

SMX 132-1/2/D

SMXSERIES » Modular » Decentral expansion » I/O module

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DESCRIPTION

Decentralised I/O extension module for the SMX_{MODULAR} - basic modules

- 14 Digital inputs
- 10 Digital I/Os
- 2 Relay outputs
- 2 Pulse outputs
- 4 Auxiliary outputs
- 2 / 4 pn- or pp-switching outputs
- Safety controller up to PL e acc. to EN ISO 13849-1 or SIL3 acc. to IEC 61508

CHARACTERISTIC OF THE MODULE

- » Decentralised I/O expansion module
 - Decentralised: Communication with base module SMX100-x via communication interface (/D)
 - Central: Communication with base module SMX100-x via backplane bus
- » Pulse outputs for cross-shortening detection of digital input signals
- » External contact monitoring of connected switchgear (EMU)
- » Comprehensive diagnostic functions integrated
- » Coded status display via front-side 7 segment display and status LEDs
- » 10 safe I/O`s – can be configured as inputs or outputs

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SAFETY RELATED CHARACTERISTIC DATA

Performance Level	PL e (EN ISO 13849-1)
PFH ¹⁾ / architecture	9,2 FIT / Cat. 4 *
Safety Integrity Level	SIL 3 (IEC 61508)
Proof test interval	20 years = max. operating period

GENERAL DATA

Max. no. of expansion modules	–
Interface for expansion modules	Communication interface (/D) or T-bus connector, pluggable in top-hat rail, RJ-45 (Ethernet)
Number of safe digital inputs	14
Number of safe digital outputs	
pp-switching **	4
pn-switching **	2
Number of safe digital I/O	10
Number of relay outputs	2
Number of safe analogue inputs	–
Number of auxiliary outputs	4
Number of pulse outputs (clock outputs)	2
Type of connection	Plug-in terminals with spring or screw connection
Axis monitoring (Axes / Encoder interfaces)	–
Encoder interfaces (D-Sub / screw terminals)	–

* Value applies only to expansion modules

** pn/pp are configurable via SafePLC²

¹⁾ Value applies only for extension module. For total assessment in accordance with EN ISO 13849-1 one must use a series connection with the corresponding basic device => $PFH_{Logic} = PFH_{Basic} + PFH_{Extension}$

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ELECTRICAL DATA

Supply voltage (tolerance)		24 VDC; 2A (-15%, +20%)
Fuse	X 11.1, X11.2	min. 30 VDC; max. 3,15 A
	X 11.1 / X11.2 / X13.1 + X13.2	min. 30 VDC; 2A / 9A / 10A
Max. Leistungsaufnahme (Logik)		
	SMX132-1/2/D	5,2 W
Rated data digital inputs		24 VDC; 20 mA, Typ1 acc. to IEC 61131-2
Rated data digital outputs		
	pn-switching	24 VDC; 2A *
	pp-switching	24 VDC; 2A *
	auxiliary outputs	24 VDC; 250mA
	pulse outputs (clock outputs)	24 VDC; 250mA
	Digital I/O	
	01 - 05	24 VDC; 0,5A
	06 - 10	24 VDC; 2A
Rated data relays		
	Normally open	
		DC 13
		24 VDC; 2A
		AC 15
		230 VAC; 2A
	Normally closed (Read back contact)	
		DC 13
		24 VDC; 2A

* see „Derating outputs“

DERATING OUTPUTS

- » Maximum current load based on temperature.
- » The maximum total current is 10A.

type of module	outputs	temperature 30°C / 50°C
SMX132-0/2/D	Q 1 – Q 4	2A / 1,8A

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ENVIRONMENTAL DATA

Temperature	0°C ... +50°C operation -25°C ... +70°C storage and transport
Class of protection	IP 20
Climatic category	3K3 acc. to DIN EN 60721-3
Min-, Maximum relative humidity (no condensation)	5% - 85%
EMC	DIN EN 61000-6-2, DIN EN 61000-6-4, DIN EN 61000-6-7, DIN EN 61800-3, DIN EN 61326-3, DIN EN 62061
Operating altitude	2000m

MECHANICAL DATA

Dimension (HxDxW [mm])	SMX132-1/2/D	100x115x90
Weight [g]	SMX132-1/2/D	500
Mounting		to snap on top-hat rail
Number of T-Bus	SMX132-1/2/D	
Min. terminal cross-section / AWG		0,2 mm ² / 24
Max. terminal cross-section / AWG		2,5 mm ² / 12

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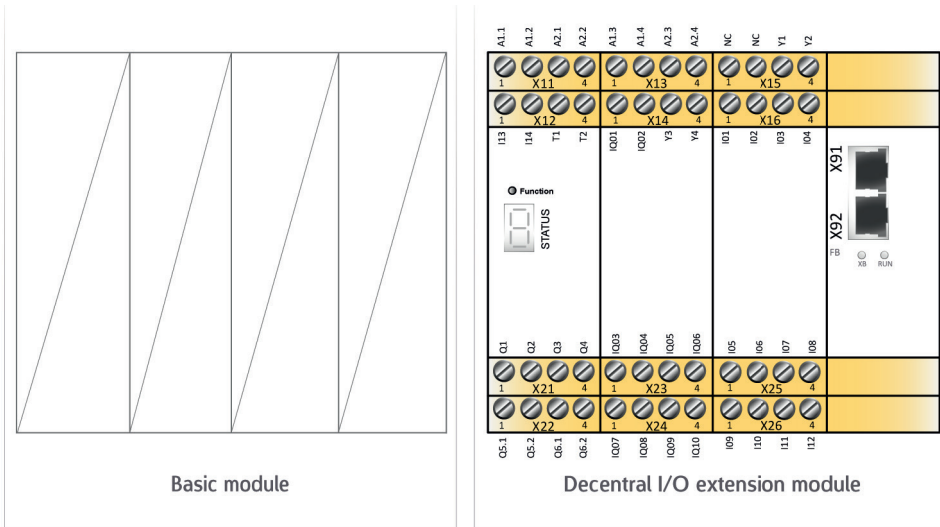
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DEVICE INTERFACES



Interface	description of interface
X11 – X16 / X21 – X26	Voltage supply and I/O interface
X91 / X92	Decentralised SDDC ETH and SMMC interface

VOLTAGE SUPPLY AND I/O INTERFACE

X 11		
Pin	1 - A1.1	Voltage supply device +24 VDC
	2 - A1.2	Voltage supply device +24 VDC outputs
	3 - A2.1	Voltage supply device 0 VDC
	4 - A2.2	0 VDC
X 12		
Pin	1 - I13	Safe digital inputs
	2 - I14	
	3 - T1	Clock outputs
	4 - T2	
X 13		
Pin	1 - A1.3	Voltage supply device +24 VDC
	2 - A1.4	
	3 - A2.3	Voltage supply device 0 VDC
	4 - A2.4	
X 14		
Pin	1 - IQ01	Safe digital inputs, outputs pp-switching
	2 - IQ02	
	3 - Y3	Auxiliary outputs
	4 - Y4	
X 15		
Pin	1 - NC	No function
	2 - NC	
	3 - Y1	Auxiliary outputs
	4 - Y2	
X 16		
Pin	1 - IO1	Safe digital inputs
	2 - IO2	
	3 - IO3	
	4 - IO4	

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X 21		
Pin	1 - Q1	Output of the pp-switching Q1_PP / pp-switching Q1
	2 - Q2	Output of the pn-switching Q2_PN / pp-switching Q2
	3 - Q3	Output of the pp-switching Q3_PP / pp-switching Q3
	4 - Q4	Output of the pn-switching Q4_PN / pp-switching Q4
X 22		
Pin	1 - Q5.1	Safe relay outputs
	2 - Q5.2	
	3 - Q6.1	Safe relay outputs
	4 - Q6.2	
X 23		
Pin	1 - IQ03	Safe digital inputs, outputs pp-switching
	2 - IQ04	
	3 - IQ05	
	4 - IQ06	

X24		
Pin	1 - IQ07	Safe digital inputs, outputs pp-switching
	2 - IQ08	
	3 - IQ09	
	4 - IQ10	
X 25		
Pin	1 - I05	Safe digital inputs
	2 - I06	
	3 - I07	
	4 - I08	
X 26		
Pin	1 - I09	Safe digital inputs
	2 - I10	
	3 - I11	
	4 - I12	

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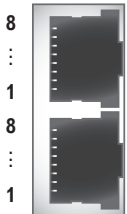
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DECENTRALISED SDDC ETH AND SMMC INTERFACE

Pin assignment female connector

Communication interface (RJ45-Buchse)				Front side
Pin	Name	Description	Colour	X91 / X92
1	TX+	Transmit Data +	white-orange	
2	TX-	Transmit Data -	orange	
3	RX+	Receive Data +	white-green	
4	nc	Nicht genutzt	blue	
5	nc	Nicht genutzt	white-blue	
6	RX-	Receive Data -	green	
7	nc	Nicht genutzt	white-brown	
8	nc	Nicht genutzt	brown	

Safe Master – Master Communication (SMMC)

SMMC communication enable a secure data exchange of 2 bytes between multiple SDDC masters. Communication takes place without a master for coordinating the data. This means that data exchange between available subscribers is always possible. This principle means that an incomplete or separates network can work in part areas without chnaging the configuration.

Each port can be configured in the SafePLC².

INTEGRATED COMMUNICATION INTERFACE

General data

Decentralised communication interface

/D

2x RJ 45 *

* optional for SDDC or SMMC

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BESTELLINFORMATIONEN

EXTENSIONS

item	description	item no.
SMX132-1/2/D	Decentral I/O expansion module with 10 safe I/Os	1577

ACCESSORIES

item	description	item no.
SXxxx-x	Terminal connector, screw terminals (set), encoded for cabling SMX132-1/2/D	on request
SXxxx-x	Terminal connector, spring terminals (set), encoded for cabling SMX132-1/2/D	on request
SX0000-9	T-Bus connector voltage-carrying (grey)	1015

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