



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

1 Safety Precautions

■ Meaning of warning and caution inscription

	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	
①	Do not contact the terminals while the power is applied.
②	Protect the product from being gone into by foreign metallic matter.
③	Do not manipulate the battery(charge, disassemble, hitting, short, soldering).
⚠ CAUTION	
①	Be sure to check the rated voltage and terminal arrangement before wiring.
②	When wiring, tighten the screw of terminal block with the specified torque range.
③	Do not install the flammable things on surroundings.
④	Do not use the PLC in the environment of direct vibration.
⑤	Except expert service staff, do not disassemble or fix or modify the product.
⑥	Use the PLC in an environment that meets the general specifications contained in this datasheet.
⑦	Be sure that external load does not exceed the rating of output module.
⑧	When disposing of PLC and battery, treat it as industrial waste.

2 Operating Environment

■ To install, observe the below conditions.

No	Item	Specification	Standard			
1	Ambient temp.	0 ~ 55 °C	-			
2	Storage temp.	-25 ~ 70 °C	-			
3	Ambient humidity	5 ~ 95%RH, non-condensing	-			
4	Storage humidity	5 ~ 95%RH, non-condensing	-			
5	Vibration Resistance	Occasional vibration		10 times in each direction for X, Y, Z	IEC 61131-2	
		Frequency	Acceleration			Amplitude
		5≤f<8.4Hz	-			3.5mm
		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)	-				

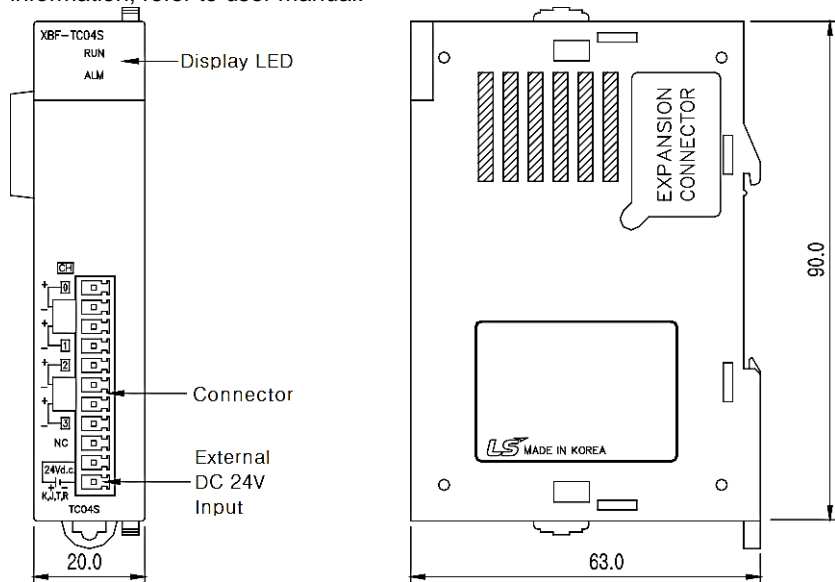
3 Applicable Support Software

■ For system configuration, the following version is necessary.

- XBC Type : H(V1.9 or above), SU(V1.0 or above), U(V1.0 or above)
- XEC Type : H(V1.3 or above), SU(V1.0 or above), U(V1.0 or above)
- XG5000 Software : V4.0 or above

4 Parts Name and Dimension (mm)

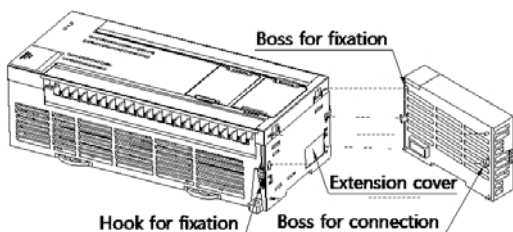
■ This is front part of the Module. Refer to each name when driving the system. For more information, refer to user manual.



5 Installing / Removing Modules

■ Here describes the method to attach each product each product.

- Installing module
 - Eliminate the extension cover at the product.
 - Push the product and connect it in agreement with hook for fixation of four edges and hook for connection at the bottom.
 - After connection, push down the hook for fixation and fix it completely.
- Removing module
 - Push up the hook for disconnection, and then detach the product with two hands. (Do not detach the product by force)



6 Performance Specifications

■ Performance specifications are as follows.

Item	Specification	
Number of input channel	4 channels	
Range of input temperature	K type sensor	-200.0 °C ~ 1300.0 °C
	J K type sensor	-200.0 °C ~ 1200.0 °C
	T K type sensor	-200.0 °C ~ 400.0 °C
	R K type sensor	0.0 °C ~ 1700.0 °C
Digital output	Temperature display	Displaying down to one decimal place K, J, T type: 0.1°C, R type: 0.5°C
	Scaling display	Unsigned scaling (0 ~ 65,535) Signed scaling (-32,768 ~ 32,767)
Accuracy	Ambient temperature(25°C)	Within ±0.2%
	Temp. coefficient	±100 ppm / °C
Warming-up time	15min or above	

7 Wiring

■ Precaution for wiring

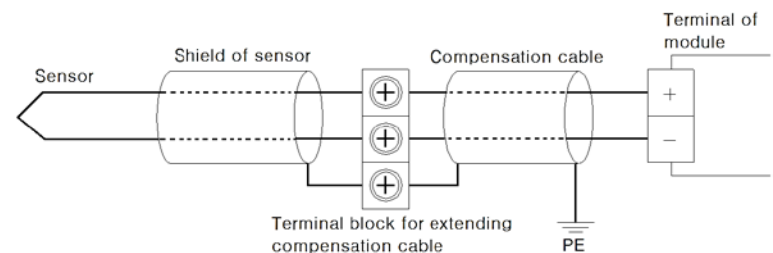
- Do not place AC power line close to the AUX signal line of the module. To avoid surge or induced noise occurring from AC, make sure to leave a proper space.
- Cable should be selected by considering ambient temperature and allowable current and the size of cable should be as follows.

Cable Size	
Minimum	Maximum
0.18mm ² (AWG24)	1.5mm ² (AWG16)

- If cable is placed too close to any heating device or materials or if it directly contacts oil and similar materials for a long time, it may cause short-circuit, resulting in breakdown and malfunction.
- Check the polarities during terminal strip wiring
- For the external power(24VDC), be sure to use the same power as the XGB Series PLC. If the external power(24VDC) is turn off/on when XGB PLC power is turned on, it may cause abnormal temperature input

■ Wiring example

Thermocouple sensor can be connected directly to the terminal of module, or in case of that temperature measuring point is far from module, it can be connected extendedly using compensation cable.



- In case sensor and compensation cable are shielded, it is recommended that the shield is grounded to PLC FG.
- It is necessary to use extension terminal block whose material is kept at uniform temperature in order to reduce error.
- Compensation cable should be used the same type with sensor, which is used for measuring.

8 Warranty

■ Warranty period

18 months after the production date.

■ Scope of Warranty

18-month warranty is available except:

- The troubles caused by improper condition, environment or treatment except the instructions of LS ELECTRIC.
- The troubles caused by external devices
- The troubles caused by remodeling or repairing based on the user's own discretion.
- The troubles caused by improper usage of the product
- The troubles caused by the reason which exceeded the expectation from science and technology level when LS ELECTRIC manufactured the product
- The troubles caused by natural disaster

■ Change in specifications

Product specifications are subject to change without notice due to continuous product development and improvement.

LS ELECTRIC Co., Ltd. www.ls-electric.com 1031000897 V4.4 (2022.9)

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