SIEMENS

Data sheet 3SK1213-2AB40



SIRIUS safety relay Output expansion 3RO Power, with Relay enabling circuits 3 NO contacts plus Relay signaling circuit 1 NC contact Us = 24 V DC Spring-type terminal (push-in)

product brand name	SIRIUS
product category	Safety relays
product designation	Output expansion
design of the product	Relay enabling circuits
product type designation	3SK1
Product Function	
product function parameterizable	undelayed/delayed (only with system connector)
suitability for use	
 safety-related circuits 	Yes
General technical data	
certificate of suitability UL approval	Yes
power loss [W] maximum	5.5 W
insulation voltage rated value	300 V
degree of pollution	3
overvoltage category	3
surge voltage resistance rated value	4 000 V
protection class IP of the enclosure	IP20
shock resistance	5 g / 10 ms
vibration resistance according to IEC 60068-2-6	5 500 Hz: 0.75 mm
operating frequency maximum	360 1/h
mechanical service life (operating cycles) typical	10 000 000
thermal current of the switching element with contacts maximum	10 A
reference code according to IEC 81346-2	F
Substance Prohibitance (Date)	11/05/2012
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8
Weight	1 kg
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
relative humidity during operation	10 95 %
air pressure according to SN 31205	900 1 060 hPa
Electromagnetic compatibility	
installation environment regarding EMC	This product is suitable for Class B environments and can also be used in domestic environments.
EMC emitted interference	IEC 60947-5-1, IEC 61000
Safety related data	
stop category according to IEC 60204-1	0

IFC 02004	
IEC 62061	2
SIL Claim Limit (subsystem) according to EN 62061	3
Safety Integrity Level (SIL) according to IEC 62061	SIL 3
PFHD with high demand rate according to IEC 62061	1E-9 1/h
ISO 13849	
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
safety device type according to IEC 61508-2	Type A
Average probability of failure on demand (PFDavg) with low	1E-6 1/y
demand rate acc. to IEC 61508	
PFDavg with low demand rate according to IEC 61508	1E-6
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	5
design of the fuse link for short-circuit protection of the NO	gL/gG: 16 A or MCB type A: 6 A or MCB type B: 4 A or MCB type C: 4 A
contacts of the relay outputs required	gago. To A of Mod type A. o A of Mod type b. 4 A of Mod type 6. 4 A
Inputs	
design of input	
• feedback input	No
Outputs	
number of outputs as contact-affected switching element	
as NC contact	
	0
— for signaling function delayed switching	
— 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
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
switching capacity current of the NO contacts of the relay outputs at AC-15	
• at 24 V	10 A
• at 115 V	10 A
• at 230 V	10 A
total current maximum	30 A
Times	
make time with automatic start	
• typical	50 ms
at DC maximum	70 ms
make time with automatic start after power failure	
• typical	50 ms
maximum	70 ms
maximum backslide delay time in the event of power failure	70 ms
	70 ms 20 ms
backslide delay time in the event of power failure	
backslide delay time in the event of power failure • typical	20 ms

type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC • initial value • full-scale value 1.2 Installation/ mounting/ dimensions mounting position fastening method height 100 mm width 90 mm depth 121.6 mm required spacing • with side-by-side mounting at the side • for grounded parts at the side • for grounded parts at the side		
type of voltage of the control supply voltage at DC rated value control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC initial value of ull-scale value installation/ mounting/ dimensions mounting position fastening method fastening method indid the scale value indid the scale value on horizontal standard DIN rail screw and snap-on mounting screw and snap-on mounting indid the screw and snap-on mounting in	operational current at 17 V minimum	5 mA
control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC • initial value • full-scale value • full-scale value nutring position on horizontal standard DIN rail fastening method fastening method height violth op mm depth 100 mm violth depth 121.6 mm required spacing • with side-by-side mounting at the side • for grounded parts at the side of grounded parts at the side of connections/ Terminals type of electrical connection type of connectable conductor cross-sections • solid • finely stranded with core end processing • finely stranded without core end processing • for AWG cables solid • for AWG cables stranded type of electrical connection plug-in socket No	Control circuit/ Control	
operating range factor control supply voltage rated value of magnet coil at DC • initial value • full-scale value • full-scale value • full-scale value • no horizontal standard DIN rail fastening method • screw and snap-on mounting • width • 90 mm • width • 90 mm • with side-by-side mounting at the side • for grounded parts at the side • for grounded parts at the side • solid • finely stranded with core end processing • finely stranded without core end processing • for AWG cables solid • for AWG cables stranded • for AWG cables can be the subtance of the subtance	type of voltage of the control supply voltage	DC
initial value initial value intial value int	control supply voltage at DC rated value	24 V
• full-scale value Installation/ mounting/ dimensions mounting position fastening method height 100 mm width 40 p0 mm depth 121.6 mm required spacing • with side-by-side mounting at the side • for grounded parts at the side • for all side the side • for grounded parts at the side • for for endertial connection • solid • for connectable conductor cross-sections • solid • finely stranded with core end processing • finely stranded without core end processing • for AWG cables solid • for AWG cables solid • for AWG cables stranded 1x (20 16), 2x (20 16) type of electrical connection plug-in socket No		
mounting position on horizontal standard DIN rail fastening method screw and snap-on mounting height 100 mm width 90 mm depth 121.6 mm required spacing • with side-by-side mounting at the side 5 mm for grounded parts at the side 5 mm Connections/ Terminals 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 1.5 mm²), 2x (0.5 1.5 mm²) • finely stranded without core end processing 1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²) • for AWG cables solid 1x (20 16), 2x (20 16) • for AWG cables stranded 1x (20 16), 2x (20 16) type of electrical connection plug-in socket	• initial value	0.8
mounting position on horizontal standard DIN rail fastening method screw and snap-on mounting height 100 mm width 90 mm depth 121.6 mm required spacing • with side-by-side mounting at the side 0 mm • for grounded parts at the side 5 mm Connections/ Terminals 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 1.5 mm²), 2x (0.5 1.5 mm²) • finely stranded without core end processing 1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²) • for AWG cables solid 1x (20 16), 2x (20 16) • for AWG cables stranded 1x (20 16), 2x (20 16) type of electrical connection plug-in socket	• full-scale value	1.2
fastening method screw and snap-on mounting height 100 mm width 90 mm depth 121.6 mm required spacing • with side-by-side mounting at the side • for grounded parts at the side • for grounded parts at the side **Tomactions/ Terminals** type of electrical connection type of connectable conductor cross-sections • solid • solid 1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²) • finely stranded with core end processing • finely stranded without core end processing • for AWG cables solid • for AWG cables stranded type of electrical connection plug-in socket No	Installation/ mounting/ dimensions	
height 100 mm width 90 mm depth 121.6 mm required spacing • with side-by-side mounting at the side 0 mm • for grounded parts at the side 5 mm Connections/ Terminals 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 1.5 mm²), 2x (0.5 1.5 mm²) • finely stranded without core end processing 1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²) • for AWG cables solid 1x (20 16), 2x (20 16) • for AWG cables stranded 1x (20 16), 2x (20 16) type of electrical connection plug-in socket	mounting position	on horizontal standard DIN rail
width depth 121.6 mm required spacing with side-by-side mounting at the side for grounded parts at the side for grounded parts at the side spring-loaded terminal (push-in) type of electrical connection spring-loaded terminal (push-in) type of connectable conductor cross-sections solid finely stranded with core end processing finely stranded without core end processing finely stranded without core end processing for AWG cables solid for AWG cables stranded type of electrical connection plug-in socket No	fastening method	screw and snap-on mounting
depth121.6 mmrequired spacing0 mm• with side-by-side mounting at the side0 mm• for grounded parts at the side5 mmConnections/ Terminalstype of electrical connectionspring-loaded terminal (push-in)type of connectable conductor cross-sections1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²)• solid1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²)• finely stranded with core end processing1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²)• finely stranded without core end processing1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²)• for AWG cables solid1x (20 16), 2x (20 16)• for AWG cables stranded1x (20 16), 2x (20 16)type of electrical connection plug-in socketNo	height	100 mm
required spacing • with side-by-side mounting at the side • for grounded parts at the side Connections/ Terminals type of electrical connection • solid • finely stranded with core end processing • finely stranded without core end processing • for AWG cables solid • for AWG cables stranded type of electrical connection 1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²) 1x (20 16), 2x (20 16) 1x (20 16), 2x (20 16)	width	90 mm
 with side-by-side mounting at the side for grounded parts at the side 5 mm Connections/ Terminals type of electrical connection spring-loaded terminal (push-in) type of connectable conductor cross-sections solid finely stranded with core end processing finely stranded without core end processing finely stranded without core end processing for AWG cables solid tx (0.5 1.5 mm²), 2x (0.5 1.5 mm²) for AWG cables stranded tx (20 16), 2x (20 16) type of electrical connection plug-in socket No No	depth	121.6 mm
 for grounded parts at the side 5 mm Connections/ Terminals 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 1.5 mm²), 2x (0.5 1.5 mm²) finely stranded without core end processing 1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²) for AWG cables solid 1x (20 16), 2x (20 16) type of electrical connection plug-in socket No 	required spacing	
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 1.5 mm²), 2x (0.5 1.5 mm²) • finely stranded without core end processing 1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²) • for AWG cables solid 1x (20 16), 2x (20 16) • for AWG cables stranded 1x (20 16), 2x (20 16)	 with side-by-side mounting at the side 	0 mm
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 1.5 mm²), 2x (0.5 1.5 mm²) finely stranded without core end processing 1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²) 1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²) 1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²) 1x (20 16), 2x (20 16) 4x (20 16), 2x (20 16) type of electrical connection plug-in socket	 for grounded parts at the side 	5 mm
type of connectable conductor cross-sections	Connections/ Terminals	
 solid finely stranded with core end processing finely stranded without core end processing finely stranded without core end processing for AWG cables solid for AWG cables stranded for AWG cables stranded tx (20 16), 2x (20 16) type of electrical connection plug-in socket No 	type of electrical connection	spring-loaded terminal (push-in)
 finely stranded with core end processing finely stranded without core end processing for AWG cables solid for AWG cables stranded for AWG cables stranded	type of connectable conductor cross-sections	
 finely stranded without core end processing for AWG cables solid for AWG cables stranded 1x (20 16), 2x (20 16) for AWG cables stranded 1x (20 16), 2x (20 16) type of electrical connection plug-in socket No 	• solid	1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²)
● for AWG cables solid 1x (20 16), 2x (20 16) ● for AWG cables stranded 1x (20 16), 2x (20 16) type of electrical connection plug-in socket No	 finely stranded with core end processing 	1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²)
• for AWG cables stranded 1x (20 16), 2x (20 16) type of electrical connection plug-in socket No	 finely stranded without core end processing 	1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²)
type of electrical connection plug-in socket No	 for AWG cables solid 	1x (20 16), 2x (20 16)
	for AWG cables stranded	1x (20 16), 2x (20 16)
Approvals Certificates	type of electrical connection plug-in socket	No

General Product Approval







Confirmation





EMV Functional Saftey Test Certificates Marine / Shipping



Type Examination Certificate Type Test Certificates/Test Report







Marine / Shipping other Railway Environment



Confirmation

Confirmation

Environmental Confirmations

Further information

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)

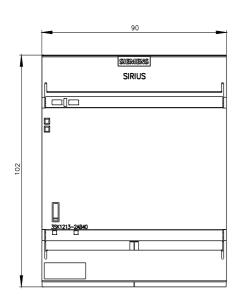
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3SK1213-2AB40

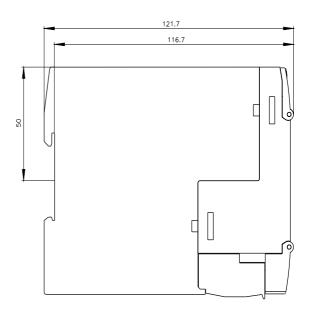
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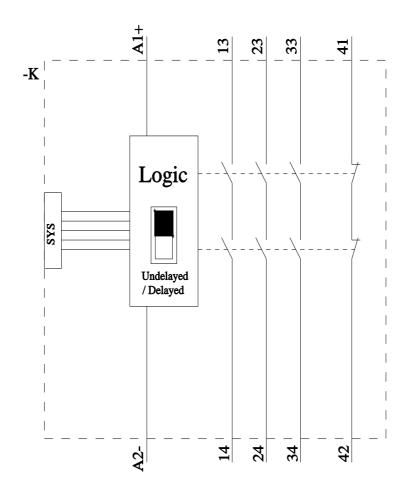
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK1213-2AB40

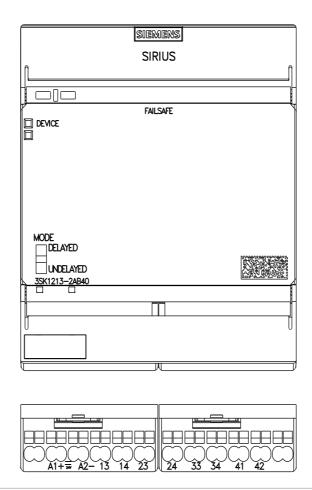
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Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK1213-2AB40&lang=en









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