

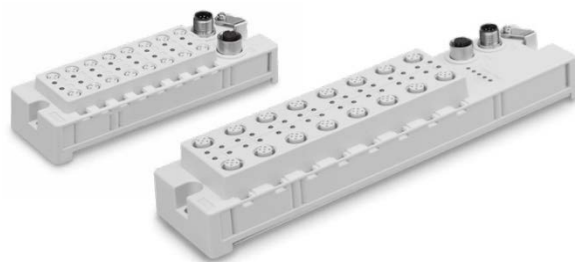


ORIGINAL INSTRUCTIONS

## Instruction Manual

### Fieldbus system – Input unit

#### Series EX500-DXPA / -DXPB



The intended use of the input unit is to connect input devices to SI units and Gateway units for the control of pneumatic equipment.

## 1 Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of "Caution," "Warning" or "Danger." They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)<sup>1)</sup>, and other safety regulations.

- <sup>1)</sup> ISO 4414: Pneumatic fluid power - General rules relating to systems.  
 ISO 4413: Hydraulic fluid power - General rules relating to systems.  
 IEC 60204-1: Safety of machinery - Electrical equipment of machines. (Part 1: General requirements)  
 ISO 10218-1: Manipulating industrial robots - Safety, etc.
- Refer to product catalogue, Operation Manual and Handling Precautions for SMC Products for additional information.
  - Keep this manual in a safe place for future reference.

	<b>Caution</b>	Caution indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
	<b>Warning</b>	Warning indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
	<b>Danger</b>	Danger indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

## Warning

- Always ensure compliance with relevant safety laws and standards.
- All work must be carried out in a safe manner by a qualified person in compliance with applicable national regulations.
- Refer to the operation manual on the SMC website (URL: <https://www.smcworld.com>) for further Safety Instructions.

## 2 Specifications

### 2.1 Gateway Distributed system 2 (128 points) specifications

Item	Specifications
Number of Inputs / Outputs	128 inputs / 128 outputs
Number of branches	4 branches (32 inputs max. / 32 outputs max. per branch)
Number of Slave connections	16 devices max. (2 input units max. / 2 output units max.)
Branch cable length	20 m max. total extension per branch

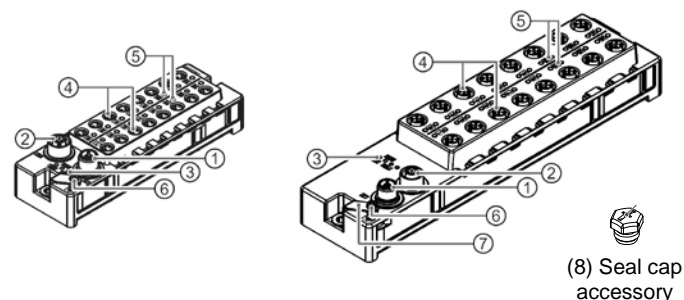
### 2.1 Input unit specifications

Item	Specifications	
	EX500-DXPA	EX500-DXPB
Input type	PNP sensor input	
Number of inputs	16 inputs	
Voltage for input	24 VDC	
Current for input	1.3 A / unit max.	
Current consumption	200 mA max. (including input current when input is ON)	
Sensor connector	M8 3-pin socket	M12 5-pin socket
Protection	Short circuit protection	
Enclosure rating	IP67	
Operating temperature	-10 to +50°C (no condensation or freezing)	
Storage temperature	-20 to +60°C (no condensation)	
Humidity range	35 to 85 % RH (no condensation)	
Environment	No corrosive gas or dust	
Weight	250 g	450 g

## 3 Name and function of parts

EX500-DXPA

EX500-DXPB



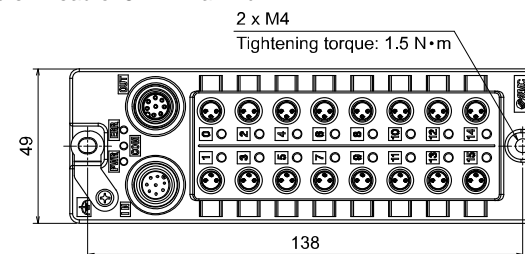
No	Part	Description
1	Branch connector (IN)	Connector for branch cable (with M12 8-pin connector) from GW unit.
2	Branch connector (OUT)	Connector for branch cable (with M12 8-pin connector) to the next unit.
3	Display LED	Display to indicate the input unit status.
4	Sensor connector	Connector for sensor.
5	Input signal LED	Display to indicate the sensor input signal status.
6	FE terminal (M3)	Functional Earth (FE).
7	FE connection metal fitting	Metal fitting to electrically connect the mounting hole and FE terminal.
8	Seal cap (accessory)	EX500-DXPA: M8 seal cap (16 pcs.) and M12 seal cap (1 pc.). EX500-DXPB: M12 seal cap (17 pcs.). Part No. EX9-AWES (M8), EX9-AWTS (M12).

## 4 Installation

### 4.1 Mounting

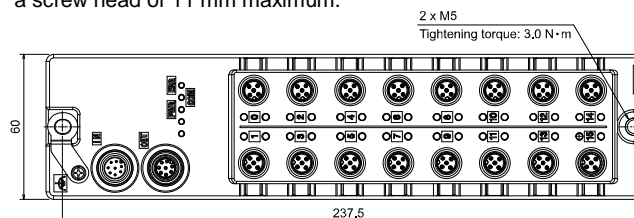
#### EX500-DXPA

- Install the input unit using 2 x M4 screws, 20 mm minimum length with a screw head of 8 mm maximum.



#### EX500-DXPB

- Install the input unit using 2 x M5 screws, 20 mm minimum length with a screw head of 11 mm maximum.



### 4.2 Environment

## Warning

- Do not use in an environment where corrosive gases, chemicals, salt water or steam are present.
- Do not install in a location subject to vibration or impact in excess of the product's specifications.
- Do not mount in a location exposed to radiant heat that would result in temperatures in excess of the product's specifications.

## 5 Wiring

### 5.1 Branch Wiring

Connect the input unit to the GW unit or SI unit using an M12 8-pin connector cable.

#### EX500-AC###-S#P#

Cable length (L)	Connector
003 0.3 [m]	SSPS Socket side: Straight Plug side: Straight
005 0.5 [m]	
010 1 [m]	SAPA Socket side: Angled Plug side: Angled
030 3 [m]	
050 5 [m]	
100 10 [m]	

### 5.2 Sensor wiring

Connect each required sensor to the sensor connectors.

#### EX500-DXPA – M8 3-pin Socket

No.	Description
1	Power supply (24 VDC)
3	Power supply (0 VDC)
4	Input signal

#### EX500-DXPB – M12 5-pin Socket

No.	Description	Even number: 0 to 14	Odd number 1 to 15
1	Power supply (24 VDC)		
2	(Input signal) *		
3	Power supply (0 VDC)		
4	Input signal		
5	FE		

## 5 Wiring (continued)

- \* Pin No.2 of the M12 connector is internally wired to Pin No.4 of the adjacent connector (e.g. Pin No.4 in the input "0" connector is wired to Pin No.2 in the input "1" connector).

The M12 connector cable for sensor connections has two types, Standard M12 and SPEEDCON compatible. If both plug and socket have SPEEDCON connectors, the cable can be inserted and connected by turning it a 1/2 rotation. A standard connector can be connected to a SPEEDCON connector.

## Warning

- Be sure to fit a seal cap (M8 or M12) on all unused connectors. Proper use of the seal cap enables the enclosure to maintain IP67 specification. Tightening torque: 0.1 N·m.

### 5.3 Ground Connection

- Connect the Functional Earth (FE) to ground.
- Resistance to ground should be 100 Ω or less.

## 6 Outline Dimensions (mm)

Refer to the operation manual on the SMC website (URL: <https://www.smcworld.com>) for outline dimensions.

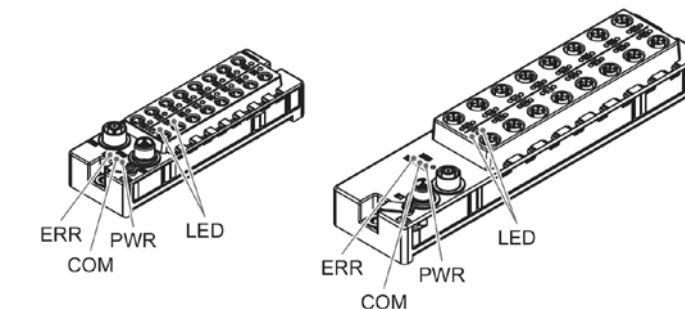
## 7 How to Order

Refer to the operation manual on the SMC website (URL: <https://www.smcworld.com>) for How to order information.

## 8 LED display

EX500-DXPA

EX500-DXPB



LED display	Description	
PWR	OFF	Power supply for control and input is OFF.
	Green ON	Power supply for control and input is ON.
COM	OFF	Communication error with GW unit has occurred.
	Green ON	Communication with GW unit is normal.
ERR	OFF	Normal operation.
	Green ON	Short circuit detection.
LED	OFF	Sensor input signal is OFF.
	Green ON	Sensor input signal is ON.

## 9 Maintenance

### 9.1 General Maintenance

#### Caution

- Not following proper maintenance procedures could cause the product to malfunction and lead to equipment damage.
- If handled improperly, compressed air can be dangerous.
- Maintenance of pneumatic systems should be performed only by qualified personnel.
- Before performing maintenance, turn off the power supply and be sure to cut off the supply pressure. Confirm that the air is released to atmosphere.
- After installation and maintenance, apply operating pressure and power to the equipment and perform appropriate functional and leakage tests to make sure the equipment is installed correctly.
- If any electrical connections are disturbed during maintenance, ensure they are reconnected correctly and safety checks are carried out as required to ensure continued compliance with applicable national regulations.
- Do not make any modification to the product.
- Do not disassemble the product, unless required by installation.
- Stop operation if the product does not function correctly.

## 10 Limitations of Use

### 10.1 Limited warranty and Disclaimer/Compliance Requirements

Refer to Handling Precautions for SMC Products.

## 11 Product Disposal

This product shall not be disposed of as municipal waste. Check your local regulations and guidelines to dispose of this product correctly, in order to reduce the impact on human health and the environment.

## 12 Contacts

Refer to [www.smcworld.com](https://www.smcworld.com) or [www.smc.eu](https://www.smc.eu) for your local distributor / importer.

## SMC Corporation

URL: <https://www.smcworld.com> (Global) <https://www.smc.eu> (Europe)  
SMC Corporation, 4-14-1, Sotokanda, Chiyoda-ku, Tokyo 101-0021, Japan  
Specifications are subject to change without prior notice from the manufacturer.  
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Template DKP50047-F-085M