



This installation guide provides simple function information or PLC control. Please read carefully this data sheet and manuals before using products. Especially read precautions then handle the products properly.

1 Safety Precautions

■ Meaning of warning and caution label

	WARNING	WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury
	CAUTION	CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices

WARNING

- Do not contact the terminals while the power is applied.
- Be sure there are no foreign metallic matters.
- Do not manipulate the battery(charge, disassemble, hitting, short, soldering).

CAUTION

- Be sure to check the rated voltage and terminal arrangement before wiring
- When wiring, tighten the screw of terminal block with the specified torque range
- Do not install the flammable things on surroundings
- Do not use the PLC in the environment of direct vibration
- Except expert service staff, Do not disassemble or fix or modify the product
- Use the PLC in an environment that meets the general specifications contained in this datasheet.
- Be sure that external load does not exceed the rating of output module.
- When disposing of PLC and battery, treat it as industrial waste.
- I/O signal or communication line shall be wired at least 100mm away from a high-voltage cable or power line.

2 Operating Environment

■ To install, observe the below conditions.

No	Item	Specification			Standard	
1	Ambient temp.	0 ~ 55℃			-	
2	Storage temp.	-25 ~ 70℃			-	
3	Ambient humidity	5 ~ 95%RH, non-condensing			-	
4	Storage humidity	5 ~ 95%RH, non-condensing			-	
5	Vibration Resistance	Occasional vibration			-	IEC 61131-2
		Frequency	Acceleration	Amplitude	Number	
		5≤f<8.4Hz	-	3.5mm	10 times in each direction for X, Y, Z	
		8.4≤f≤150Hz	9.8m/s ² (1g)	-		
		Continuous vibration				
		Frequency	Acceleration	Amplitude		
		5≤f<8.4Hz	-	1.75mm		
		8.4≤f≤150Hz	4.9m/s ² (0.5g)	-		

3 Applicable Support Software

■ For system configuration, the following version is necessary.

- XMC-E32A : V1.3 or above
- XG5000 Software : V4.27 or above

4 Performance Specifications

■ For moer information, please refer to user manual.

1) Performance specifications

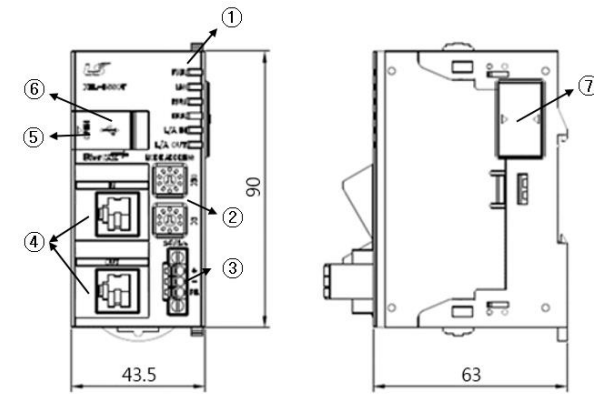
Item	Specification
Maximum expansion stages	8 slot
Communication protocol	EtherCAT
Refresh cycle	DC Sync0 cycle x refresh cycle(0~100)
Transmission speed	100Mbps
Physical layer	100BASE-TX(IEEE 802.3)
Communication cable	Over Category 5 STP cable
PDO data size	Input: Max. 1,024byte, Output: Max. 1,024byte
Mailbox data size	Input: Max. 256byte, Output: Max. 256byte
Mailbox command	SDO requests, SDO information
Refresh method	Free-Run, Refresh Sync mode(Only LS ELECTRIC)
Input filter	1, 3, 5, 10, 20, 70, 100ms

2) Power specifications

Item	Specification
Rated input voltage	DC24V
Input current	1.3A or less
Inrush current	50A peak or less
Efficiency	80% or more
Permitted momentary power failure	10ms or less
Rated output voltage	DV5V (±2%)
Output current	3.0A
Power status display	Power LED On
Wiring cable	22 ~ 20 AWG(0.3 ~ 0.5mm ²)
Current consumption	300mA

5 Parts name and Dimension (mm)

■ This is front part of the product. Refer to each name when operating the system. For more information, refer to user's manual.



■ Parts name and function

No.	Name	Description
①	Status LED	EtherCAT Adapter operation status LED, Network communication status LED
②	Rotary Switch	Node Address(Explicit ID) switch
③	Power connector	DC24V power input connector
④	EtherCAT connector	EtherCAT IN, OUT connector
⑤	USB connector	USB connector to connect with XG5000
⑥	USB cover	Protection cover for USB connector
⑦	Expansion cover	Protection cover for expansion connector

6 Installing / Removing Modules

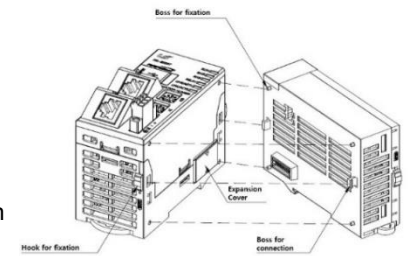
■ Here describes the method to attach each module to the base or remove it.

1) Installing module

- When extension input/output module is installed, pull two levers of adapter module up.
- Push the product and connect it agreement with hook for fixation of four edges and hook for connection
- After connection, get down the hook for fixation and fix it completely

2) Removing module

- Push up the hook for disconnection.
- Detach the product with two hands. (Don't force it.)

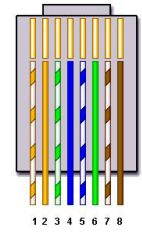


7 Wiring

■ Wiring for Communication

- 10/100BASE-TX's max. extended length between nodes is 100m.
- This switch module provides Auto Cross Over function so the user can use both cross and direct cable.

Pin No.	Sign	Cable wiring	
		Straight cable	Cross cable
1	TD+	1 ---- 1	1 ---- 3
2	TD-	2 ---- 2	2 ---- 6
3	RD+	3 ---- 3	3 ---- 1
6	RD-	6 ---- 6	6 ---- 2
4,5,7,8	Not used	-	-



- White orange
- Orange
- White green
- Blue
- White blue
- Green
- White brown
- Brown

8 Warranty

■ The warranty period is 36 months from the date of manufacture.

■ The initial diagnosis of faults should be conducted by the user. However, upon request, LS ELECTRIC or its representative(s) can undertake this task for a fee. If the cause of the fault is found to be the responsibility of LS ELECTRIC, this service will be free of charge.

■ Exclusions from warranty

- Replacement of consumable and life-limited parts (e.g. relays, fuses, capacitors, batteries, LCDs, etc.)
- Failures or damages caused by improper conditions or handling outside those specified in the user manual
- Failures caused by external factors unrelated to the product
- Failures caused by modifications without LS ELECTRIC's consent
- Use of the product in unintended ways
- Failures that cannot be predicted/solved by current scientific technology at the time of manufacture
- Failures due to external factors such as fire, abnormal voltage, or natural disasters
- Other cases for which LS ELECTRIC is not responsible

■ For detailed warranty information, please refer to the user's manual.

■ The content of the installation guide is subject to change without notice for product performance improvement.

LS ELECTRIC Co., Ltd www.ls-electric.com **10310001664 V1.3 (2024.6)**

• E-mail: automation@ls-electric.com



- Headquarter/Seoul Office
- LS ELECTRIC Shanghai Office (China)
- LS ELECTRIC (Wuxi) Co., Ltd. (Wuxi, China)
- LS-ELECTRIC Vietnam Co., Ltd. (Hanoi, Vietnam)
- LS ELECTRIC Middle East FZE (Dubai, U.A.E.)
- LS ELECTRIC Europe B.V. (Hoofddorf, Netherlands)
- LS ELECTRIC Japan Co., Ltd. (Tokyo, Japan)
- LS ELECTRIC America Inc. (Chicago, USA)

- Tel: 82-2-2034-4033,4888,4703
- Tel: 86-21-5237-9977
- Tel: 86-510-6851-6666
- Tel: 84-93-631-4099
- Tel: 971-4-886-5360
- Tel: 31-20-654-1424
- Tel: 81-3-6268-8241
- Tel: 1-800-891-2941

• Factory: 56, Samseong 4-gil, Mokcheon-eup, Dongnam-gu, Cheonan-si, Chungcheongnam-do, 31226, Korea