



ORIGINAL INSTRUCTIONS

Instruction Manual
Fieldbus device – Input unit and Input Block
Series EX500-IB1, EX500-IE#



The intended use of the SI unit is for connection to a gateway unit and input devices for the control of pneumatic valves.

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)^{*)}, and other safety regulations.

^{*)}ISO 4414: Pneumatic fluid power — General rules and safety requirements for systems and their components.
ISO 4413: Hydraulic fluid power — General rules and safety requirements for systems and their components
IEC 60204-1: Safety of machinery - Electrical equipment of machines - Part 1: General requirements
ISO 10218-1: Robotics — Safety requirements — Part 1: Industrial robots

- 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.

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

2 Specifications

2.1 General specifications

Item	Specifications
Ambient temperature	5 to 45 °C
Ambient humidity	35 to 85% RH (no condensate)
Ambient storage temperature	-25 to +70 °C
Withstand voltage	1000 VAC applied for 1 minute
Insulation resistance	500 VDC, 2 MΩ or more

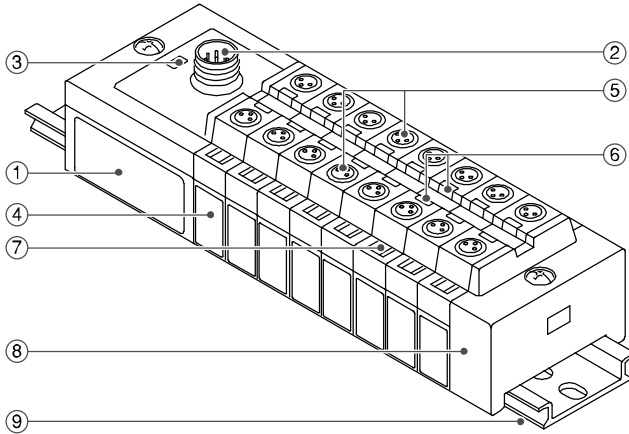
2.2 Input unit specifications (EX500-IB1)

Item	Specifications
Connection block	PNP / source Input (negative common) NPN / sink Input (positive common)
Communication connector	M12 8-pin plug
Number of input blocks	8 blocks max. (16 inputs)
Power supply	24.0 VDC
Current for input block	0.5 A max.
Current consumption	100 mA max. (at rated voltage)
Short circuit protection	Operates at 1 A typical (power supply cut) Gateway unit resets power OFF and ON.
Weight	100 g (Input unit and end block)

2.3 Input block specifications (EX500-IE#)

Item	Specifications
Applicable input type	PNP, NPN
Input connector	M8 3-pin or M12 4-pin
No. of inputs	2 inputs
Power supply	24.0 VDC
Current for input	30 mA max. per input
Weight	EX500-IE1/2 (M8 x 2): 20 g EX500-IE3/4 (M12 x 2): 40 g

3 Name and function of parts



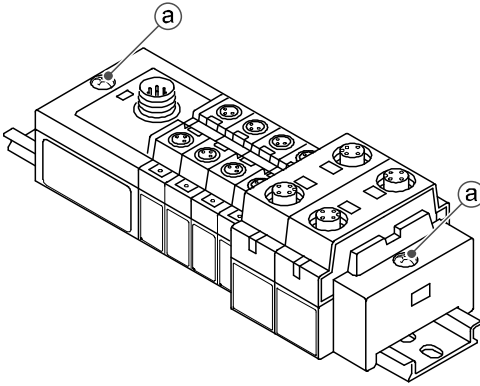
(Model shown with M8 sensor connectors only)

No	Description	Function
1	Input unit	Unit to communicate with GW unit.
2	Communication connector	To be connected to branch cables (with M12 connector) from GW unit or SI unit.
3	Power LED	Indicates the power supply status.
4	Input block	Unit for sensor input connections.
5	Sensor connector	For sensor connection.
6	Indicator LED	Indicates sensor signal status.
7	Marker (attached)	To be used for writing input No. etc.
8	End block	Composes the end of Input unit manifold.
9	DIN rail	For mounting Input unit manifold.

4 Installation

4.1 Mounting

- Push the input unit and end block together firmly once they are mounted on the DIN rail to ensure a good seal between all input blocks.
- Tighten the two screws (a) to secure the assembly on the DIN rail. Tighten the screws to the specified tightening torque of 0.6 N•m.



4.2 Wiring connections

• Input Block connector

Connector		Pin No.	Signal name
M8 3-pin socket	M12 4-pin socket		
		1	24 V
		2	Input 2 (M12)
		3	0 V
		4	Input 1

Internal wiring of the M12 input block provides 2 inputs on each connector, however pins 2 and 4 are connected together on each block.

Warning

- Be sure to fit a seal cap on any unused connectors. Proper use of the seal cap enables the enclosure to maintain IP65 specification (seal cap EX9-AWES for M8 and EX9-AWTS for M12). Tightening torque: 0.05 N•m for M8 and 0.1 N•m for M12.

4.3 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 How to Order

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

6 Outline Dimensions (mm)

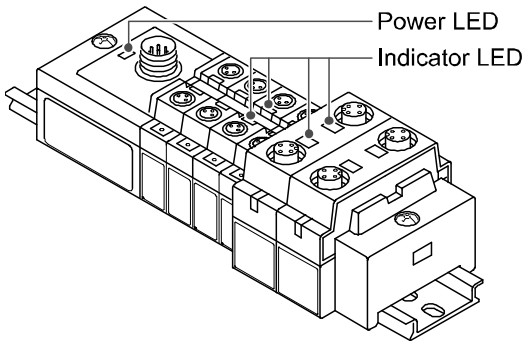
Refer to the operation manual on the SMC website (URL: <https://www.smcworld.com>) for outline dimensions.

7 Limitations of Use

7.1 Limited warranty and Disclaimer/Compliance Requirements

Refer to Handling Precautions for SMC Products.

8 LED Display



LED		Description
Power LED	Green ON	Power supply for control and input is ON.
	Green flashing	In short circuit protection mode (abnormal status). When the short circuit protection is operating the power is not supplied.
	OFF	Power for control and input is not supplied.
Indicator LED	Green ON	Sensor input signal ON.
	OFF	Sensor input signal OFF.

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 or maintenance instructions
- Stop operation if the product does not function correctly.

10 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.

11 Contacts

Refer to www.smcworld.com or www.smc.eu for your local distributor / importer.

SMC Corporation

URL : <https://www.smcworld.com> (Global) <https://www.smc.eu> (Europe)
SMC Corporation, 1-5-5, Kyobashi, Chuo-ku, Tokyo 104-0031, JAPAN
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