EX500-TFS45

Installation & Maintenance Manual
Fieldbus system
EX500-DX□A

1 Safety Instructions

This manual contains essential information for the protection of users and others from possible injury and/or equipment damage.
•Read this manual before using the product, to ensure correct handling, and read the manuals of related apparatus before use.
•Keep this manual in a safe place for future reference.
•These instructions indicate the level of potential hazard by label of "Caution", "Warning" or "Danger", followed by important safety information which must be carefully followed.
•To ensure safety of personnel and equipment the safety instructions in this manual and the product catalogue must be observed, along with other relevant safety practices.

⚠ **Caution**	CAUTION indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
⚠ **Warning**	WARNING indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
⚠ **Danger**	DANGER indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

This product is class A equipment that is intended for use in an industrial environment.
There may be potential difficulties in ensuring electromagnetic compatibility in other environments due to conducted as well as radiated disturbances.

⚠ Warning

•**Do not disassemble, modify (including changing the printed circuit board) or repair.**
An injury or failure can result.
•**Do not operate the product outside of the specifications.**
Do not use for flammable or harmful fluids.
Fire, malfunction, or damage to the product can result.
Verify the specifications before use.
•**Do not operate in an atmosphere containing flammable or explosive gases.**
Fire or an explosion can result.
This product is not designed to be explosion proof.
•**If using the product in an interlocking circuit:**
•Provide a double interlocking system, for example a mechanical system.
•Check the product regularly for proper operation.
Otherwise malfunction can result, causing an accident.
•**The following instructions must be followed during maintenance:**
•Turn off the power supply.
•Stop the air supply, exhaust the residual pressure and verify that the air is released before performing maintenance.
Otherwise an injury can result.

1 Safety Instructions (Continued)

⚠ Caution

•**When handling the unit or assembling/replacing units:**
•Do not touch the sharp metal parts of the connector or plug for connecting units.
•Take care not to hit your hand when disassembling the unit.
The connecting portions of the unit are firmly joined with seals.
•When joining units, take care not to get fingers caught between units.
An injury can result.
•**After maintenance is complete, perform appropriate functional inspections.**
Stop operation if the equipment does not function properly.
Safety cannot be assured in the case of unexpected malfunction.
•**Provide grounding to assure the safety and noise resistance of the Serial System.**
Individual grounding should be provided close to the product with a short cable.

Refer to the operation manual on the SMC website (URL http://www.smcworld.com) for more information about safety instructions.

2 Specifications

Gateway distributed system 2 (128 points) specifications

Item	Specification
Number of inputs and outputs	128 inputs/128 outputs
Number of branch ports	4 (Input: Max. 32 points/Output: Max. 32 points per branch)
Number of connected slaves	Max. 16 (Input unit: 2 pcs./SI unit: 2 pcs. per branch)
Branch cable length	Total length 20 m or less per branch

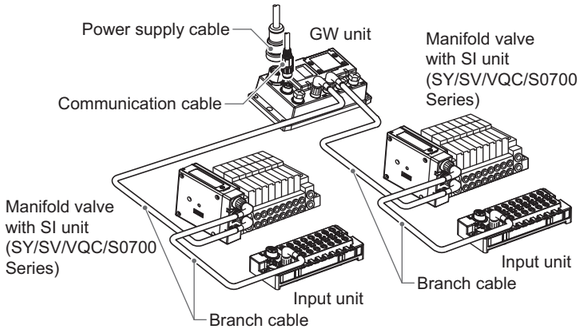
Input unit specifications

Item	Specification
Input type	PNP sensor input
Number of inputs	16 inputs
Voltage for input equipment	24 VDC
Current for input equipment	Max. 1.3 A/unit
Internal current consumption	200 mA or less (including input current when the input signal is ON)
Sensor connector	M8 connector (3 pin, socket)
Short circuit protection	Applicable
Enclosure rating	IP67
Operating temperature range	Operation: -10 to 50 °C, Storage: -20 to 60 °C (No condensation or freezing)
Operating humidity range	Operation, Storage: 35 to 85%RH (No condensation)
Operating atmosphere	No corrosive gas
Weight	250 g
Accessories	Seal cap (for M8 connector socket): 16 pcs. Seal cap (for M12 connector socket): 1 pc.

Refer to the product catalogue or SMC website (URL http://www.smcworld.com) for more information about product specifications.

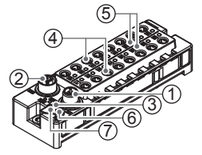
3 Product Summary

○**System configuration**



The EX500 range of units can be connected to open fieldbus to realize the reduction of input or output device wiring and the distributed control system.
One branch of manifold valves/input unit can be connected to 32 outputs/32 inputs.
Up to 4 branches can be connected (total 128 outputs/128 inputs).

4 Summary of Product parts



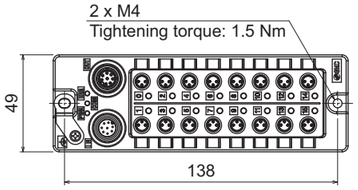
No.	Description	Application
1	Branch connector (IN)	Connector for branch cable (with M12 connector) from the GW unit.
2	Branch connector (OUT)	Connector for branch cable (with M12 connector) to the next unit on the branch line.
3	Status LED	LED display to indicate the input unit status.
4	Sensor connector	Connector for sensor.
5	Sensor status LED	Displays the sensor signal status.
6	Grounding terminal	Used for functional grounding. (M3 thread) (It is recommended to ground with resistance of 100 ohms or less)
7	Grounding bracket	Connect the mounting hole to the grounding terminal.

*: Seal cap is provided.

5 Mounting and Installation

■**Installation**

•Direct mounting
Install the product using 2 M4 screws x 20 mm or longer.



*: The mounting hole on the branch connector side is electrically connected to the ground terminal via a metal fitting.

■**Wiring**

1. Branch wiring
Select the specified branch cable below.

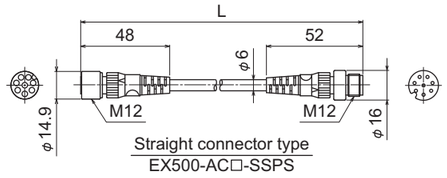
How to order: EX500-AC 030 - SSPS

Cable length (L)

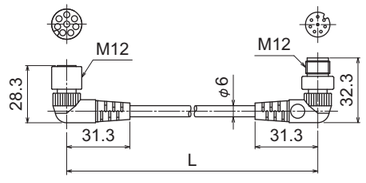
003	0.3 [m]
005	0.5 [m]
010	1 [m]
030	3 [m]
050	5 [m]
100	10 [m]

Connector

SSPS	Socket side: Straight Plug side: Straight
SAPA	Socket side: Angled Plug side: Angled



Straight connector type
EX500-AC□-SSPS



Angled connector type
EX500-AC□-SAPA

(unit: mm)

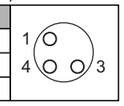
Minimum acceptable cable bending radius: 40 mm (fixed)

5 Mounting and Installation (Continued)

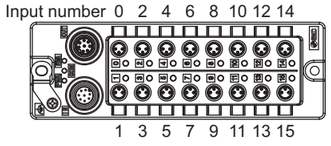
2. Sensor wiring
Connect the sensors to the sensor connectors.

Pin layout of the sensor connector
M8 connector (3 pin, socket)

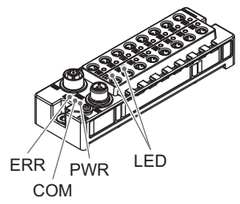
No.	Description
1	Power supply (24 VDC)
3	Power supply (0 V)
4	Input



Correspondence between the input number and input.
The Input number is assigned from 0 to 15 from the branch connector side.



6 LED Display



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

7 How to order

EX500-DX P A

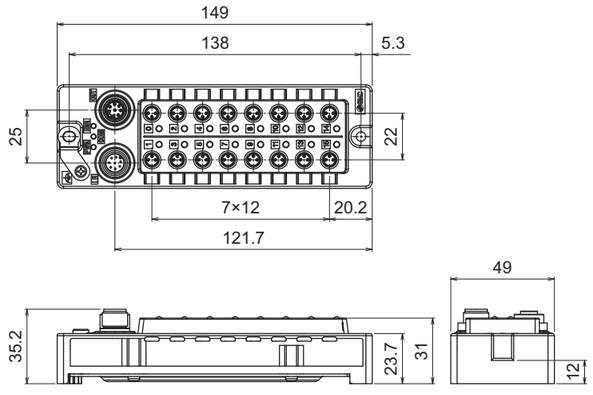
- Connector type

A	M8, 3 pin

- Input type

P	PNP sensor input

8 Outline Dimensions (mm)



9 Contacts

AUSTRIA	(43) 2262 62280-0	LATVIA	(371) 781 77 00
BELGIUM	(32) 3 355 1464	LITHUANIA	(370) 5 264 8126
BULGARIA	(359) 2 974 4492	NETHERLANDS	(31) 20 531 8888
CZECH REP.	(420) 541 424 611	NORWAY	(47) 67 12 90 20
DENMARK	(45) 7025 2900	POLAND	(48) 22 211 9600
ESTONIA	(372) 651 0370	PORTUGAL	(351) 21 471 1880
FINLAND	(358) 207 513513	ROMANIA	(40) 21 320 5111
FRANCE	(33) 1 6476 1000	SLOVAKIA	(421) 2 444 56725
GERMANY	(49) 6103 4020	SLOVENIA	(386) 73 885 412
GREECE	(30) 210 271 7265	SPAIN	(34) 945 184 100
HUNGARY	(36) 23 511 390	SWEDEN	(46) 8 603 1200
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SMC Corporation

URL http://www.smcworld.com (Global) http://www.smceu.com (Europe)

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