

SMX 121-PXV/2

SMXSERIES » Modular » Central expansion » 1 axis module

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PRODUCTS



DESCRIPTION

Central axis extension for safe speed and position of 1 axis for further evaluation in SMXMODULAR - basic modules

- Integrated drive monitoring of one axis with safePXV-encoder interface
- 12 safe digital inputs
- Safety control up to PL e acc. to EN ISO 13849-1 or SIL3 acc. to IEC 61508

CHARACTERISTIC OF THE MODULE

- » Complete speed and position-related safety functions for drive monitoring IEC 61800-5-2 integrated into firmware
- » Safe position monitoring with only one sensor in combination with the optical reading head PXV100AS-F200-R4-V19-BBH
- » Speed monitoring
- » Standstill monitoring
- » Direction monitoring
- » Safe incremental dimension
- » Emergency Stop monitoring
- » Position monitoring
- » Position range monitoring
- » Trend range monitoring
- » Target position monitoring
- » Comprehensive diagnostics functions integrated
- » Parameter management for expansion modules in base device
- » Extended functionality: safePXV-encoder interface

BBH PRODUCTS GMBH

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SAFETY RELATED CHARACTERISTIC DATA

Performance Level	PL e (EN ISO 13849-1)
PFH ¹⁾ / architecture	3,0 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	T-bus connector, pluggable in top-hat rail
Number of safe digital inputs	12
Number of safe digital outputs	–
Number of safe digital I/O	–
Number of relay outputs	–
Number of safe analogue inputs	–
Number of auxiliary outputs	–
Number of pulse outputs (clock outputs)	–
Type of connection	Plug-in terminals with spring or screw connection
Axis monitoring (axes / Encoder interface)	1 / 1
Encoder technology (See table Encoder specifications)	RS 485, X35: PXV100AS-F200-R4-V19-BBH

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)	-
Max. Power consumption (logic)	-
Rated data digital inputs	24 VDC; 20 mA Typ1 acc. to IEC 61131-2
Rated data digital outputs	-
Rated data relays	-
Rated data analogue inputs	-

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

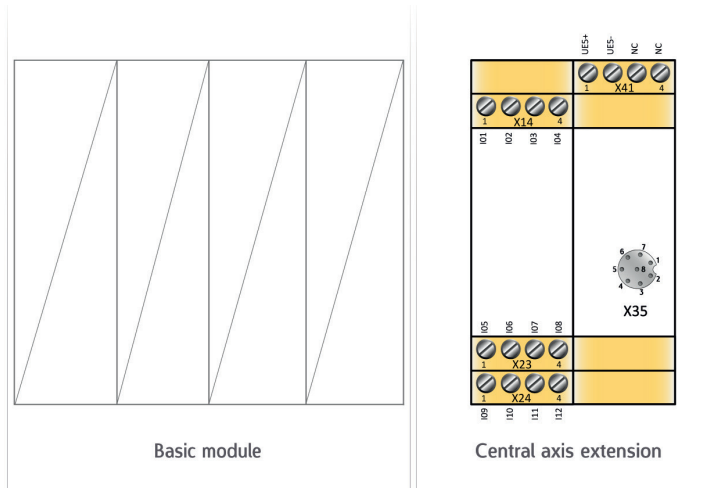
MECHANICAL DATA

Dimension (HxDxW [mm])	SMX121-PXV/2	100x115x45
Weight [g]	SMX121-PXV/2	390
Mounting	to snap on top-hat rail	
Number of T-Bus	2	
Min. terminal cross-section / AWG	0,2 mm ² / 24	
Max. terminal cross-section / AWG	2,5 mm ² / 12	

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DEVICE INTERFACES



Interface	Description of interface
X14 / X23, X24 / X41	Voltage supply and I/O interface
X35	Encoder interfaces

VOLTAGE SUPPLY AND I/O INTERFACE

X14		
Pin	1 - I01	Safe digital inputs
	2 - I02	
	3 - I03	
	4 - I04	
X23		
Pin	1 - I05	Safe digital inputs
	2 - I06	
	3 - I07	
	4 - I08	

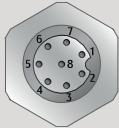
X24		
Pin	1 - I09	Safe digital inputs
	2 - I10	
	3 - I11	
	4 - I12	
X 41		
Pin	1 - UE5+	Voltage supply Sensor +24 VDC
	2 - UE5-	Voltage supply Sensor 0 VDC
	3 - NC	No Function
	4 - NC	

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ENCODER INTERFACES

Pinassignment X35

Pin	RS 485	Front side SMX
1	Enable Blue	 X35
2	UB+	
3	Data +	
4	Data -	
5	Sync IN	
6	Enable Red	
7	GND	
8	NC	

ENCODER SPECIFICATIONS

PXV100AS-F200-R4-V19-BBH	
Physical Layer	RS-485 compatible
Data format	Binary Code
Transmission rate	115200 Bit/s
Type of connection (X35)	male connector 1x M12, 8-pin
Termination	120 Ω , selectable
General data	
Overrun speed v	≤ 10 m/s
Measuring length	max. 100000 m
Resolution	± 1 mm
Measuring frequency	100 Hz

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ORDER INFORMATION

EXTENSIONS

item	description	item no.
SMX121-PXV/2	Axis extension module for one axis with safePXV-Encoder interface	2610

ACCESSORIES

item	description	item no.
SXXXX-X	Terminal connector, screw terminals (set), encoded for cabling SMX121-PXV/2	on request
SXXXX-X	Terminal connector, spring terminals (set), encoded for cabling SMX121-PXV/2	on request
SX0000-9	T-Bus connector, voltage-carrying (grey)	1015
PXV100AS-F200-R4-V19-BBH	Optical reading head for incident light positioning system	2581

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