



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℃	-	
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		
		Frequency	Acceleration	Amplitude
		5≤f<8.4Hz	-	3.5mm
		8.4≤f≤150Hz	9.8m/s ² (1g)	-
		Continuous vibration		
		Frequency	Frequency	Amplitude
5≤f<8.4Hz	-	1.75mm		
8.4≤f≤150Hz	4.9m/s ² (0.5g)	-		
		10 times in each direction for X, Y, Z	IEC 61131-2	

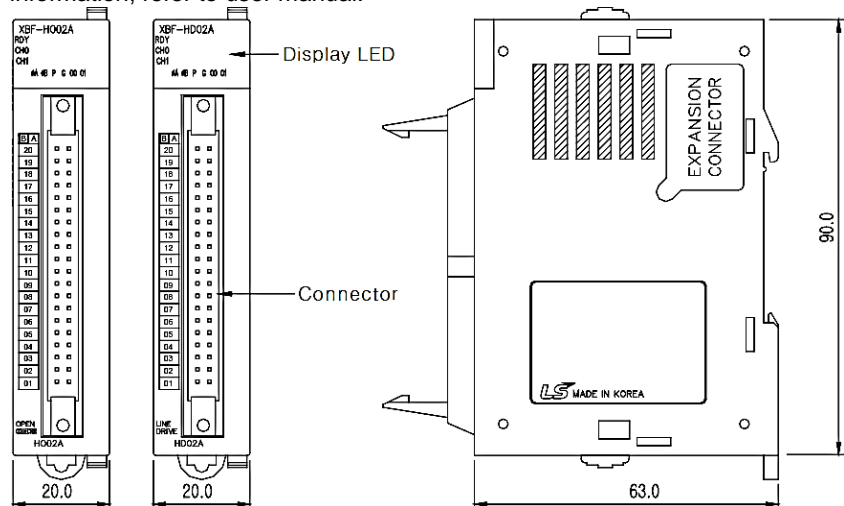
3 Applicable Support Software

■ For system configuration, the following version is necessary.

- XBC Type :H(V2.10 or above), SU(V1.21 or above), U(V1.00 or above)
- XEC Type :H(V1.40 or above), SU(V1.00 or above), U(V1.00 or above)
- XBM Type :V3.20 or above
- XG5000 Software :V3.64 or above

4 Parts name and Dimension (mm)

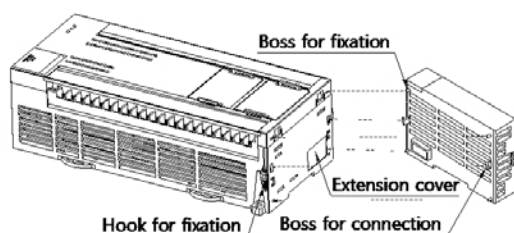
■ This is front part of the Module. Refer to each name when driving the system. For more information, refer to user manual.



5 Mounting & Installation

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

- Attachment of product
 - 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.
- Detachment of product
 - 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	XBF-HO02A	XBF-HD02A
Pulse input type	Open collector(voltage)	Line driver(Differential)
Maximum coefficient speed	200kpps	500kpps(HTL input: 250kpps)
Coefficient range	-2,147,483,648 ~ 2,147,483,647	

7 Wiring

■ Installation of cable

- Connection length between HSC module and external device(encoder) is as follows. XBF-HO02A is max. 2m and XBF-HD02A is max. 10m. But there is some difference according to specification of external device.
- When wiring I/O, avoid power line and main circuit line.
- Let the length of connection cable as short as possible.
- Separate AC line and external I/O signal of positioning module so that I/O signal is not affected by surge or induction noise generated at AC line.
- Use stable power as external power (DC5V, DC24V).
- When wiring, if wire is close to high temperature device or contacts with oil, it may be the reason of short.

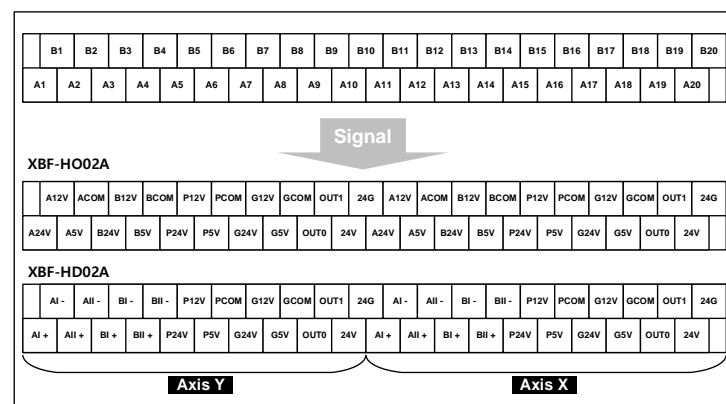
■ I/O interface with external equipment

Pin assignment	Pin	Pin	Descriptions of signals			
			Ch1(B)	CH0(A)	XBF-HO02A	XBF-HD02A
	20	20	A24V	A-phase 24V	AI +	AI+ input(TTL)
	19	19	A12V	A-phase 24V	AI -	AI- input(TTL)
	18	18	A5V	A-phase 24V	AI +	AI+ input(HTL)
	17	17	ACOM	A-phase 24V	AI -	AI- input(HTL)
	16	16	B24V	A-phase 24V	BI +	BI+ input(TTL)
	15	15	B12V	A-phase 24V	BI -	BI- input(TTL)
	14	14	B5V	A-phase 24V	BI +	BI+ input(HTL)
	13	13	BCOM	A-phase 24V	BI -	BI- input(HTL)
	12	12	P24V	Preset DC24V input		
	11	11	P12V	Preset DC12V input		
	10	10	P5V	Preset DC5V input		
	9	9	PCOM	Preset COM terminal		
	8	8	G24V	Gate DC24V input		
	7	7	G12V	Gate DC12V input		
	6	6	G5V	Gate DC5V input		
	5	5	GCOM	Gate COM terminal		
	4	4	OUT0	Compared output OUT0		
	3	3	OUT1	Compared output OUT1		
	2	2	24V	External Supply 24V		
	1	1	24G	External Supply 24G		

■ Using I/O Link interface

When using XGB HSC module, easy wiring is available by connecting the I/O connector with Sam-won Act I/O link board.

In case of wiring XGB HSC Module by using TG7-1H40S(I/O link) and C40HH-□□SB-XBI(I/O cable), relationship of HSC module signal name and I/O link board terminal number is as follows.



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 10310001240 V4.4 (2022.9)

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