MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

3SK1211-2BB40

SAFETY RELAY OUTPUT EXPANSION

Used with the applicable SIRIUS 3SK1 configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens 3SK1211-2BB40 technical data and applicable product instructions

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Data sheet 3SK1211-2BB40



SIRIUS safety relay Output expansion 4RO with relay enabling circuits 4 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	2.5 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	10g / 11 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	5 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 4,4'-isopropylidenediphenol (Bisphenol A, BPA) - 80-05-7
Weight	0.22 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	

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stop category according to IEC 60204-1	0
IEC 62061	
SIL Claim Limit (subsystem) according to EN 62061	3
Safety Integrity Level (SIL) according to IEC 62061	3
PFHD with high demand rate according to IEC 62061	1.7E-9 1/h
ISO 13849	
category according to EN ISO 13849-1	4
performance level (PL) according to ISO 13849-1	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 demand rate acc. to IEC 61508	1E-6 1/y
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	
design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required	gL/gG: 6A or circuit breaker type A: 3A or circuit breaker type B: 2A or circuit breaker type C: 1A
Inputs	
design of input	
● feedback input	No
Outputs	
number of outputs as contact-affected switching element	
● as NC contact	
— for signaling function delayed switching	0
— 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	4
— 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	5 A
● at 115 V	0.2 A
● at 230 V	0.1 A
switching capacity current of the NO contacts of the relay outputs at AC-15	
● at 24 V	5 A
● at 115 V	5 A
● at 230 V	5 A
total current maximum	12 A
Times	
make time with automatic start	
● typical	15 ms
● at DC maximum	30 ms
make time with automatic start after power failure	
● typical	15 ms
● maximum	30 ms
backslide delay time in the event of power failure	
● typical	10 ms
● maximum	15 ms
recovery time after power failure typical	0.015 s

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Main circuit	
operational current at 17 V minimum	5 mA
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC rated value	24 V
operating range factor control supply voltage rated value of magnet coil at DC	
● initial value	0.8
● full-scale value	1.2
Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting
height	100 mm
width	22.5 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 ... 1.0 mm²), 2x (0.5 ... 1.0 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	No

Approvals Certificates

General Product Approval

Confirmation











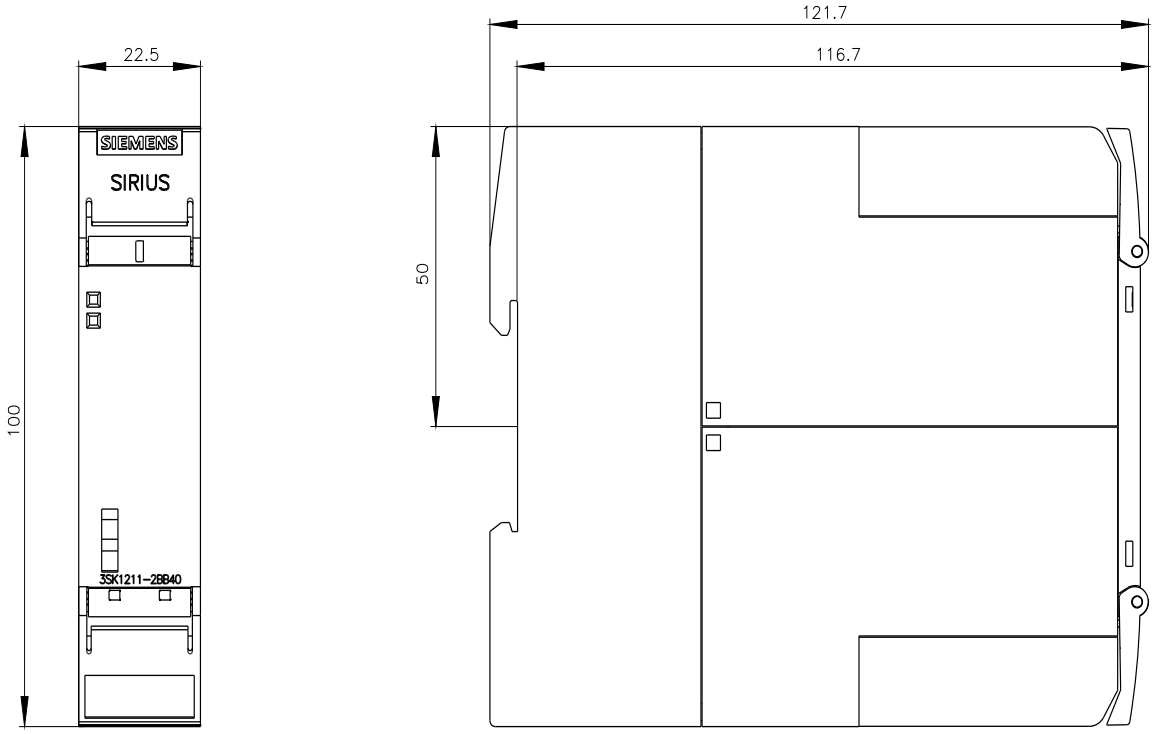
EMV	Functional Saftey	Test Certificates	Marine / Shipping		
	Type Examination Certificate	Type Test Certificates/Test Report		 LRS	

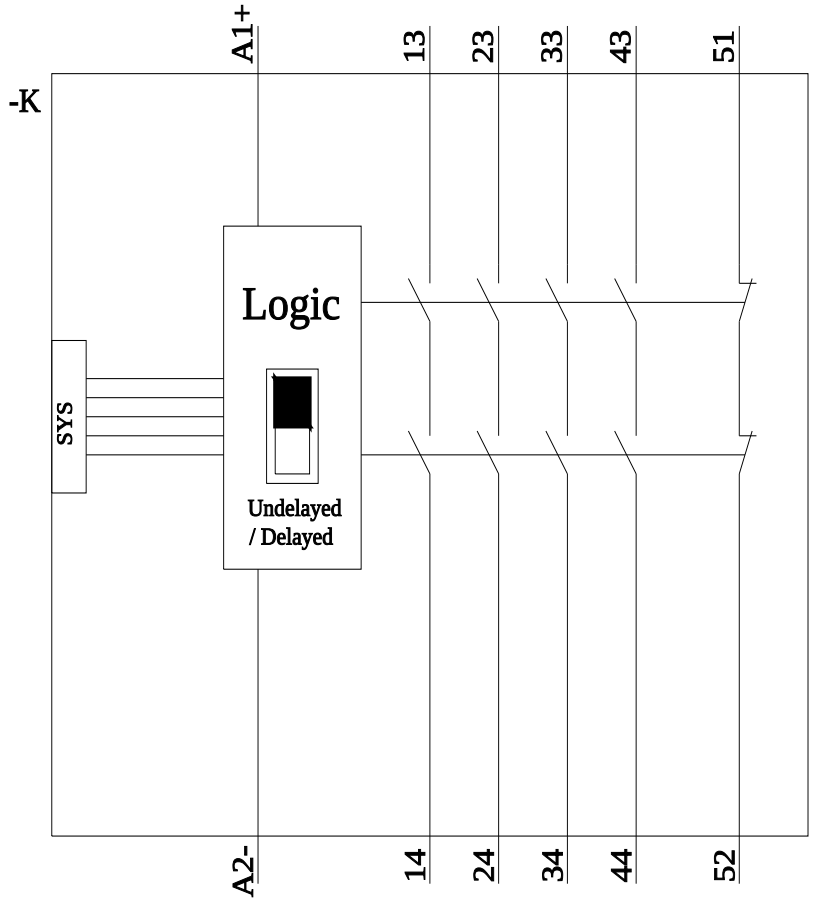
Marine / Shipping	other	Railway	Environment
	Confirmation	Confirmation	Environmental Confirmations

Further information

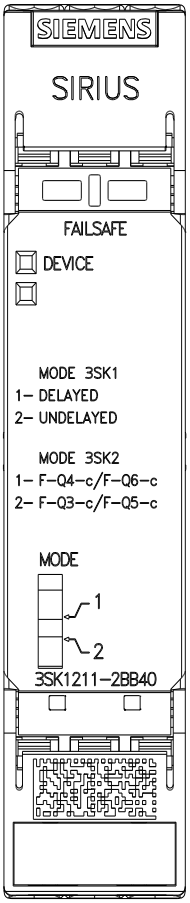
Information on the packaging
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Information- and Downloadcenter (Catalogs, Brochures,…)
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Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
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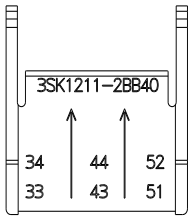
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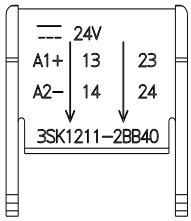




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