



ORIGINAL INSTRUCTIONS

Instruction Manual

**Fieldbus device - SI unit for AnyWireASLINK
EX180-SAW1-X237**


The intended use of this product is to control pneumatic valves and I/O while connected to the AnyWireASLINK protocol.

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)⁽¹⁾, and other safety regulations.

⁽¹⁾ 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.

	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.

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.
- 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.**
Fire, malfunction or damage to the product can result.
- 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 for correct operation.**
Otherwise malfunction can result, causing an accident.

Caution

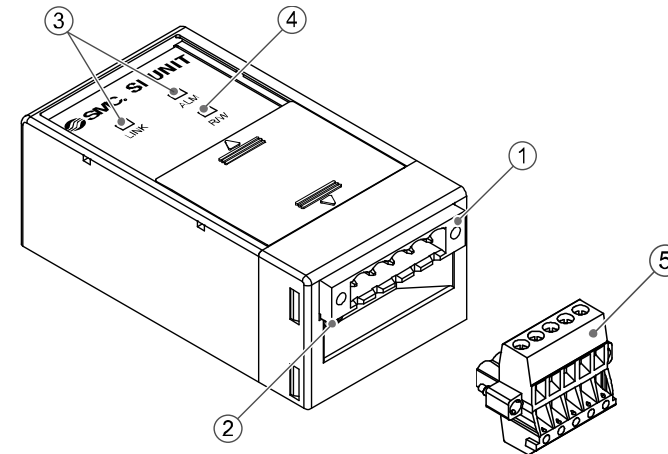
- Provide grounding to assure the safety and noise resistance of the Fieldbus system.**
Individual grounding should be provided close to the product using a short cable.

2 Specifications
2.1 General specifications

Item	Specifications
Ambient temperature	-10 to +50 °C
Ambient humidity	35 to 85%RH (No condensate)
Ambient storage temperature	-20 to +60 °C
Withstand voltage	500 VAC applied for 1 minute (between FG and external terminal)
Insulation resistance	10 MΩ or more (500 VDC, between FG and external terminal)
Operating atmosphere	No corrosive gas, no dust
Enclosure	IP20
Weight	110 g or less (including accessories)

2.2 Electrical specifications

Item	Specifications	
Network communication	AnyWireASLINK 4-wire (insulation)	
Power supply voltage range / Current consumption	SI unit power supply	24 VDC / 0.1 A or less (supplied from AnyWireASLINK line)
	Solenoid valve power supply	24 VDC +10%/-5% (voltage drop warning at 16 VDC)
Solenoid valve specification	Output type	NPN (positive common) / sink type
	Number of outputs	32 points
	Connected load	Solenoid valve (with surge voltage suppressor) 24 VDC and 1 W or less (manufactured by SMC)
	Output at communication error	Clear

3 Name and function of individual parts


No.	Element	Description
1	Fieldbus interface connector (BUS)	Connector used to connect to the AnyWireASLINK bus line.
2	FG terminal	Functional Earth.
3	LED display	LED diagnostic display.
4	Address setting port	Set the address using a dedicated address writer.
5	Fieldbus connector	Connector for AnyWireASLINK bus line (accessory)

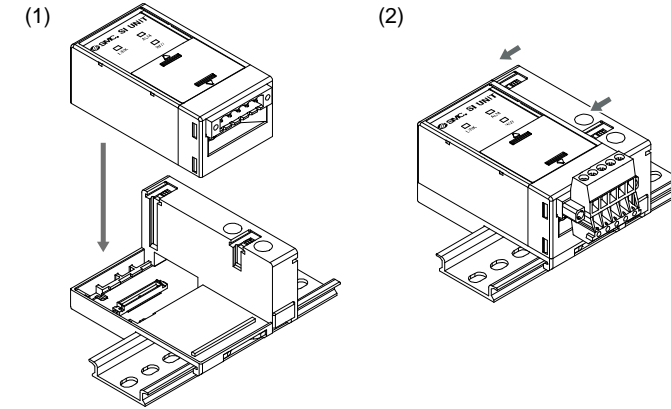
4 Installation
4.1 Mounting
Warning

- Do not install the product unless the safety instructions have been read and understood.
- Applicable valve series: SJ2000, SJ3000, SJ5000

Caution

- Be sure to turn off the power.
- Check there is no foreign matter inside the SI unit.
- If the SI unit is not assembled properly, the internal PCBs may be damaged or liquid and/or dust may enter into the unit.

- Mount the SI unit to the valve manifold so that the mounting guide of the SI unit case mates with the manifold groove.
- Secure the SI unit using the two sliding locks.

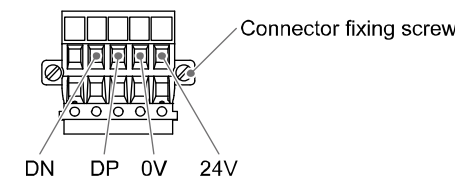

4.2 Environment
Warning

- Do not use in an environment where corrosive gases, chemicals, salt water or steam are present.
- Do not use in an explosive atmosphere.
- Do not expose to direct sunlight. Use a suitable protective cover.
- 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 Connecting Cables

Wiring of the AnyWireASLINK cable and communication connector is shown below.

- Connect the AnyWireASLINK to the assigned pins.
- The AnyWireASLINK communication connector is suitable for use with wire sizes from AWG24 to AWG12 (0.2 mm² to 2.5 mm²).
- The terminal tightening torque is 0.5 to 0.6 N*m.
- When assembling the connector tighten the connector fixing screws (M2.5 slotted head screws) with a tightening torque of 0.2 to 0.3 N*m.

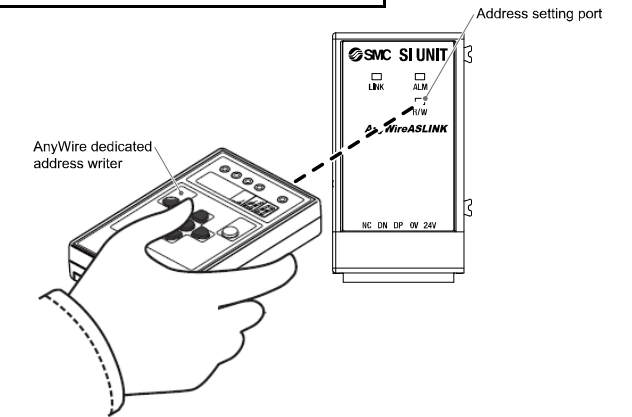

5.2 Ground Connection

- Connect the ground (FG) terminal to ground.
Individual grounding should be provided close to the product.
Resistance to ground should be 100 ohms or less.

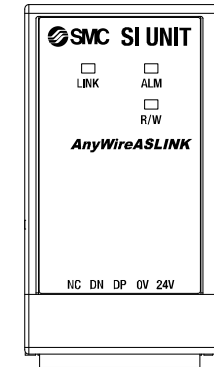
6 Settings
6.1 Address Setting

- The SI unit address number corresponds to the controller I/O memory map. This address number is assigned to the AnyWireASLINK transmission frame (0 to 254), and the SI unit will occupy 32 points, starting from the last assigned number.
- The address number can be set using a single unit (1 point).
- The address to be set will be written to the SI unit using an AnyWire dedicated address writer ARW-03 (ver.2.10 or later) or ARW-04. Refer to the AnyWire operation manual for how to use the address writer ARW-03 (Ver.2.10 or newer) or ARW-04.

Settable address No.: 0 to 224


Caution

- The SI unit default address setting is "255 (no setting is performed)".
 - The SI unit will not output when in this state.
 - At the same time, no unit ID is registered even though the automatic address recognition function operates (refer to master unit manual).
- For other setting details refer to the Operation manual on the SMC website (URL: <https://www.smcworld.com>).

7 LED display


LED	Display	Description
LINK	ON	No transmission
	Flashing	Normal operation
	OFF	No power supply, or broken wire to the DP/DN terminals.
ALM	ON	Reduced I/O voltage
	Flashing	Reduced transmission signal level
LINK ALM	OFF	Normal operation
	Alternate Flashing	When the master unit detects that the ID (address) is duplicated or not set.
	LINK	
	ALM	

8 How to Order

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

9 Outline Dimensions (mm)

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

10 Maintenance

10.1 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.

11 Limitations of Use

11.1 Limited warranty and Disclaimer/Compliance Requirements

Refer to Handling Precautions for SMC Products.

12 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.

13 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.smceu.com> (Europe)
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Specifications are subject to change without prior notice from the manufacturer.
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