



SIRIUS, central unit 3RK3 Basic for modular Safety system 3RK3 4/8 F-DI, 1 F-RO, 1 F-DO, 24 V DC parameterizable using software Safety ES 45 mm width screw terminal Up to SIL3 (IEC 61508) Up to Performance Level E (ISO 13849-1)

<b>product brand name</b>	SIRIUS
<b>product category</b>	Modular Safety System
<b>product designation</b>	Central unit
<b>design of the product</b>	4/8 F-DI, 1 F-RO, 1 F-DO
<b>General technical data</b>	
<b>product function</b>	
• EMERGENCY STOP function	Yes
• protective door monitoring	Yes
• protective door monitoring with tumbler	No
• muting, 2 sensor-parallel	No
• muting, 4 sensor-parallel	No
• muting, 4 sensor-sequential	No
• monitoring parameterizable	No
• 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 acc. to EN 574	Yes
<b>number of function blocks typical</b>	300
insulation voltage rated value	300 V
<b>degree of pollution</b>	3
<b>surge voltage resistance rated value</b>	2 500 V
consumed current for rated value of supply voltage	1.685 A
<b>protection class IP</b>	IP20
• of the enclosure	IP20
• of the terminal	IP20
<b>shock resistance</b>	15g / 11 ms
vibration resistance acc. to IEC 60068-2-6	5 ... 500 Hz: 0.75 mm
<b>operating frequency maximum</b>	1 000 1/h
mechanical service life (switching cycles) typical	10 000 000
<b>reference code acc. to IEC 81346-2</b>	K
Substance Prohibitance (Date)	28.05.2009 00:00:00
<b>product function suitable for AS-i Power24V</b>	No
<b>product function diagnostics with CTT2 slave</b>	No
protocol is supported ASIsafe (Safety at work) protocol	No
<b>suitability for use</b>	

<ul style="list-style-type: none"> <li>• monitoring of floating sensors</li> <li>• monitoring of non-floating sensors</li> <li>• position switch monitoring</li> <li>• EMERGENCY-OFF circuit monitoring</li> <li>• valve monitoring</li> <li>• opto-electronic protection device monitoring</li> <li>• proximity switch monitoring</li> <li>• safety-related circuits</li> </ul>	Yes Yes Yes Yes Yes Yes Yes Yes
<b>suitability for use for monitoring of optoelectronic protective devices acc. to IEC 61496-1</b>	Yes
<b>Communication/ Protocol</b>	
<ul style="list-style-type: none"> <li>• protocol optional is supported PROFIBUS DP protocol</li> </ul>	Yes; when using the DP interface module; 32 bit cyclical data
protocol is supported AS-Interface protocol	No
<b>Control circuit/ Control</b>	
<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>consumed current for rated value of supply voltage without semiconductor output</b>	185 mA
<b>operating power rated value</b>	4.5 W
<b>Inputs/ Outputs</b>	
<b>product function</b>	
<ul style="list-style-type: none"> <li>• parameterizable inputs</li> <li>• parameterizable outputs</li> </ul>	Yes Yes
<b>number of inputs</b>	
<ul style="list-style-type: none"> <li>• safety-related</li> <li>• non-safety-related</li> </ul>	8 0
<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>	
<ul style="list-style-type: none"> <li>• safety-related 2-channel</li> <li>• for testing contact-based sensors</li> </ul>	2 2
number of outputs as contact-affected switching element safety-related	
<ul style="list-style-type: none"> <li>• single channel</li> <li>• 2-channel</li> </ul>	0 1
<b>number of outputs as contact-less semiconductor switching element</b>	
<ul style="list-style-type: none"> <li>• safety-related 2-channel</li> <li>• non-safety-related</li> </ul>	1 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
<b>switching capacity current of semiconductor outputs at DC-13 at 24 V</b>	1.5 A
<b>Installation/ mounting/ dimensions</b>	
<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		
product function removable terminal	Yes	
type of electrical connection	screw-type terminals	
type of connectable conductor cross-sections <ul style="list-style-type: none"><li>• solid</li><li>• finely stranded with core end processing</li><li>• at AWG cables solid</li><li>• at AWG cables stranded</li></ul>	1x (0.5 ... 4.0 mm²), 2x (0.5 ... 2.5 mm²) 1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²) 2x (20 ... 14) 2x (20 ... 14)	
connectable conductor cross-section finely stranded with core end processing	0.5 ... 2.5 mm²	
AWG number as coded connectable conductor cross section <ul style="list-style-type: none"><li>• solid</li><li>• stranded</li></ul>	20 ... 14 20 ... 14	
DC resistance of the cable maximum	100 Ω	
Safety related data		
Safety Integrity Level (SIL) acc. to IEC 61508	SIL CL 3	
SIL Claim Limit (subsystem) acc. to EN 62061	Kat. 4 / SIL3 / Ple	
performance level (PL) acc. to EN ISO 13849-1	e	
category acc. to EN ISO 13849-1	4	
stop category acc. to DIN EN 60204-1	0 / 1	
diagnostics test interval by internal test function maximum	1 000 s	
PFHD with high demand rate acc. to EN 62061	0.000000007 1/h	
hardware fault tolerance acc. to IEC 61508	1	
T1 value for proof test interval or service life acc. to IEC 61508	20 y	
touch protection against electrical shock	finger-safe	
category acc. to EN 954-1	4	
Electromagnetic compatibility		
installation environment regarding EMC	This product is suitable for Class A environments only. It can cause undesired radio-frequency interference in residential environments. If this is the case, the user must take appropriate measures.	
conducted interference <ul style="list-style-type: none"><li>• due to burst acc. to IEC 61000-4-4</li><li>• due to conductor-earth surge acc. to IEC 61000-4-5</li><li>• due to conductor-conductor surge acc. to IEC 61000-4-5</li></ul>	2 kV (power ports) / 1 kV (signal ports) 2 kV 1 kV	
field-based interference acc. to IEC 61000-4-3	10 V/m	
electrostatic discharge acc. to IEC 61000-4-2	4 kV contact discharge / 8 kV air discharge	
Ambient conditions		
installation altitude at height above sea level maximum	2 000 m	
ambient temperature <ul style="list-style-type: none"><li>• during operation</li><li>• during storage</li><li>• during transport</li></ul>	-20 ... +60 °C -40 ... +85 °C -40 ... +85 °C	
air pressure acc. to SN 31205	70 ... 106 kPa	
Certificates/ approvals		
General Product Approval	EMC	Functional Safety/Safety of Machinery



[Type Examination Certificate](#)

Functional Safety/Safety of	Declaration of Conformity	Test Certificates	other
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**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=3RK3111-1AA10>

Cax online generator

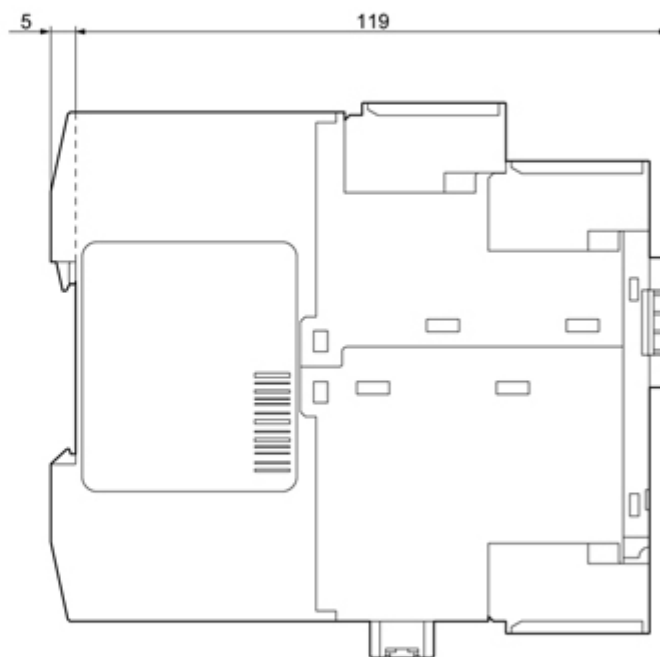
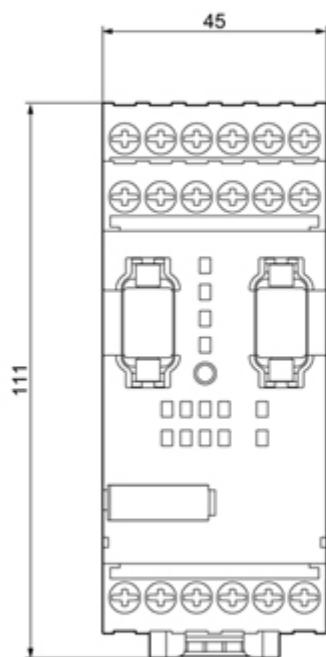
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RK3111-1AA10>

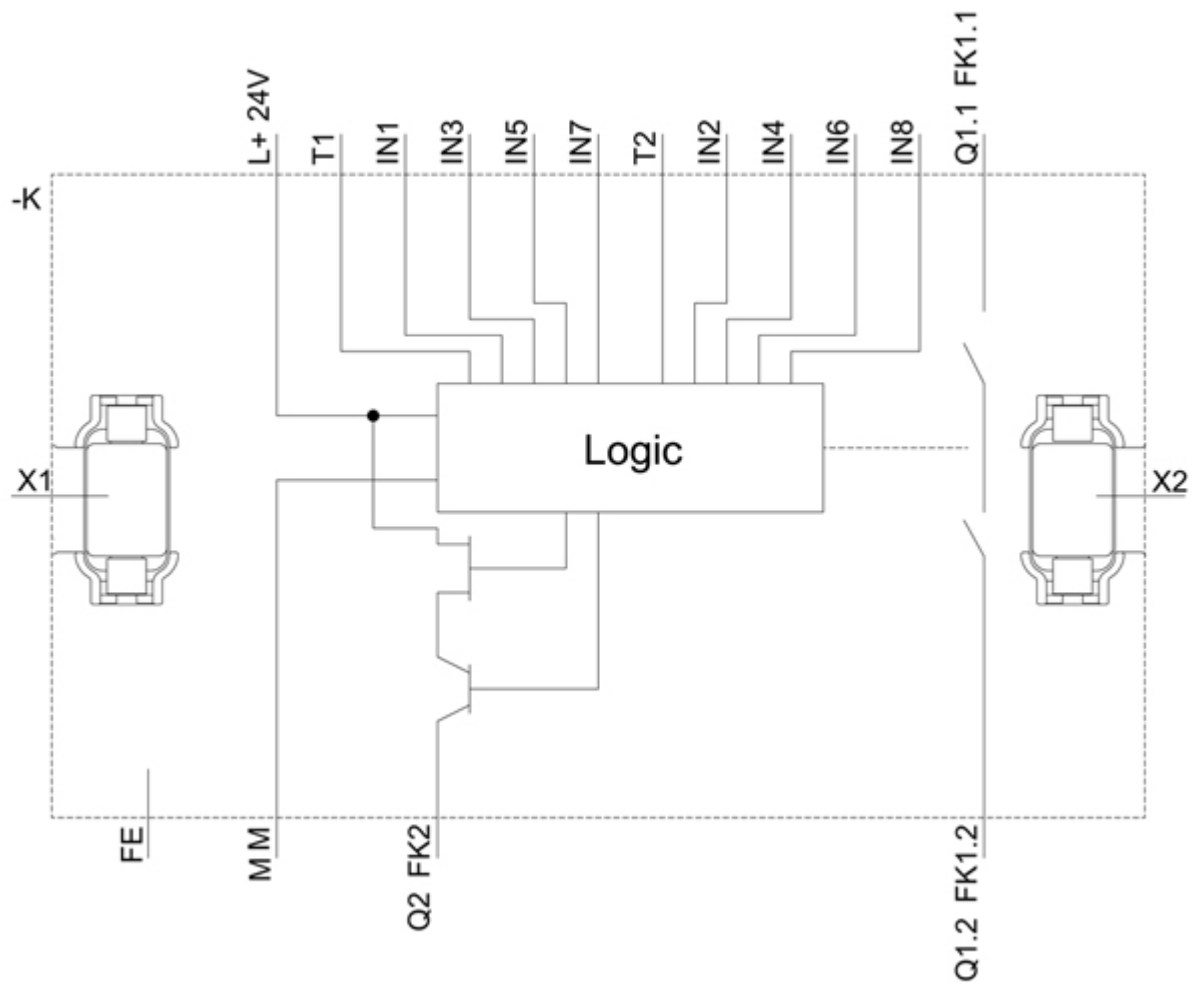
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

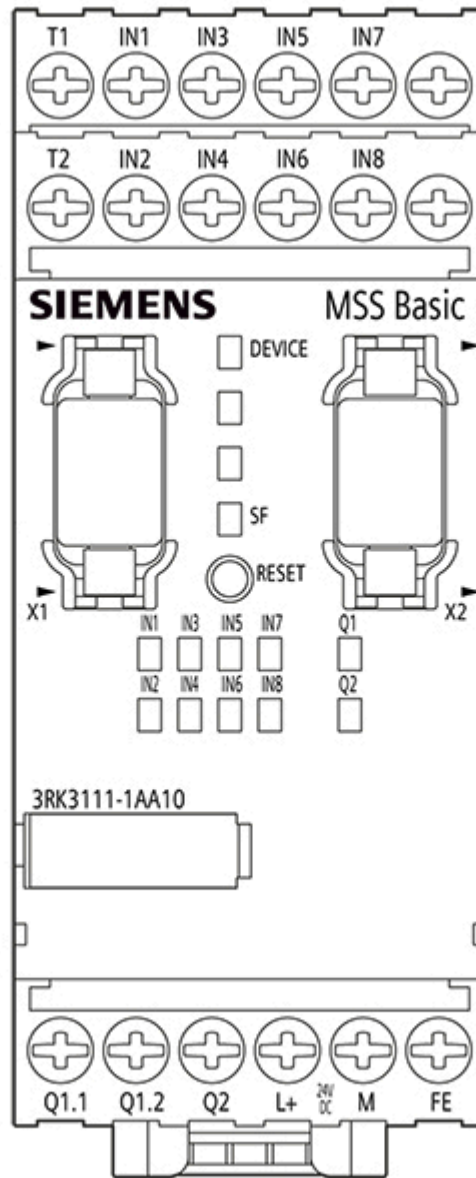
<https://support.industry.siemens.com/cs/ww/en/ps/3RK3111-1AA10>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RK3111-1AA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RK3111-1AA10&lang=en)







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12/21/2020 [↗](#)