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Data sheet 3SK2122-2AA10

SIRIUS safety relay basic unit 3SK2 series 20 F-DI, 4 F-DQ, 2 DQ, 24 V DC Can be parameterized via SIRIUS Safety ES 45 mm width spring-loaded terminal (push-in) up to SIL 3 (IEC 62061) up to performance level e (ISO 13849-1) output expansions 3SK1, coupling relay 3RQ1 and fail-safe motor starters 3RM1 via device connector connectable

product brand name	SIRIUS
product category	Safety relay
product designation	Base-Unit
design of the product	20 F-DI, 4 F-DQ, 2 DQ
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
● magnetically operated switch 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
configuration software required	Yes; Safety ES V1.0 and higher
number of function blocks typical	50
insulation voltage rated value	50 V
degree of pollution	3
surge voltage resistance rated value	800 V
protection class IP	IP20
● of the enclosure	IP20
● of the terminal	IP20

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shock resistance	15g / 11 ms
vibration resistance according to IEC 60068-2-6	5 ... 500 Hz: 0.75 mm
operating frequency maximum	2 000 1/h
reference code according to IEC 81346-2	F
Substance Prohibitance (Date)	05/28/2009
product function suitable for AS-i Power24V	No
product function diagnostics with CTT2 slave	No
protocol is supported ASIsafe (Safety at work) protocol	No
Ambient conditions	
installation altitude at height above sea level maximum	4 000 m; Derating, see Product Notification 109792701
ambient temperature	
● during operation	-25 ... +60 °C
● during storage	-40 ... +80 °C
● during transport	-40 ... +80 °C
relative humidity during operation	10 ... 95 %
air pressure according to SN 31205	90 ... 106 kPa
Electromagnetic compatibility	
EMC emitted interference according to IEC 60947-1	class A
conducted interference	
● due to burst according to IEC 61000-4-4	2 kV (power ports) / 1 kV (signal ports)
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	
Safety Integrity Level (SIL)	
● **according to IEC 62061**	3
● according to IEC 61508	3
SIL Claim Limit (subsystem) according to EN 62061	3
performance level (PL) according to ISO 13849-1	e
category according to EN ISO 13849-1	4
stop category according to EN 60204-1	0 / 1
diagnostics test interval by internal test function maximum	1 000 s
PFHD with high demand rate according to EN 62061	1.2E-8 1/h
PFDavg with low demand rate according to IEC 61508	1.8E-5
hardware fault tolerance according to IEC 61508	1
touch protection against electrical shock	finger-safe
Inputs/ Outputs	
product function	
● parameterizable inputs	Yes
● parameterizable outputs	Yes
● at the digital outputs short-circuit protection	Yes
number of inputs	
● safety-related	20
● non-safety-related	0
input delay time	0 ... 150 ms
type of digital inputs according to IEC 60947-1	Type 1
ingress aquisition time at digital input maximum	60 ms
input delay time at digital input maximum	150 ms
input voltage at digital input	
● at DC rated value	24 V
● with signal <0> at DC	-3 ... +5 V
● for signal <1> at DC	15 ... 30
input current at digital input	
● for signal <1> typical	2.6 mA
number of outputs	
● safety-related 2-channel	4
● for testing contact-based sensors	4
number of outputs as contact-affected switching element safety-related	
● 1-channel	0
● 2-channel	0
number of outputs as contact-less semiconductor	

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switching element	
● safety-related 2-channel	4
● non-safety-related	2
design of the contactless switching element safety-related	P potential
recovery time of the safe outputs	0 ms
readback time maximum	400 ms
light test period	3 ms
dark period of the common drivers	3 ms
switching capacity current of semiconductor outputs at DC-13 at 24 V	4 A
residual current	
● maximum	0.1 mA
● at digital output with signal <0> maximum	0.1 mA
total current maximum	7 A
wire length of the signal cable	
● to the inputs	
— shielded maximum	1 000 m
— unshielded maximum	600 m
● to the outputs	
— shielded maximum	1 000 m
— unshielded maximum	600 m
Communication/ Protocol	
protocol optional is supported	
● PROFIBUS DP protocol	Yes; when using the DP interface module; 64 bit cyclical data
● PROFINET IO protocol	Yes; when using the PN interface module; 64-bit cyclic data
protocol is supported AS-Interface protocol	No
Control circuit/ Control	
type of voltage	DC
control supply voltage rated value	24 V
inrush current peak	
● at 24 V	11 A
duration of inrush current peak	
● at 24 V	1 ms
operating power rated value	4.5 W
Installation/ mounting/ dimensions	
mounting position	any
fastening method	Snap-mounted to DIN rail or screw-mounted with additional push-in lug
height	100 mm
width	45 mm
depth	124.5 mm
Connections/ Terminals	
product function removable terminal	Yes
type of electrical connection	spring-loaded terminal (push-in)
type of connectable conductor cross-sections	
● solid	1x (0.5 ... 1.5 mm²), 2x (0.5 ... 1.5 mm²)
● finely stranded with core end processing	1x (0.5 ... 1.0 mm²), 2x (0.5 ... 1.0 mm²)
● for AWG cables solid	1x (20 ... 16), 2x (20 ... 16)
● for AWG cables stranded	1x (20 ... 16), 2x (20 ... 16)
connectable conductor cross-section finely stranded with core end processing	0.5 ... 1 mm²
AWG number as coded connectable conductor cross section	
● solid	20 ... 16
● stranded	20 ... 16
Certificates/ approvals	

General Product Approval	Functional Safety/Safety of Machinery	Declaration of Conformity

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Confirmation

Type Examination Certificate

Declaration of Conformity	Test Certificates	other
	Type Test Certificates/Test Report	Confirmation

Further information

Siemens has decided to exit the Russian market (see here).
https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.
Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875

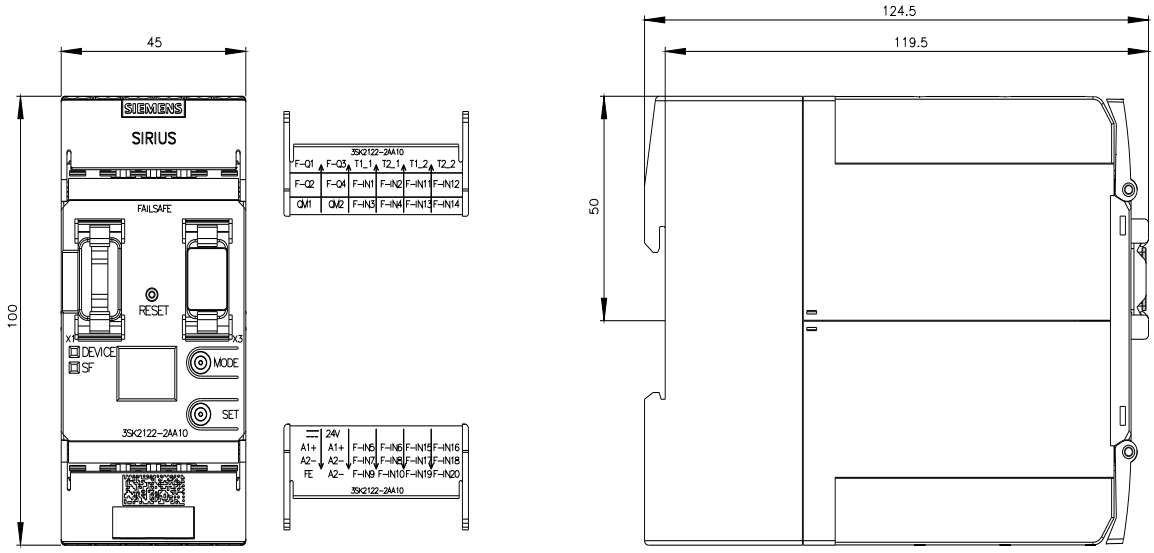
Information- and Downloadcenter (Catalogs, Brochures,…)
https://www.siemens.com/ic10

Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3SK2122-2AA10

Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK2122-2AA10

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3SK2122-2AA10

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK2122-2AA10&lang=en



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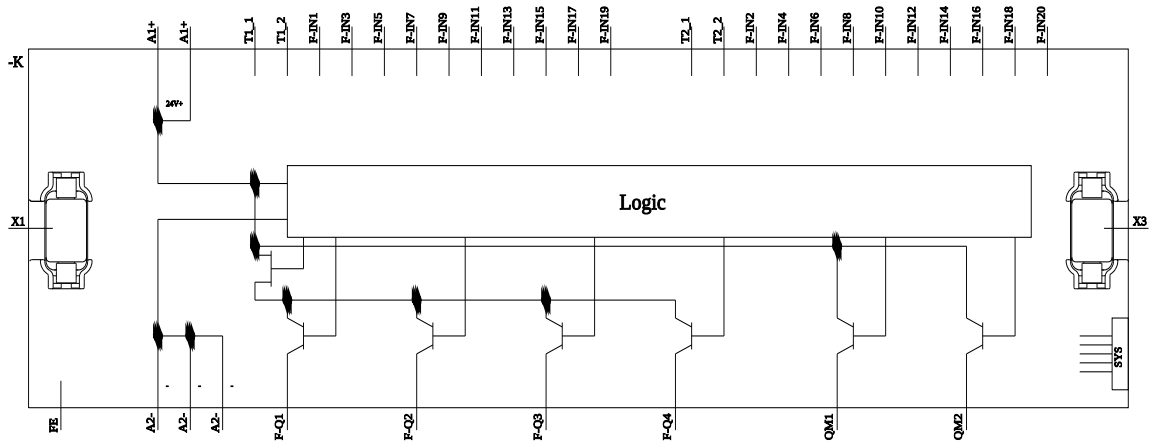

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