



Installation & Maintenance Manual

Fieldbus device (GW unit)

EX510-GEN1-X73 (EtherNet/IP™)



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.

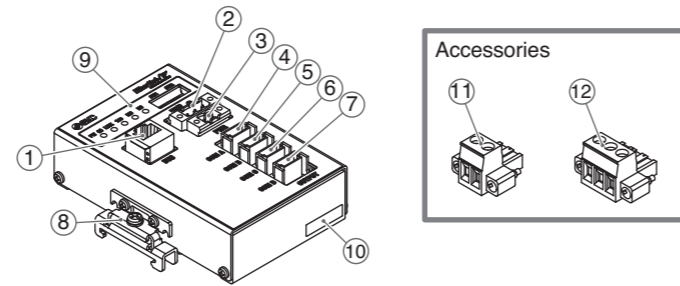
Caution

- **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 Fieldbus system.**
Individual grounding should be provided close to the product with a short cable.

NOTE

- When conformity to UL is required, the GW unit should be used with a UL 1310 Class 2 power supply.

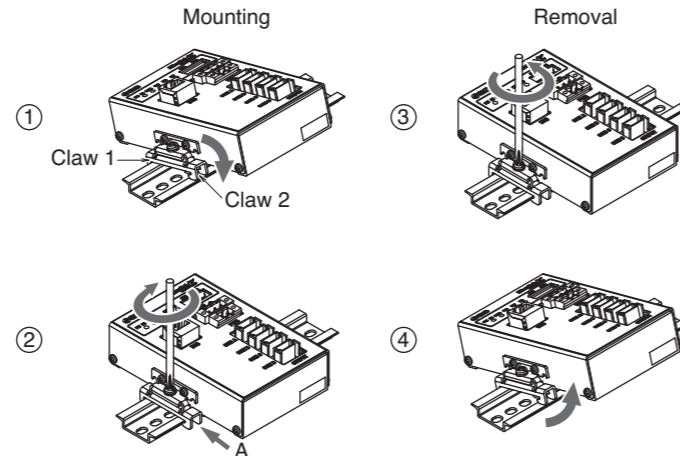
Summary of Product elements



No.	Element	Description
1	Communication connector (BUS)	Connect with EtherNet/IP™ line (RJ45 connector).
2	Power supply connector (PWR(V), FG)	Supplies power for output devices such as a solenoid valves, and Functional Earth using the power supply connector (12).
3	Power supply connector (PWR)	Supplies power for controlling GW using the power supply connector (11).
4	Communication port A (COM A)	Connect to an SI unit (manifold valve) etc. using branch cables (EX510-FC□□).
5	Communication port B (COM B)	
6	Communication port C (COM C)	
7	Communication port D (COM D)	
8	Mounting bracket	Mounting to a DIN rail.
9	LED Display / switch setting	LEDs to displays the unit status, and DIP switches for communication settings.
10	MAC address label	Ethernet MAC address.

Installation

DIN rail mounting



Mounting procedure ① and ②
For mounting, hook claw 1 to the upper side of the DIN rail. Then hook claw 2 to the lower side. Slide the GW unit in the direction of arrow A, to locate claw 2 on to the DIN rail. Tighten the mounting bracket screw to secure the GW unit to the DIN rail. (Tightening torque: 0.6 Nm)

Removal procedure ③ and ④
For removal, loosen the mounting bracket screw. Then remove the GW unit by unhooking claw 2 then claw 1.

*: There is a mounting bracket at each side of the GW unit.

Installation (Continued)

Connecting cables

Select the appropriate cables to mate with the connectors mounted on the GW unit.

Communication connector (RJ45 8-pin socket (female))

Pin	Description
1	TX+
2	TX-
3	RX+
4	-
5	-
6	RX-
7	-
8	-

Power supply connector for controlling GW (2-pin, plug (male))

Pin No.	Description	Function
1	24 V	+24 VDC for controlling GW
2	0 V	0 V for controlling GW

Power supply connector for output (3-pin, plug (male))

Pin No.	Description	Function
1	24 V	+24 VDC for output
2	0 V	0 V for output
3	FG	Functional earth *

*: Connect the Functional earth to ground.
Resistance to ground should be 100 Ω or less.

Branch connector

Pin No.	Description	Function
1	24 V	+24 V for output unit
2	TD (+)	Transmit data (+)
3	TD (-)	Transmit data (-)
4	0 V	0 V for output unit

LED indication

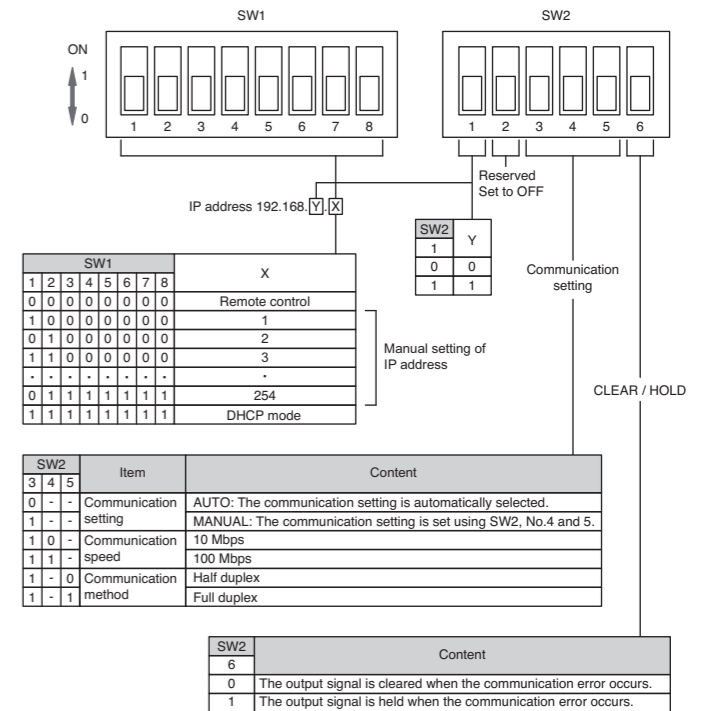
PWR(V) LINK 100 MS NS
○ ○ ○ ○ ○

Indication	Content	
PWR(V)	OFF	The power supply for solenoid valves is out of specification or is OFF
	Green ON	The power supply for solenoid valves is normal
LINK	OFF	The power supply is OFF / initialised
	Green ON	Ethernet communication established
100	Green flashing	Data sent/received
	OFF	Communication at 10 Mbps / Unit is OFF
MS	Green ON	Communication at 100 Mbps
	OFF	The power supply is OFF
	Green flashing	Operating normally
NS	Red flashing	Setting error
	Red ON	Recoverable internal error
	Red ON	Unrecoverable internal error
	OFF	The power supply is OFF / IP address is not set
NS	Green flashing	EtherNet / IP™-level communication has not been established
	Green ON	Multiple EtherNet / IP™-level communications established
	Red flashing	Multiple EtherNet / IP™-level communications timed out
	Red ON	IP address duplicated

Setting

Switch setting

The settings should only be made with the power supply turned OFF.



For more detailed setting information refer to the operation manual for this product.

Troubleshooting

Refer to the operation manual for this product.

Specifications / Outline Dimensions

Power supply for controlling GW: 21.6 to 26.4 VDC, 200 mA or less
Power supply for output: 22.8 to 26.4 VDC
Max. 3.6 A

Connected device: EX510 series SI unit and output unit (manufactured by SMC)

Ambient temperature for operation: -10 to 50 °C

Ambient temperature for storage: -20 to 60 °C

Pollution degree 3: (UL508)

This product is IP20 rated.
Please install in an enclosure of IP54 or more when using the product in a pollution degree 3 environment.

For more detailed specifications and outline dimensions refer to the operation manual for this product.

Contacts

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Specifications are subject to change without prior notice from the manufacturer.

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