... 4.0 mm²), 2x (0.5 ... 2.5 mm²)
<ul style="list-style-type: none"> <li>• finely stranded with core end processing</li> </ul>	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)
<ul style="list-style-type: none"> <li>• at AWG cables solid</li> </ul>	2x (20 ... 14)
<ul style="list-style-type: none"> <li>• at AWG cables stranded</li> </ul>	2x (20 ... 14)
connectable conductor cross-section finely stranded with core end processing	0.5 ... 2.5 mm²
<b>AWG number as coded connectable conductor cross section</b>	
<ul style="list-style-type: none"> <li>• solid</li> </ul>	20 ... 14
<ul style="list-style-type: none"> <li>• stranded</li> </ul>	20 ... 14
<b>DC resistance of the cable maximum</b>	100 Ω

#### Certificates/ approvals

<b>General Product Approval</b>	<b>EMC</b>	<b>Functional Safety/Safety of Machinery</b>
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[Confirmation](#)



[Type Examination Certificate](#)

<b>Functional Safety/Safety of Machinery</b>	<b>Declaration of Conformity</b>	<b>Test Certificates</b>	<b>other</b>
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[Miscellaneous](#)



[Type Test Certificates/Test Report](#)



[Confirmation](#)

## Further information

### Information on the packaging

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

### 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=3RK3122-1AC00>

### Cax online generator

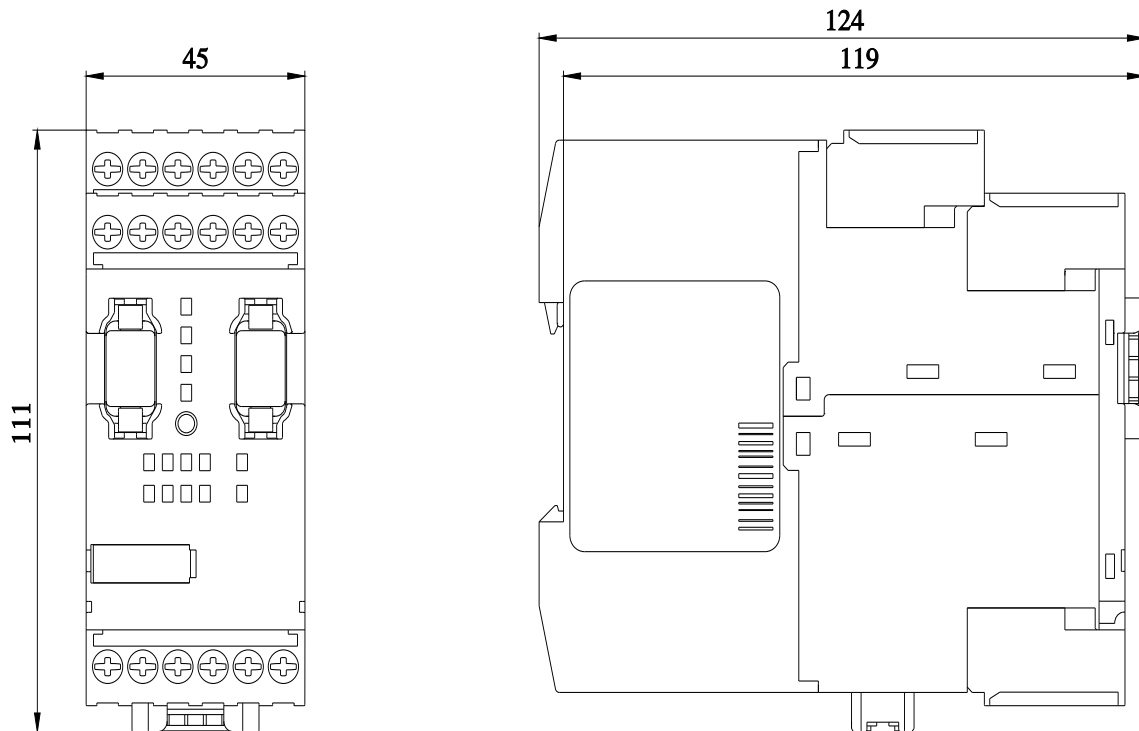
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RK3122-1AC00>

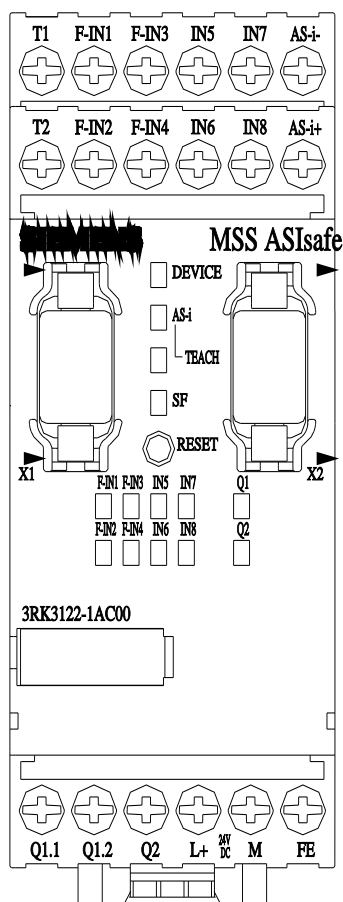
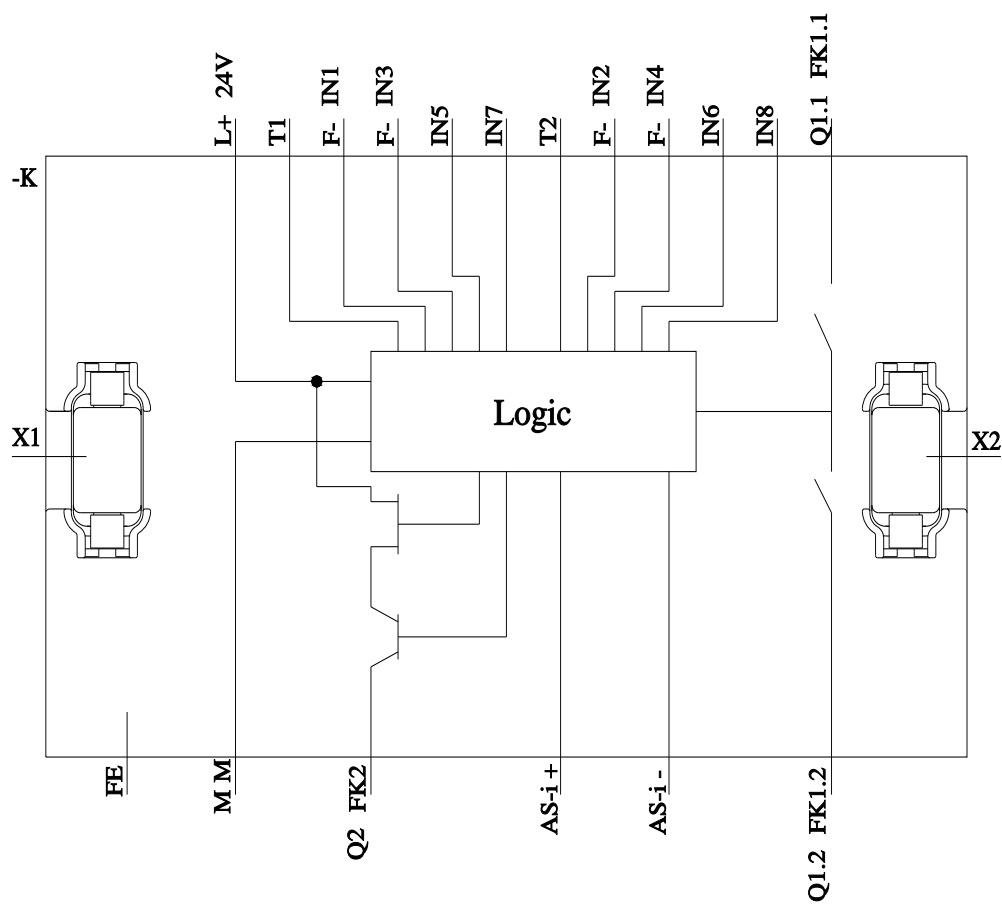
### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RK3122-1AC00>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RK3122-1AC00&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RK3122-1AC00&lang=en)





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