



SIRIUS, central unit 3RK3 Advanced for modular safety system 3RK3 4/8 F-DI, 1F-RO, 1 F-DO, 24 V DC monitoring of AS-i devices control of 12 safe outputs on AS-Interface bus configurable using software Safety ES 45 mm width screw terminal up to SIL 3 (IEC 61508) up to Performance Level E (ISO 13849-1) 9 expansion modules connectable

<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>suitability for use for monitoring of optoelectronic protective devices according to IEC 61496-1</b>	Yes
<b>suitability for use</b>	
• 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
<b>General technical data</b>	
<b>product function</b>	
• 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
<b>number of function blocks typical</b>	300
<b>insulation voltage rated value</b>	300 V
<b>degree of pollution</b>	3
<b>surge voltage resistance rated value</b>	2 500 V
<b>consumed current for rated value of supply voltage</b>	1.685 A
<b>protection class IP</b>	
• of the enclosure	IP20
• of the terminal	IP20
<b>shock resistance</b>	15g / 11 ms

<b>vibration resistance according to IEC 60068-2-6</b>	5 ... 500 Hz: 0.75 mm
<b>operating frequency maximum</b>	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>SVHC substance name</b>	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1 Diboron trioxide - 1303-86-2
<b>Weight</b>	0.38 kg
<b>product function suitable for AS-i Power24V</b>	Yes
<b>product function diagnostics with CTT2 slave</b>	Yes
<b>number of safe signals for remote shutdown or cross traffic by means of AS-interface</b>	12
<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
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
<b>ambient temperature</b>	
• during operation	-20 ... +60 °C
• during storage	-40 ... +85 °C
• during transport	-40 ... +85 °C
air pressure according to SN 31205	70 ... 106 kPa
<b>Electromagnetic compatibility</b>	
<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
<b>Safety related data</b>	
<b>diagnostics test interval by internal test function maximum</b>	1 000 s
<b>stop category according to IEC 60204-1</b>	0 / 1
category according to EN 954-1	4
<b>IEC 62061</b>	
SIL Claim Limit (subsystem) according to EN 62061	Kat. 4 / SIL3 / Ple
<b>Safety Integrity Level (SIL)</b>	
• according to IEC 62061	SIL 3
<b>PFHD with high demand rate</b>	
• according to IEC 62061	7E-9 1/h
<b>ISO 13849</b>	
performance level (PL) according to EN ISO 13849-1	e
category according to EN ISO 13849-1	4
<b>performance level (PL)</b>	
• according to ISO 13849-1	PL e
<b>IEC 61508</b>	
<b>Safety Integrity Level (SIL)</b>	
• according to IEC 61508	3
<b>hardware fault tolerance</b>	
• according to IEC 61508	1
<b>T1 value</b>	
• for proof test interval or service life according to IEC 61508	20 a
<b>Electrical Safety</b>	
<b>touch protection against electrical shock</b>	finger-safe
<b>Short-circuit protection</b>	

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
<b>Inputs/ Outputs</b>	
<b>product function</b>	
• parameterizable inputs	Yes
• parameterizable outputs	Yes
<b>number of inputs</b>	
• safety-related	8
• non-safety-related	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>	
• 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
<b>number of outputs as contact-less semiconductor switching element</b>	
• safety-related 2-channel	1
• non-safety-related	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
<b>Communication/ Protocol</b>	
<b>protocol optional is supported</b>	
• PROFIBUS DP protocol	Yes; when using the DP interface module; 64 bit cyclical data
protocol is supported AS-Interface protocol	Yes
<b>Control circuit/ Control</b>	
<b>type of voltage</b>	DC
<b>control supply voltage rated value</b>	24 V
<b>operating range factor control supply voltage rated value at DC</b>	
• initial value	0.85
• full-scale value	1.15
<b>inrush current peak</b>	
• at 24 V	70 A
<b>duration of inrush current peak</b>	
• at 24 V	1 ms
<b>operating power rated value</b>	4.5 W
<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
<b>Connections/ Terminals</b>	
<b>product function removable terminal</b>	Yes
<b>type of electrical connection</b>	screw terminal
<b>type of connectable conductor cross-sections</b>	
• solid	1x (0.5 ... 4.0mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )
• finely stranded with core end processing	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )
• for AWG cables solid	2x (20 ... 14)
• for AWG cables stranded	2x (20 ... 14)
connectable conductor cross-section finely stranded with core end processing	0.5 ... 2.5 mm <sup>2</sup>

AWG number as coded connectable conductor cross section	
• solid	20 ... 14
• stranded	20 ... 14
DC resistance of the cable maximum	100 Ω

#### Approvals Certificates

General Product Approval	EMV
--------------------------	-----



Functional Safety	Test Certificates	other
-------------------	-------------------	-------

[Miscellaneous](#)

[Type Examination Certificate](#)

[Type Examination Certificate](#)

[Type Test Certificates/Test Report](#)



[Confirmation](#)

Environment	Industrial Communication
-------------	--------------------------

[Environmental Conformations](#)



#### Further information

Information on the packaging

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

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RK3131-1AC10>

Cax online generator

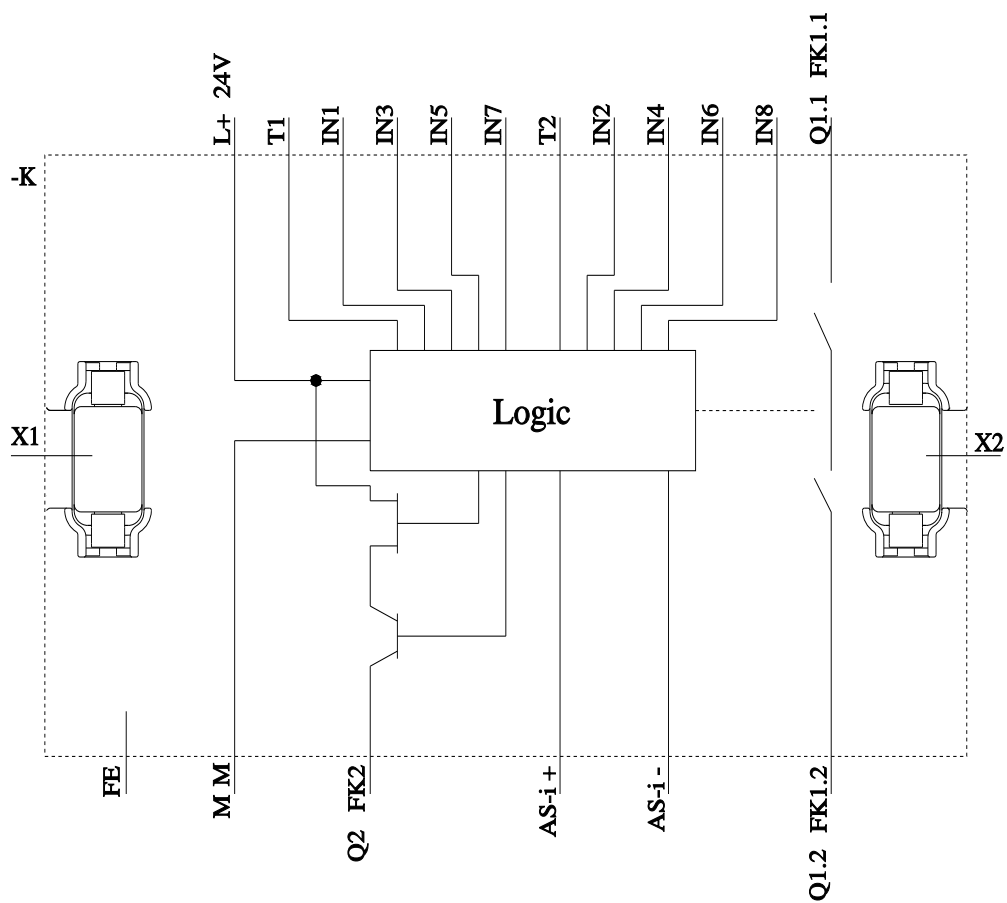
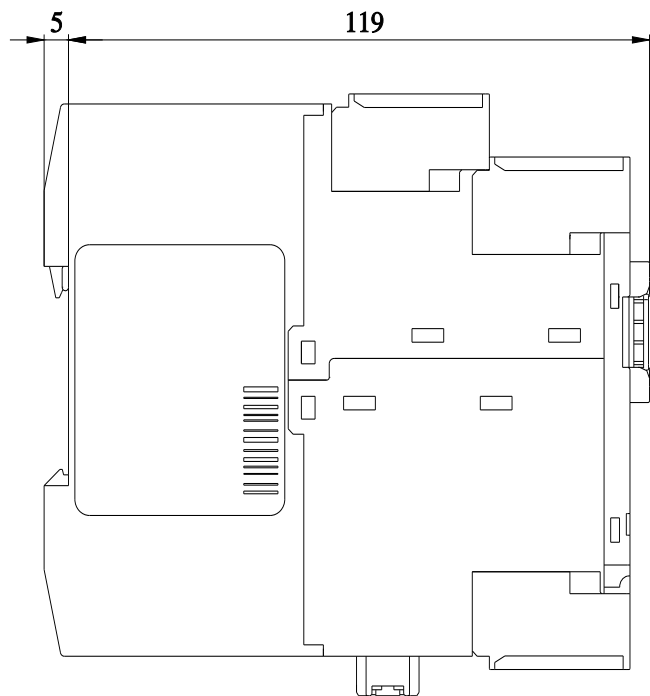
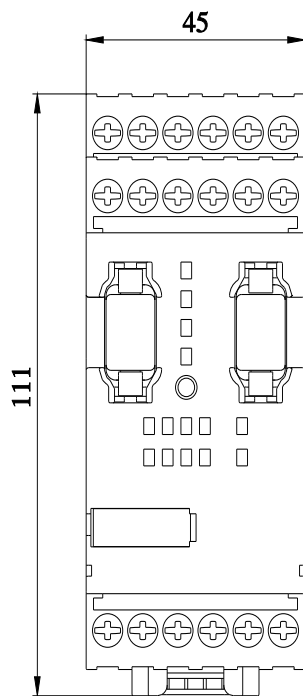
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RK3131-1AC10>

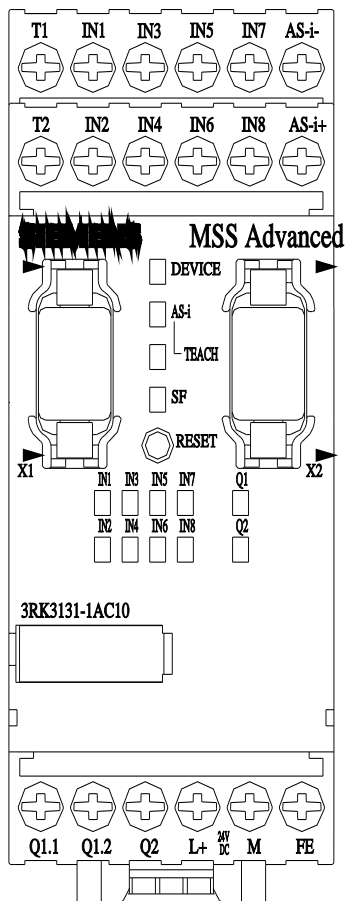
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RK3131-1AC10>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RK3131-1AC10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RK3131-1AC10&lang=en)





last modified:

9/5/2025