

SIRIUS, central unit 3RK3 Basic for modular Safety system 3RK3 4/8 F-DI,1F-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)



Product brand name	SIRIUS
Product category	Modular Safety System
Product designation	Central unit
Design of the product	4/8 F-DI, 1 F-RO, 1 F-DO

General technical data	
Product function	
• 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
Number of function blocks typical	300
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
Operating frequency maximum	1 000 1/h
Mechanical service life (switching cycles) typical	10 000 000
Reference code acc. to DIN EN 81346-2	K
Reference code acc. to DIN EN 61346-2	K
Period of darkness of the common drivers	1 ms
Product function suitable for AS-i Power24V	No
Product function Diagnostics with CTT2 slave	No
Protocol is supported ASIsafe (Safety at work) protocol	No
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
Suitability for use for monitoring of optoelectronic protective devices acc. to IEC 61496-1	Yes
Operating power rated value	4.5 W

Communication/ Protocol

Protocol optional is supported PROFIBUS DP protocol	Yes; when using the DP interface module; 32 bit cyclical data
Protocol is supported AS-Interface protocol	No
Amount of data of the cyclic user data	
• for inputs with PROFIBUS DP	32 bit
• for outputs with PROFIBUS DP	32 bit

Control circuit/ Control

Type of voltage	DC
Type of voltage of the control supply voltage	DC
Control supply voltage rated value	24 V

Control supply voltage 1 at DC rated value	24 V
Inrush current peak • at 24 V	70 A
Duration of inrush current peak • at 24 V	1 ms
Consumed current for rated value of supply voltage without semiconductor output	185 mA

Inputs/ Outputs

Product function • Parameterizable inputs • Parameterizable outputs	Yes Yes
Number of inputs • safety-related • non-safety-related	8 0
Input delay time	0 ... 150 ms
Input recording time at digital input maximum	60 ms
Input delay time at digital input maximum	150 ms
Number of outputs • safety-related 2-channel • for testing contact-based sensors	2 2
Number of outputs as contact-affected switching element safety-related • 1-channel • 2-channel	0 1
Number of outputs as contact-less semiconductor switching element non-safety-related 2-channel	0
Design of the contactless switching element safety-related	P potential
Pulse duration of the contactless semiconductor contact block for switching off safety-related maximum	1 ms
Recovery time of the safe outputs	420 ms
Switching capacity current of semiconductor outputs at DC-13 at 24 V	1.5 A

Installation/ mounting/ dimensions

Mounting position	vertical
Mounting type	Snap-mounted to DIN rail or screw-mounted with additional push-in lug
Height	111 mm
Width	45 mm
Depth	124 mm

Connections/Terminals

Product function removable terminal	Yes
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Type of electrical connection	screw-type terminals
Type of connectable conductor cross-sections • solid • finely stranded with core end processing • at AWG conductors solid • at AWG conductors stranded	1x (0.5 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²) 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²) 2x (20 ... 14) 2x (20 ... 14)
Connectable conductor cross-section finely stranded with core end processing	0.5 ... 2.5 mm ²
AWG number as coded connectable conductor cross section • solid • stranded	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
Protection against electrical shock	finger-safe
Category acc. to EN 954-1	4

Short-circuit protection

Design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required	NH Type 3NA, DIAZED Type 5SB, NEOZED Type 5SE
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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 • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5	2 kV (power ports) / 1 kV (signal ports) 2 kV 1 kV
Field-bound parasitic coupling 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
Air pressure acc. to SN 31205	70 ... 106 kPa

Certificates/approvals

General Product Approval	EMC	Functional Safety/Safety of Machinery
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[Type Examination Certificate](#)

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

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[Type Test Certificates/Test Report](#)

[Confirmation](#)



Profibus

Further information

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

<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RK3111-1AA10>

Cax online generator

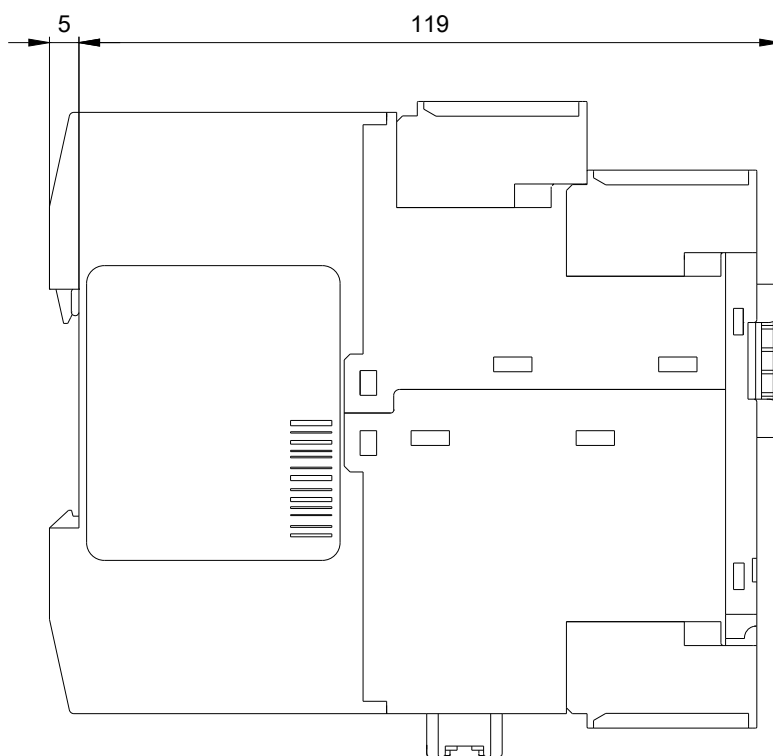
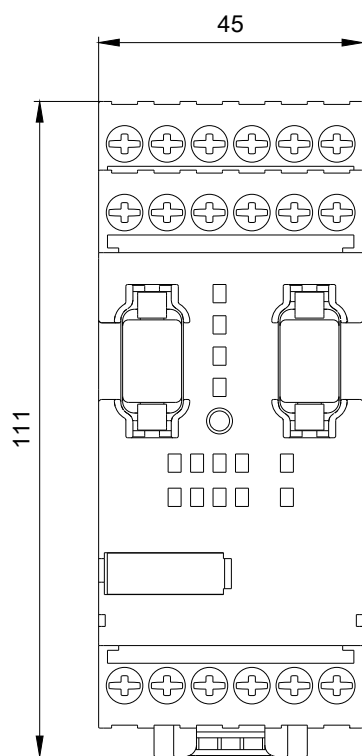
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RK3111-1AA10>

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

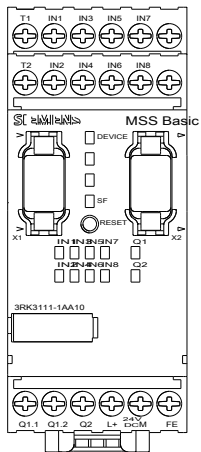
<https://support.industry.siemens.com/cs/ww/en/ps/3RK3111-1AA10>

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







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