



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

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
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	
• 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
mechanical service life (operating cycles) typical	10 000 000
reference code according to IEC 81346-2	K
Substance Prohibitance (Date)	05/28/2009
SVHC substance name	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
Weight	0.38 kg
product function suitable for AS-i Power24V	Yes
product function diagnostics with CTT2 slave	Yes
number of safe signals for remote shutdown or cross traffic by means of AS-interface	12
consumed current from profile conductors of the AS-Interface	
• at 30 V maximum	45 mA
• at 24 V with AS-i Power24V maximum	45 mA
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
air pressure according to SN 31205	70 ... 106 kPa
Electromagnetic compatibility	
installation environment regarding EMC	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.
conducted interference	
• 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
field-based interference according to IEC 61000-4-3	10 V/m
electrostatic discharge according to IEC 61000-4-2	4 kV contact discharge / 8 kV air discharge
Safety related data	
diagnostics test interval by internal test function maximum	1 000 s
stop category according to IEC 60204-1	0 / 1
category according to EN 954-1	4
IEC 62061	
SIL Claim Limit (subsystem) according to EN 62061	Kat. 4 / SIL3 / Ple
Safety Integrity Level (SIL)	
• according to IEC 62061	SIL 3
PFHD with high demand rate	
• according to IEC 62061	7E-9 1/h
ISO 13849	
performance level (PL) according to EN ISO 13849-1	e
category according to EN ISO 13849-1	4
performance level (PL)	
• according to ISO 13849-1	PL e
IEC 61508	
Safety Integrity Level (SIL)	
• according to IEC 61508	3
hardware fault tolerance	
• according to IEC 61508	1
T1 value	
• for proof test interval or service life according to IEC 61508	20 a
Electrical Safety	
touch protection against electrical shock	finger-safe
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
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
ingress acquisition time at digital input maximum	60 ms
input delay time at digital input maximum	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	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
dark period of the common drivers	1 ms
switching capacity current of semiconductor outputs at DC-13 at 24 V	1.5 A
Communication/ Protocol	
protocol optional is supported	
• PROFIBUS DP protocol	Yes; when using the DP interface module; 64 bit cyclical data
protocol is supported AS-Interface protocol	Yes
Control circuit/ Control	
type of voltage	DC
control supply voltage rated value	24 V
operating range factor control supply voltage rated value at DC	
• initial value	0.85
• full-scale value	1.15
inrush current peak	
• at 24 V	70 A
duration of inrush current peak	
• at 24 V	1 ms
operating power rated value	4.5 W
Installation/ mounting/ dimensions	
mounting position	vertical
fastening method	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
type of electrical connection	screw terminal
type of connectable conductor cross-sections	
• solid	1x (0.5 ... 4.0mm ²), 2x (0.5 ... 2.5 mm ²)
• finely stranded with core end processing	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²)
• 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 ²

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
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Functional Safety	Test Certificates	other
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[Miscellaneous](#)

[Type Examination Certificate](#)

[Type Examination Certificate](#)

[Type Test Certificates/Test Report](#)



[Confirmation](#)

Environment	Industrial Communication
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[Environmental Confirmations](#)



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

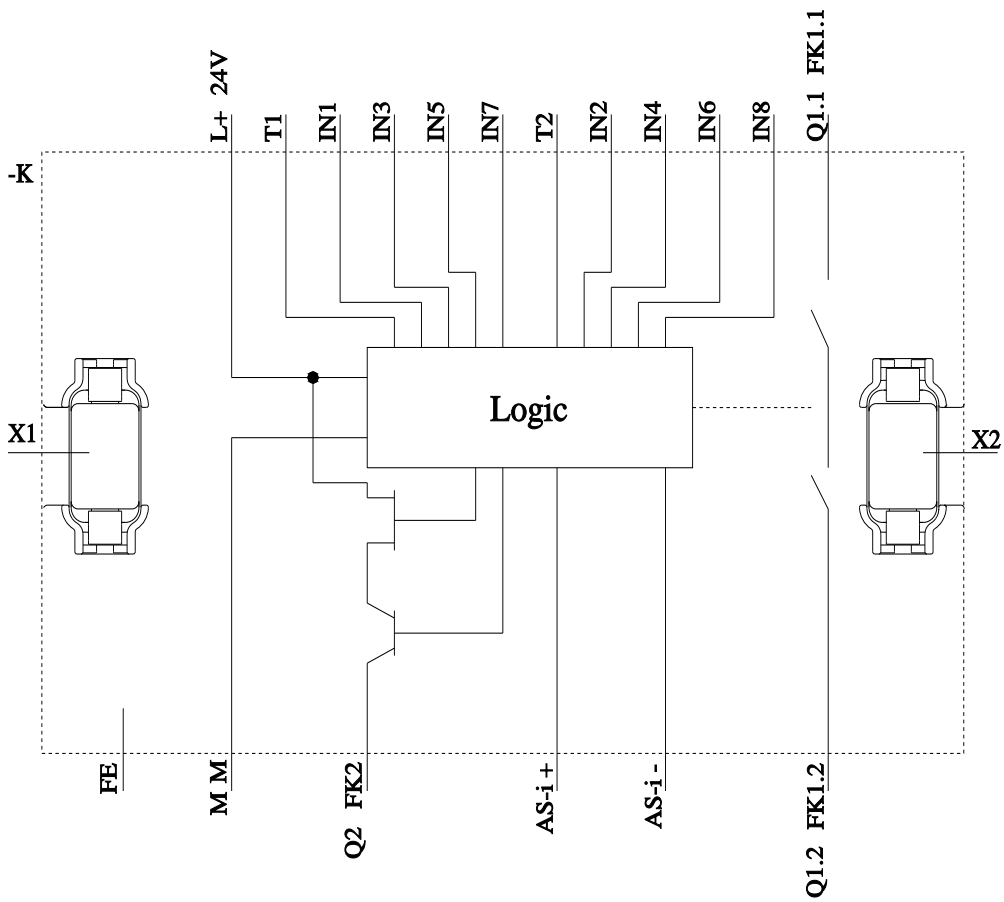
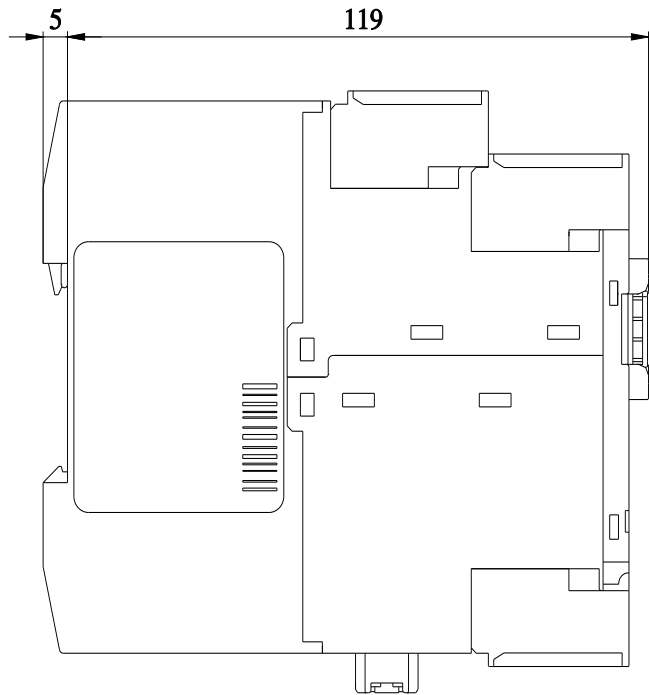
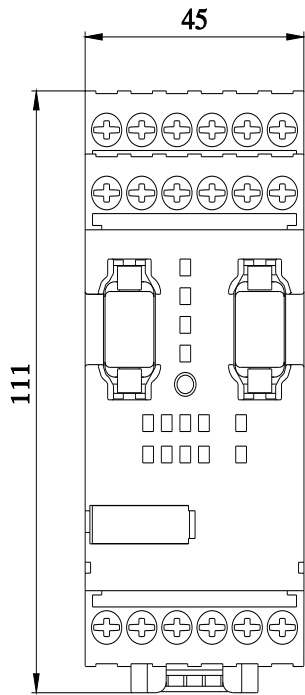
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RK3131-1AC10>

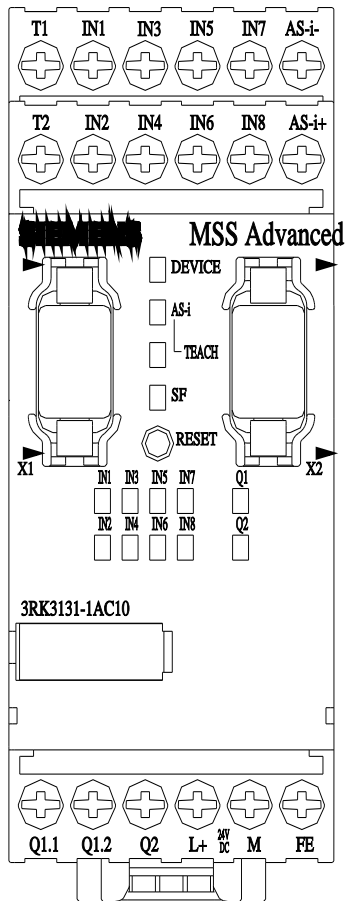
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<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, ...)

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RK3131-1AC10&lang=en





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