SIEMENS

Data sheet 3SK1213-1AL20

SIRIUS safety relay Output expansion 3RO Power, with Relay enabling circuits 3 NO contacts plus Relay signaling circuit 1 NC contact Us = 230 V AC screw terminal

product brand name	SIRIUS
product category	Safety relays
product designation	Output expansion
design of the product	Relay enabling circuits
General technical data	
protection class IP of the enclosure	IP20
touch protection against electrical shock	finger-safe
insulation voltage rated value	300 V
ambient temperature	
● during storage	-40 ... +80 °C
● during operation	-25 ... +60 °C
air pressure according to SN 31205	900 ... 1 060 hPa
relative humidity during operation	10 ... 95 %
installation altitude at height above sea level maximum	4 000 m; Derating, see Product Notification 109792701
vibration resistance according to IEC 60068-2-6	5 ... 500 Hz: 0.75 mm
shock resistance	5 g / 10 ms
surge voltage resistance rated value	4 000 V
EMC emitted interference	IEC 60947-5-1, IEC 61000
installation environment regarding EMC	This product is suitable for Class B environments and can also be used in domestic environments.
overvoltage category	3
degree of pollution	3
reference code according to EN 61346-2	F
reference code according to IEC 81346-2	F
power loss [W] maximum	3.5 W
Safety Integrity Level (SIL) according to IEC 62061	3
Safety Integrity Level (SIL) according to IEC 61508	3
performance level (PL) according to ISO 13849-1	e
category according to EN ISO 13849-1	4
PFHD with high demand rate according to EN 62061	0.000000001 1/h
PFDavg with low demand rate according to IEC 61508	0.000001
T1 value for proof test interval or service life according to IEC 61508	20 y
hardware fault tolerance according to IEC 61508	1
safety device type according to IEC 61508-2	Type A
Inputs/ Outputs	
number of outputs as contact-affected switching element	
● as NC contact	
— for signaling function delayed switching	0
— for feedback circuit instantaneous contact	1

— safety-related instantaneous contact	0
— safety-related delayed switching	0
● as NO contact	
— for signaling function instantaneous contact	0
— for signaling function delayed switching	0
— safety-related instantaneous contact	3
— safety-related delayed switching	0
number of outputs as contact-less semiconductor switching element	
● for signaling function	
— delayed switching	0
stop category according to EN 60204-1	0
type of electrical connection plug-in socket	No
operating frequency maximum	360 1/h
switching capacity current of the NO contacts of the relay outputs	
● at DC-13	
— at 24 V	6 A
— at 115 V	1.1 A
— at 230 V	0.55 A
● at AC-15	
— at 24 V	10 A
— at 115 V	10 A
— at 230 V	10 A
thermal current of the switching element with contacts maximum	10 A
total current maximum	30 A
operational current at 17 V minimum	5 mA
mechanical service life (operating cycles) typical	10 000 000
maximum permissible voltage for safe isolation between electronics evaluation device and enabling circuit according to EN 60947-1	300 V
design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required	gL/gG: 16 A or MCB type A: 6 A or MCB type B: 4 A or MCB type C: 4 A
make time with automatic start	
● typical	10 ms
● at AC maximum	15 ms
make time with automatic start after power failure	
● typical	10 ms
● maximum	15 ms
backslide delay time in the event of power failure	
● typical	15 ms
● maximum	15 ms
recovery time after power failure typical	0 s
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage frequency	
● 1 rated value	50 Hz
● 2 rated value	60 Hz
control supply voltage	
● at AC	
— at 50 Hz	
— rated value	230 V
— at 60 Hz	
— rated value	230 V
operating range factor control supply voltage rated value of magnet coil	
● at AC	
— at 50 Hz	0.85 ... 1.1
— at 60 Hz	0.85 ... 1.1
Installation/ mounting/ dimensions	
mounting position	on horizontal standard DIN rail
required spacing for grounded parts at the side	5 mm
required spacing with side-by-side mounting at the side	0 mm

fastening method	screw and snap-on mounting
width	90 mm
height	100 mm
depth	121.6 mm

Connections/ Terminals

type of electrical connection	screw-type terminals
type of connectable conductor cross-sections	
• solid	1x (0.5 ... 4.0 mm²), 2x (0.5 ... 2.5 mm²)
• finely stranded	
— with core end processing	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)
type of connectable conductor cross-sections at AWG cables	
• solid	1x (20 ... 12), 2x (20 ... 14)

Product Function

suitability for operation device connector 3ZY12	No
suitability for use	
• safety-related circuits	Yes

Certificates/ approvals

certificate of suitability	
• TÜV (German technical inspectorate) certificate	Yes
• UL approval	Yes

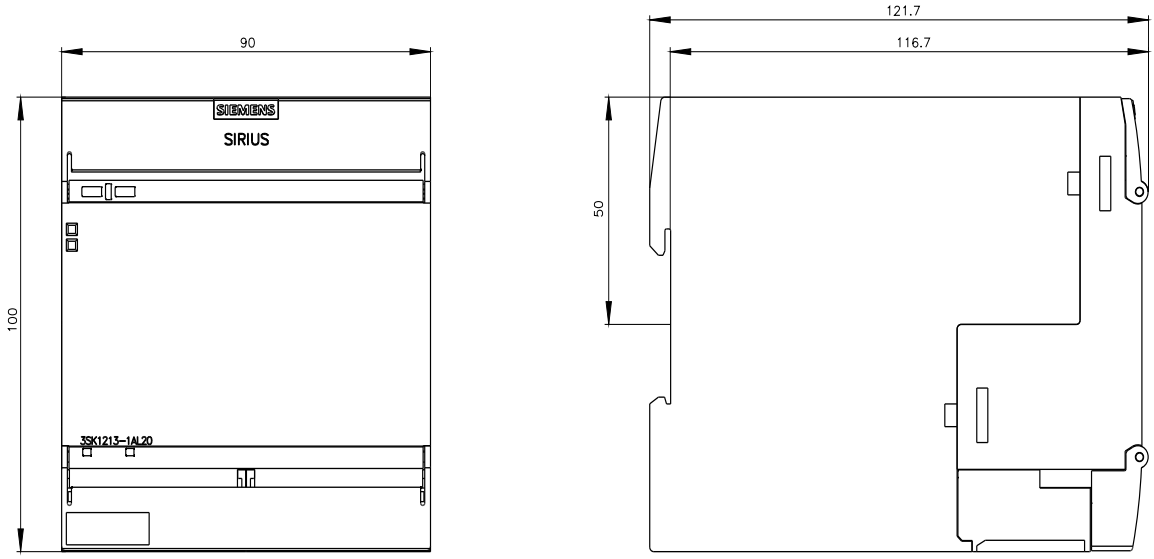
General Product Approval					EMC
CSA	Confirmation	CCC	UL	EAC	RCM

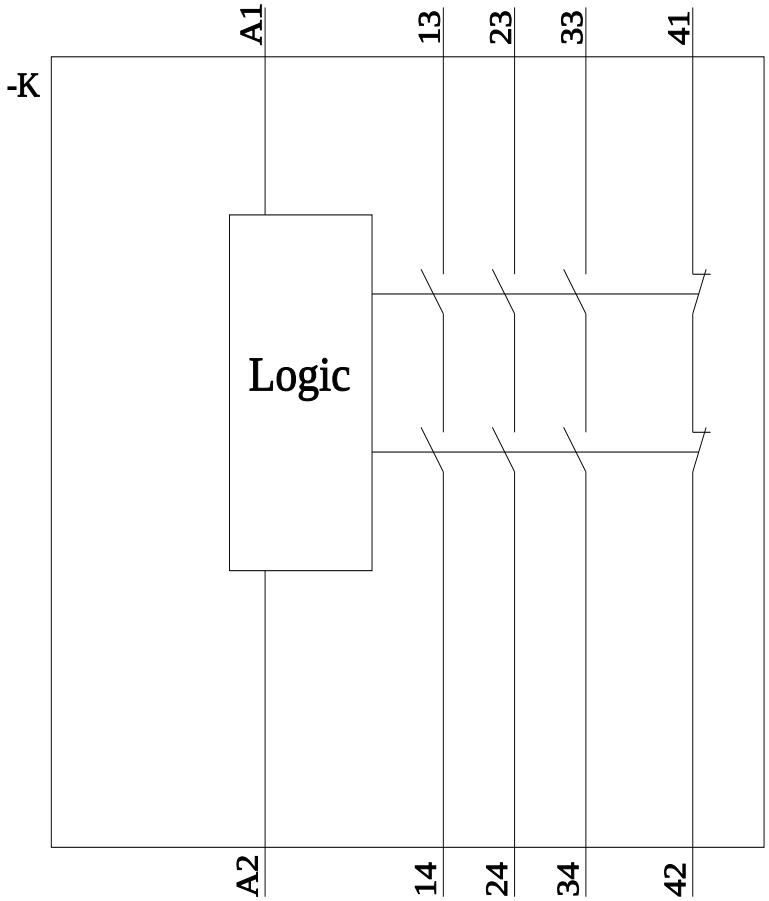
Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates	Marine / Shipping		
Type Examination Certificate	CE EG-Konf.	Type Test Certific-ates/Test Report	DNV	LRS	RINA

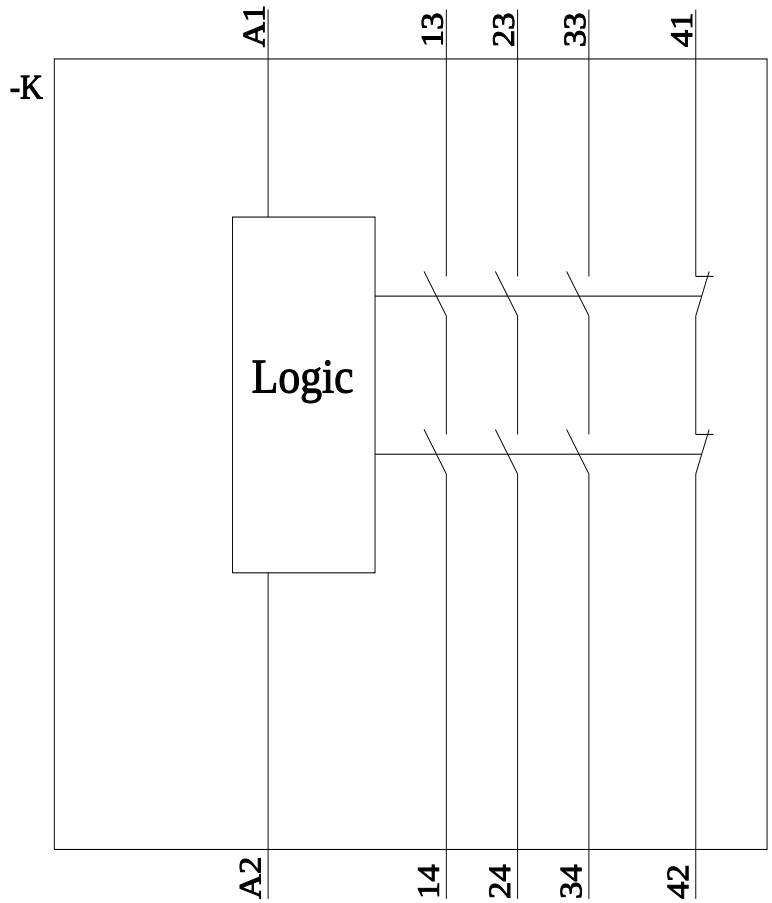
Marine / Shipping	other	Railway
RMRS	Confirmation	Confirmation

Further information

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=3SK1213-1AL20
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK1213-1AL20
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3SK1213-1AL20
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK1213-1AL20&lang=en







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