

# SMX 131/2

SMXSERIES » Modular » Central expansion » I/O module

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## DESCRIPTION

Central I/O extension module for the SMXMODULAR - basic modules

- 12 Digital Inputs
- 10 Digital I/Os
- 2 Auxiliary / pulse outputs
- Safety controller up to PL e acc. to EN ISO 13849-1 or SIL3 acc. to IEC 61508

## CHARACTERISTIC OF THE MODULE

- » Pulse outputs for cross-circuit detection of digital input signals
- » External contact monitoring of connected switchgear (EMU)
- » Comprehensive diagnostic functions integrated

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## SAFETY RELATED CHARACTERISTIC DATA

Performance Level	PL e (EN ISO 13849-1)
PFH <sup>1)</sup> / architecture	9,2 FIT / Cat. 4 <sup>1)</sup>
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	T-bus connector, pluggable in top-hat rail
Number of safe digital inputs	12
Number of safe digital outputs	-
pp-switching **	4
pn-switching **	2
Number of safe digital I/O	10
Number of relay outputs	-
Number of safe analogue inputs	-
Number of auxiliary outputs	2
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)	-

\*\* pn/pp configurable via SafePLC

<sup>1)</sup> Value applies only for extension module. For total assessment in accordance with EN ISO 13849-1 one must use a series 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	X11.1	min. 30 VDC; max. 10A
Max. Power consumption (logic)		
	SMX131/2	3 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
SMX1xx/2/x	IQ x6 – IQ x0	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])	SMX131/2	100x115x45
Weight [g]	SMX131/2	300
Mounting		to snap on top-hat rail
Number of T-Bus		
	SMX131/2	2
Min. terminal cross-section / AWG		0,2 mm <sup>2</sup> / 24
Max. terminal cross-section / AWG		2,5 mm <sup>2</sup> / 12

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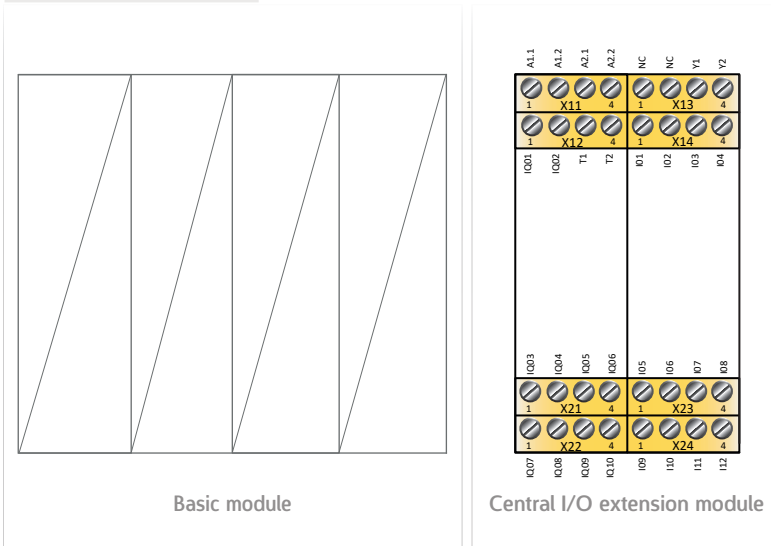
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## DEVICE INTERFACES



Interface	Description of interface
X11 – X14 / X21 – X24	Voltage supply and I/O interface

## VOLTAGE SUPPLY AND I/O INTERFACE

X 11		
Pin	1 - A1.1	Voltage supply device +24 VDC
	2 - A1.2	
	3 - A2.1	Voltage supply device 0 VDC
	4 - A2.2	
X 12		
Pin	1 - IQ01	Safe digital inputs, outputs pp-switching
	2 - IQ02	
	3 - T1	Clock outputs
	4 - T2	
X 13		
Pin	1 - NC	No function
	2 - NC	
	3 - Y1	Auxiliary outputs
	4 - Y2	
X 14		
Pin	1 - I01	Safe digital inputs
	2 - I02	
	3 - I03	
	4 - I04	

X 21		
Pin	1 - IQ 03	Safe digital inputs, outputs pp-switching
	2 - IQ 04	
	3 - IQ 05	
	4 - IQ 06	
X 22		
Pin	1 - IQ 07	Safe digital inputs, outputs pp-switching
	2 - IQ 08	
	3 - IQ 09	
	4 - IQ 10	
X 23		
Pin	1 - I05	Safe digital inputs
	2 - I06	
	3 - I07	
	4 - I08	
X24		
Pin	1 - I09	Safe digital inputs
	2 - I10	
	3 - I11	
	4 - I12	

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## ORDER INFORMATION

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### EXTENSIONS

item	description	item no.
SMX131/2	I/O expansion module	1616

### ACCESSORIES

item	description	item no.
SXxxx-x	Terminal connector, screw terminals (set), encoded for cabling SMX131/2	on request
SXxxx-x	Terminal connector, spring terminals (set), encoded for cabling SMX131/2	on request
SX0000-9	T-Bus connector voltage-carrying (grey)	1015

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