



SIRIUS, CENTRAL MOD. 3RK3 BASIC FOR MODULAR SAFETY SYSTEM 3RK3 4/8 F-DI, 1 F-RO, 1 F-DO, 24V DC
 PARAMETERIZABLE VIA SW MSS ES 45MM WIDE SCREW TERMINAL UP TO SIL3 (IEC 61508) UP TO PERFORMANCE LEVEL E (ISO 13849-1)

product brand name	SIRIUS
Product designation	Modular Safety System 3RK3
Design of the product	central module - basic

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
Insulation voltage Rated value	300 V
Consumed current for rated value of supply voltage	1.685 A
• without semiconductor output	185 mA
Degree of pollution	3

Shock resistance	15g / 11 ms
Vibration resistance acc. to IEC 60068-2-6	5 ... 500 Hz: 0,75 mm
Surge voltage resistance Rated value	2 500 V
Operating frequency maximum	1 000 1/h
Switching capacity current of the NO contacts of the relay outputs	
• at AC-15 at 24 V	2 A
• at DC-13 at 24 V	1 A
Switching capacity current of semiconductor outputs at DC-13 at 24 V	1.5 A
Mechanical service life (switching cycles) typical	10 000 000
Relative setting accuracy of the setting times	0.6 %
Thermal current of the switching element with contacts maximum	2 A
Protection class IP	IP20
• of the enclosure	IP20
• of the terminal	IP20
Equipment marking	
• acc. to DIN EN 61346-2	K
• acc. to DIN EN 81346-2	K
Product function suitable for AS-i Power24V	No
Product function Diagnostics with CTT2 slave	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 — Note	Yes when using the DP interface module; 32 bit cyclical data
• is supported PROFINET IO protocol	No
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 for DC Rated value	24 V
Operating range factor control supply voltage rated value for DC	0.85 ... 1.15

Inputs/ Outputs:

Product function	
• Parameterizable inputs	Yes
• Parameterizable outputs	Yes
Number of inputs	
• safety-related	8
• non-safety-related	0
Input delay time	0 ... 150 ms
Number of outputs	
• safety-related 2-channel	2
• for testing contact-based sensors	2
Number of outputs as contact-affected switching element safety-related	
• 1-channel	0
• 2-channel	1
Number of outputs as contact-less semiconductor switching element	
• safety-related 2-channel	1
• non-safety-related 2-channel	0
Pulse duration of the contactless semiconductor contact block for switching off safety-related maximum	1 ms
Recovery time of the safe outputs	420 ms

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
• removable terminal for control circuit	Yes

<ul style="list-style-type: none"> removable terminal for auxiliary and control circuit 	Yes
Type of electrical connection <ul style="list-style-type: none"> for auxiliary and control current circuit 	screw-type terminals
Type of connectable conductor cross-section <ul style="list-style-type: none"> solid finely stranded with core end processing for AWG conductors <ul style="list-style-type: none"> — solid — 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	20 ... 14
AWG number as coded connectable conductor cross section stranded	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
Stop category acc. to DIN EN 60204-1	0 / 1
PFHD with high demand rate acc. to EN 62061	0.0000000051 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
Contact reliability	one incorrect switching operation of 100 million switching operations (17 V, 1 mA)
Category acc. to EN 954-1	4
Category acc. to EN ISO 13849-1	4

Short-circuit:

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	2 kV (power ports) / 1 kV (signal ports)
Conducted interference due to conductor-earth surge acc. to IEC 61000-4-5	2 kV

Conducted interference due to conductor-conductor surge acc. to IEC 61000-4-5	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
Ambient temperature	
• during operation	-20 ... +60 °C
• during storage	-40 ... +85 °C
• during transport	-40 ... +85 °C
Relative humidity during operation	10 ... 95 %
Air pressure acc. to SN 31205	70 ... 106 kPa

Certificates/ approvals:

General Product Approval					EMC
					
CCC	CSA	GOST	UL		C-TICK

Functional Safety/Safety of Machinery	Test Certificates	other
Type Examination Certificate	Special Test Certificate	Confirmation
other		Declaration of Conformity
		Environmental Confirmations

other



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Further information

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

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

Industry Mall (Online ordering system)

<http://www.siemens.com/industrymall>

Cax online generator

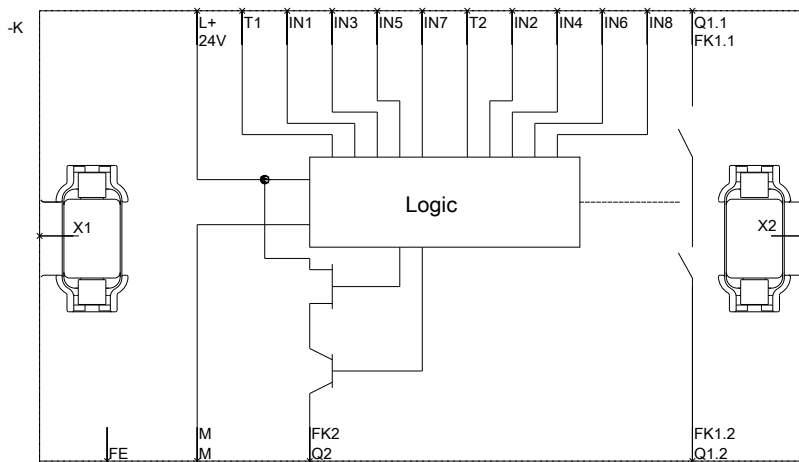
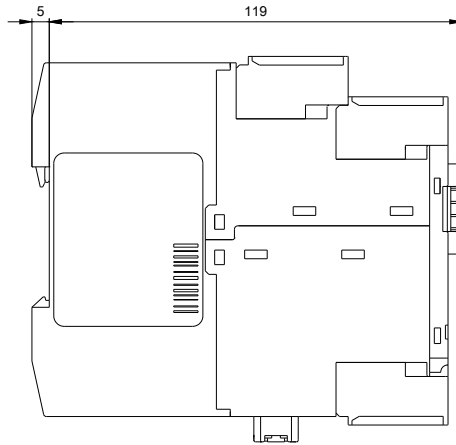
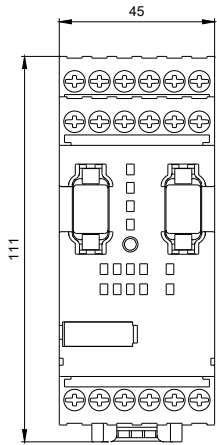
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RK31111AA10>

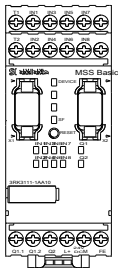
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RK31111AA10>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RK31111AA10&lang=en





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