LX6V-4PG High-speed Pulse Output Module

User Manual

V1.0



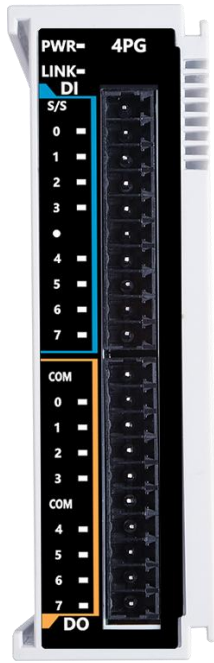
How to get the manual

This manual is not shipped with the product. If you need to obtain the PDF file, you can use the following methods:

- Log in the Wecon support center (https://docs.we-con.com.cn/bin/view/Expansions) to obtain product manual.

Website: https://docs.we-con.com.cn/bin/view/Home/
Email: support@we-con.com.cn

1 Overview



LX6V-4PG (4-channel high-speed pulse output module) is used for AB phase, pulse+direction and CW/CCW pulse output, supports up to 200 kHz output, and is compatible with Wecon LX6V, LX6S and AC60 series products.

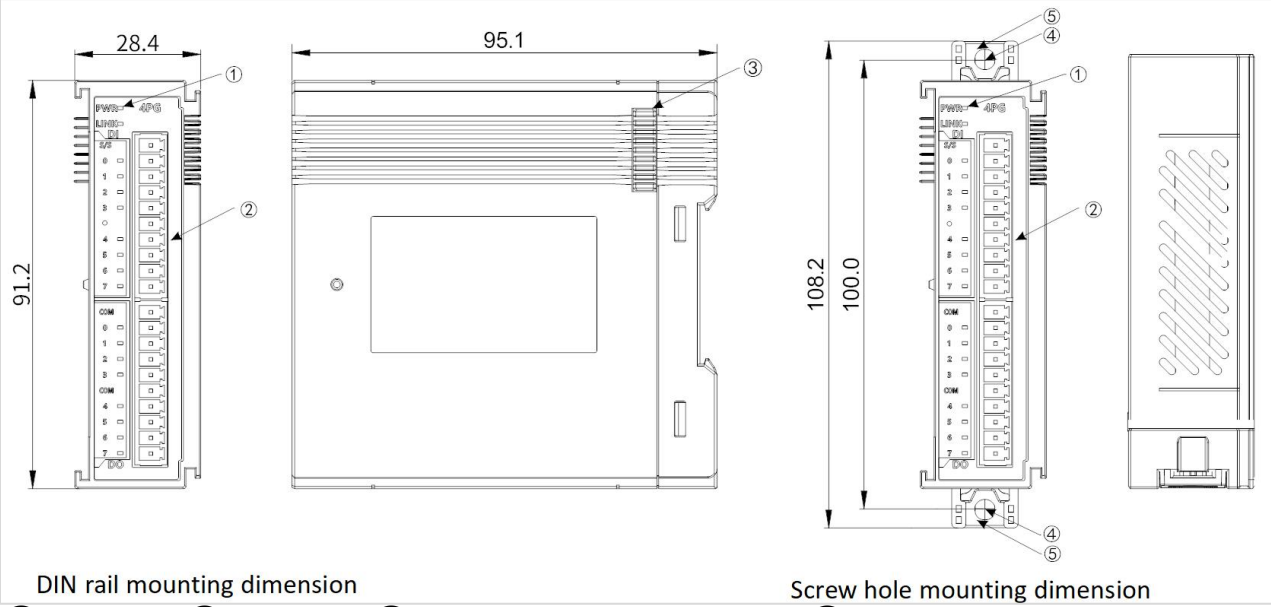
✎**Note:**

For LX6V and LX6S series hosts supporting this module, the firmware version must be V2.332 or above, and the upper computer version must be V2.8.22 or above;

For AC60 series hosts supporting this module, the firmware requirement is V1.0.3.25 or above, and the corresponding plug-in package version requirement is V0.1.9.16 or above.

2 Device specifications and wiring instructions

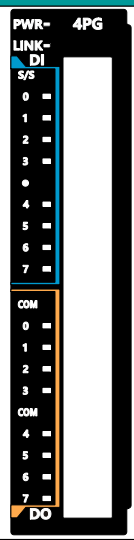
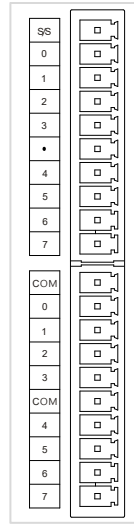
2.1 Appearance and size



①: 4PG LED; ②: Terminal; ③: Expansion module interface; ④: Mounting holes, 2 places (ϕ4.5); ⑤: DIN rail clip

2.2 Terminal description

The terminal arrangement of the 4PG expansion module is shown below.

Module model	Terminal arrangement	
LX6V-4PG		

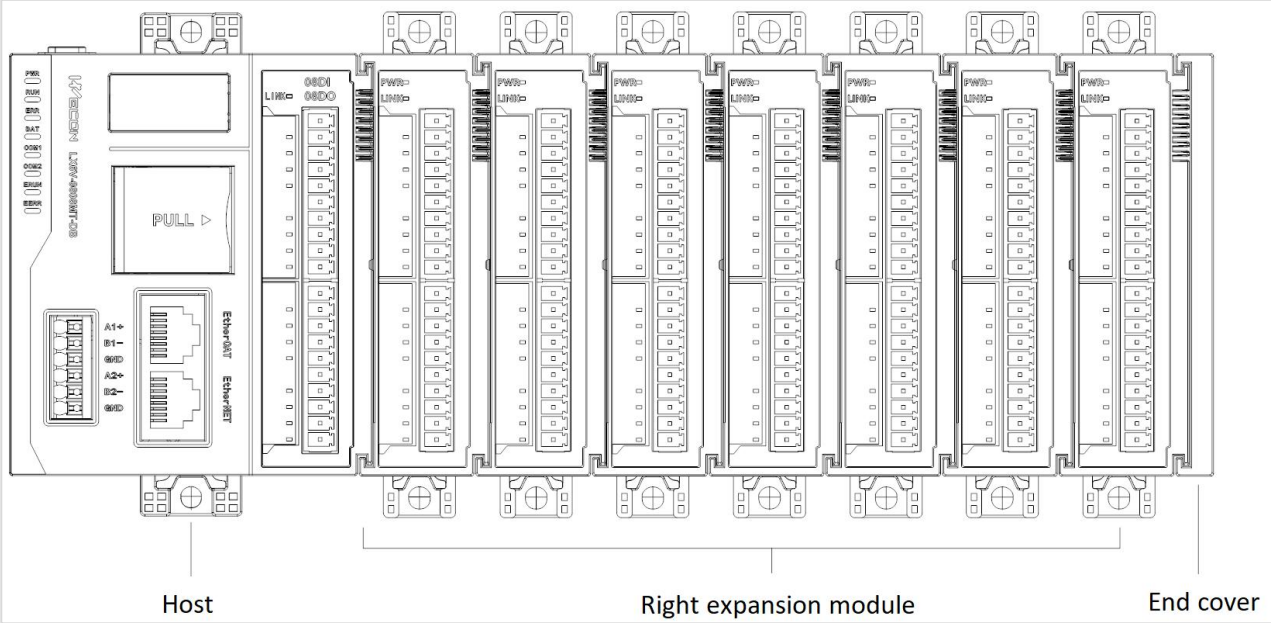
Symbol	Description	Symbol	Description
S/S	Input common terminal	COM	Pulse output common terminal
DI0	Input signal A	DO0	CH0 pulse output signal A
DI1	Input signal A	DO1	CH0 pulse output signal B
DI2	Input signal A	DO2	CH1 pulse output signal A
DI3	Input signal A	DO3	CH1 pulse output signal B
•	Empty	COM	Pulse output common terminal
DI4	Input signal A	DO4	CH2 pulse output signal A
DI5	Input signal A	DO5	CH2 pulse output signal B
DI6	Input signal A	DO6	CH3 pulse output signal A
DI7	Input signal A	DO7	CH3 pulse output signal B

Input signal	Homing return mode			Probe mode	
Input signal A	Positive limit	Negative limit	Homing limit	Probe output 1	Probe output 2

Output signal	Pulse+Direction mode	Encoder AB phase mode	CW/CCW mode
Pulse output signal A	Pulse output	A phase output	A phase output
Pulse output signal B	Direction output	B phase output	B phase output

2.3 Installation

Please install the end cover on the right side of the last expansion module, align it with the module interface slot and connect it, as shown in the figure below:



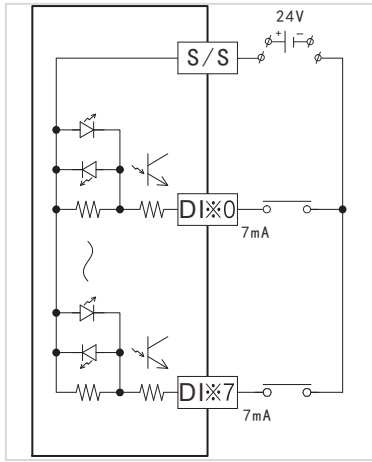
2.4 Indicators

The indicators of the 4PG expansion module are shown below:

Item	Digital input
PWR	Power indicator. ● Always lights up: The module is powered on normally; ● Lights off: The module is not powered or is abnormal.
LINK	Communication indicator. ● Always lights up: Data communication is normal; ● Lights off: Data communication is abnormal or stopped.
Channel indicator	● When the input is ON, the LED is ON; ● When the input is OFF, the LED is OFF.

3 Specification parameters

3.1 Input specifications

Item	Digital input
Input circuit configuration	 NPN wiring: Connect S/S to 24 V; PNP wiring: Connect S/S to 0 V. ✎ **Note:** The figure shows NPN wiring.
Input channels	8 channels for probe detection or general digital input
Input type	Supports NPN or PNP wiring
Input voltage rating	DC 24 V
Allowable input voltage range	DC 24 V ± 10%
“0” signal	≤ 1.5 mA or ≤ 8 V
“1” signal	≥ 4.5 mA or ≥ 16 V
Debounce filter time	0 to 64 ms configurable

3.2 Output specifications

Item		Digital output
Output channels		4 channels
Output type		Transistor NPN type Supports PWM, pulse+direction, AB phase and CW/CCW
Pulse width		0% to 100%
Supported frequency		0 to 200 kHz
Rated output voltage		DC 24 V
Output voltage range		DC 5 to 30 V
Transistor on-state voltage drop		< 0.4 V (when output logic 1 at 0.4 A output current)
Maximum output current	Logic 1 signal	≤ 0.4 A
	Logic 0 signal	0.1 mA
Total common terminal output current		≤ 3.2 A
On-state impedance		< 1 Ω
Response time	OFF→ON	< 1 μs
	ON→OFF	< 1 μs

3.3 Environmental specifications

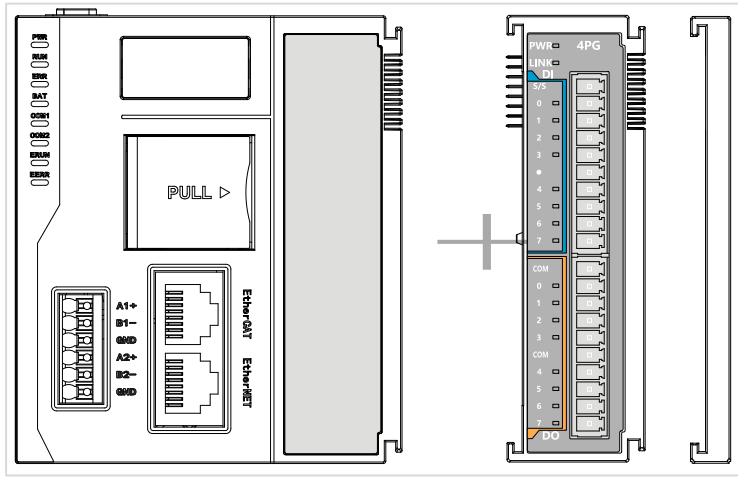
Item	Specifications
Usage environment	No corrosive, combustible gas, no large amount of conductive dust
Environment temperature	Working temperature: 0℃ to 55℃ Storage temperature: -20℃ to 70℃
Environment humidity	Working humidity: 10% to 90% RH (no condensation) Storage humidity: 10% to 90% RH (no condensation)
Installation	1) Snap mount on the IEC 60715 standard (35 mm wide, 1 mm thick) rail 2) Direct positioning hole mount
Shock/vibration resistance	Compliant with JISC0041 standard / compliant with JISC0040 standard
Altitude requirements	≤ 2000 m (80 kPa)
Protection level	IP20
Grounding	Not co-located with the strong current system

3.4 Software specifications

Item	Digital input
Input port filter time	Normal input supports 0 to 64 (unit: ms, default: 10) Every 4 DI points form 1 group, sharing 1 group of filter parameters
Input port abnormality detection and indication	None
Input channel logic level configuration	Not supported
Independent channel enable configuration	Not supported
Diagnostic reporting function configuration	Not supported
I/O mapping	Supports variable mapping and device mapping

4 Usage instructions

This module is compatible with Wecon LX6V, LX6S and AC60 series PLC. The following is an introduction to the usage methods of each model.



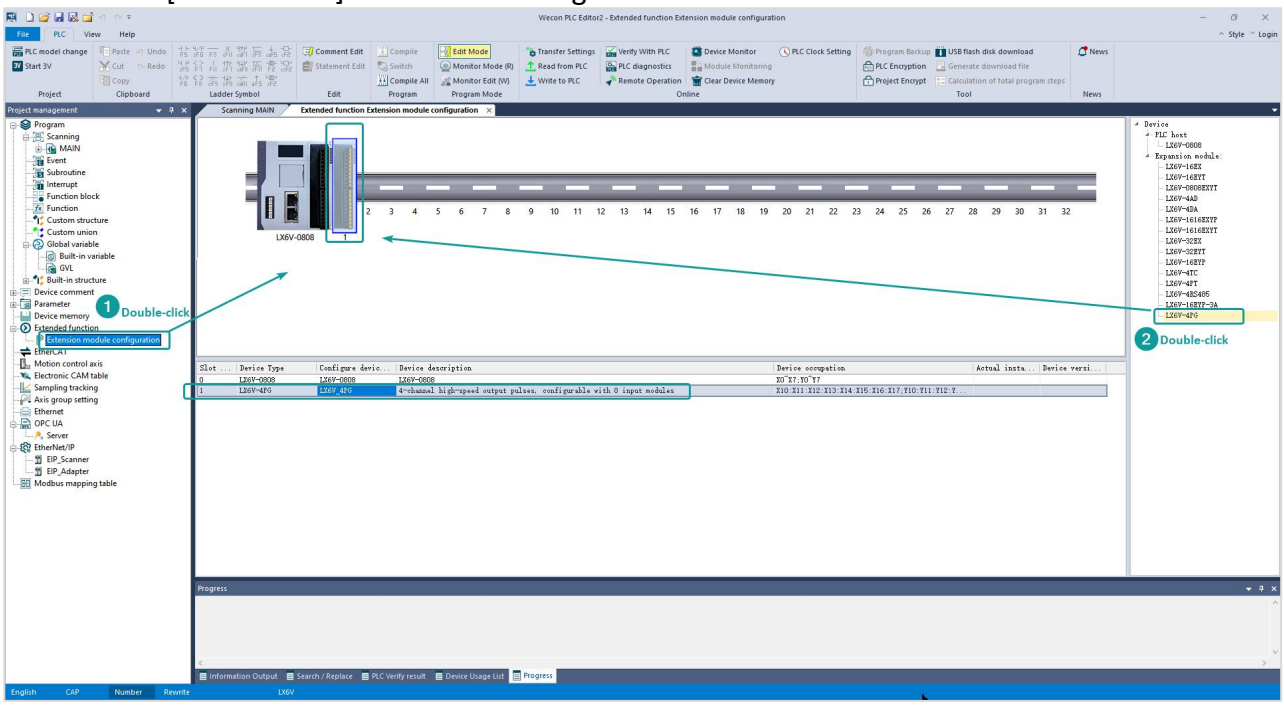
4.1 Use on LX6V/LX6S host

✎**Note:** The host software version supporting this module must be V2.8.22 or above.

4.1.1 Add device

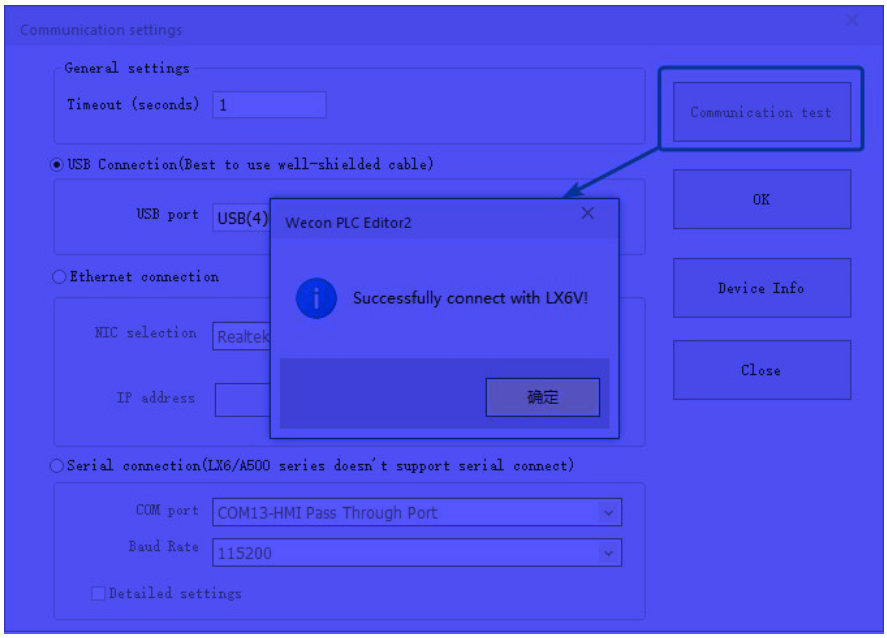
(1) Add device manually

[Double-click] to open the “Expansion module configuration” interface, select the LX6V-4PG module and [Double-click] to add it to the right side of the host.

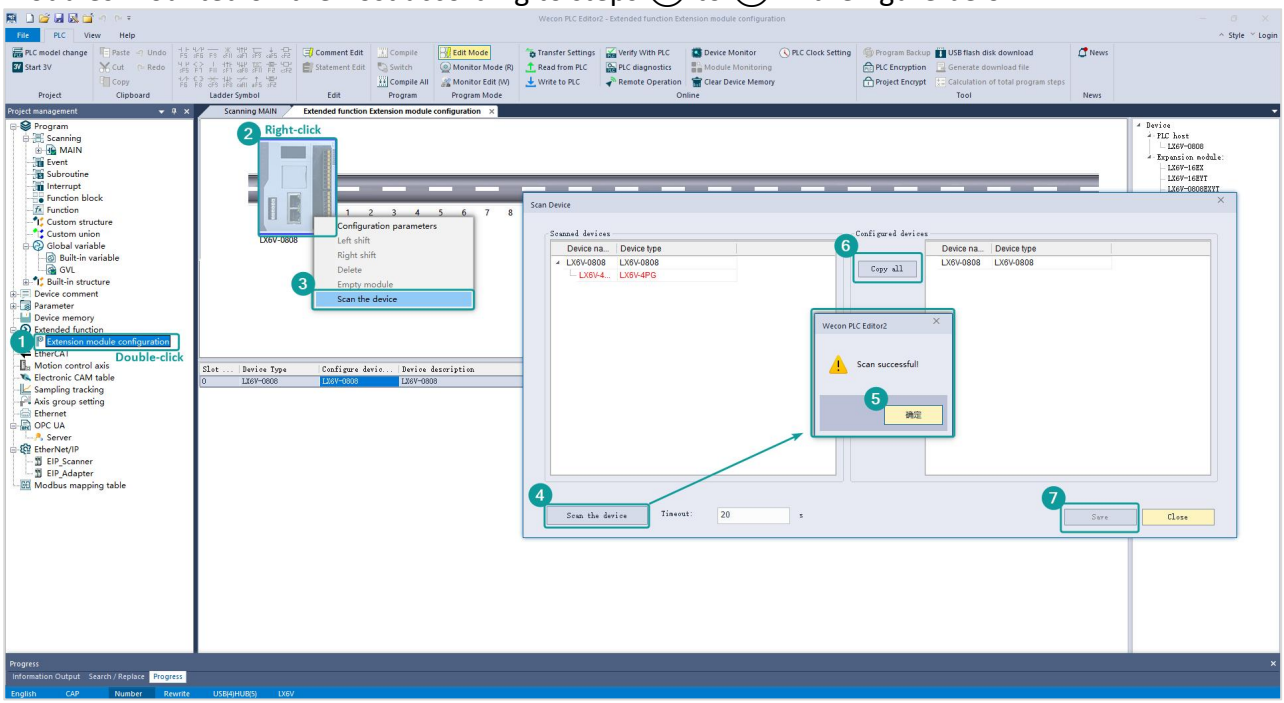


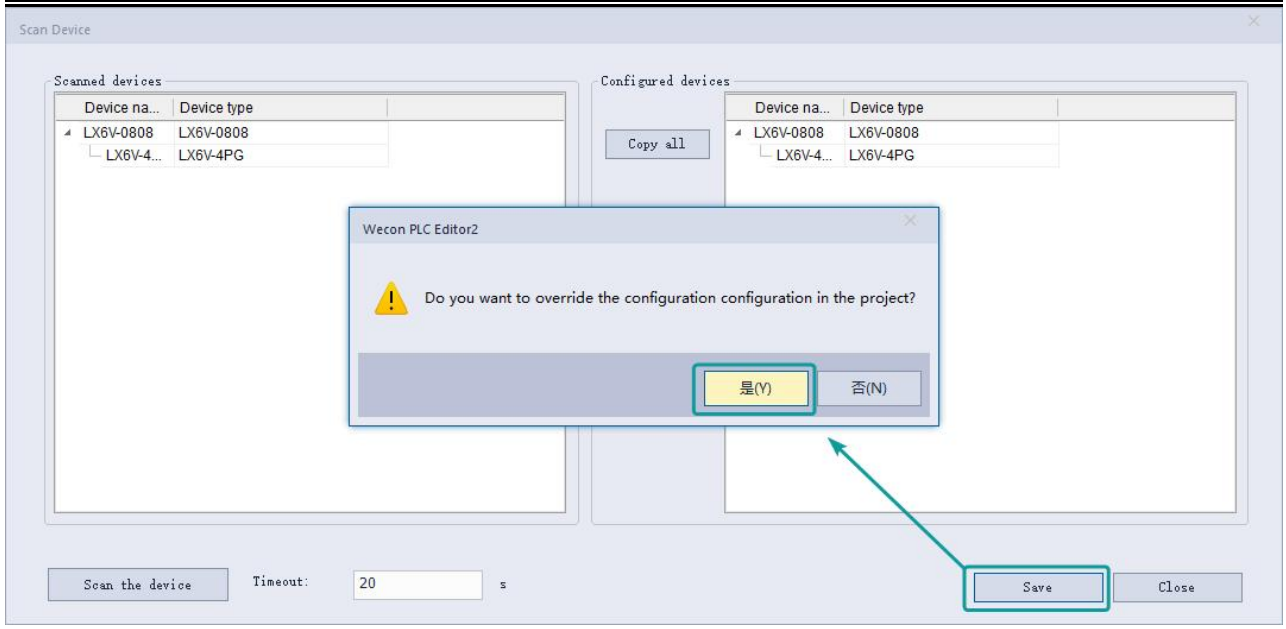
(2) Scan to add device

Complete the communication test to ensure the software connects to the PLC successfully.



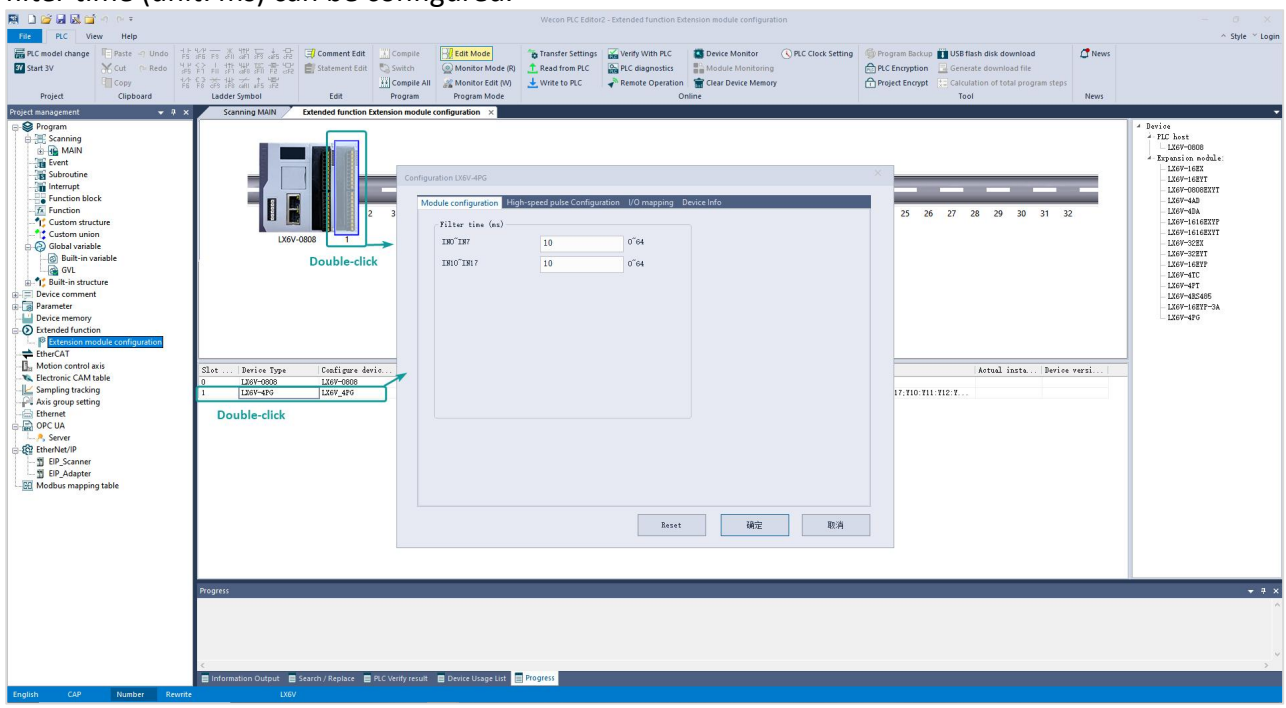
[Double-click] to open the "Expansion module configuration" interface, and scan to add the 4PG modules mounted on the host according to steps ① to ⑧ in the figure below.



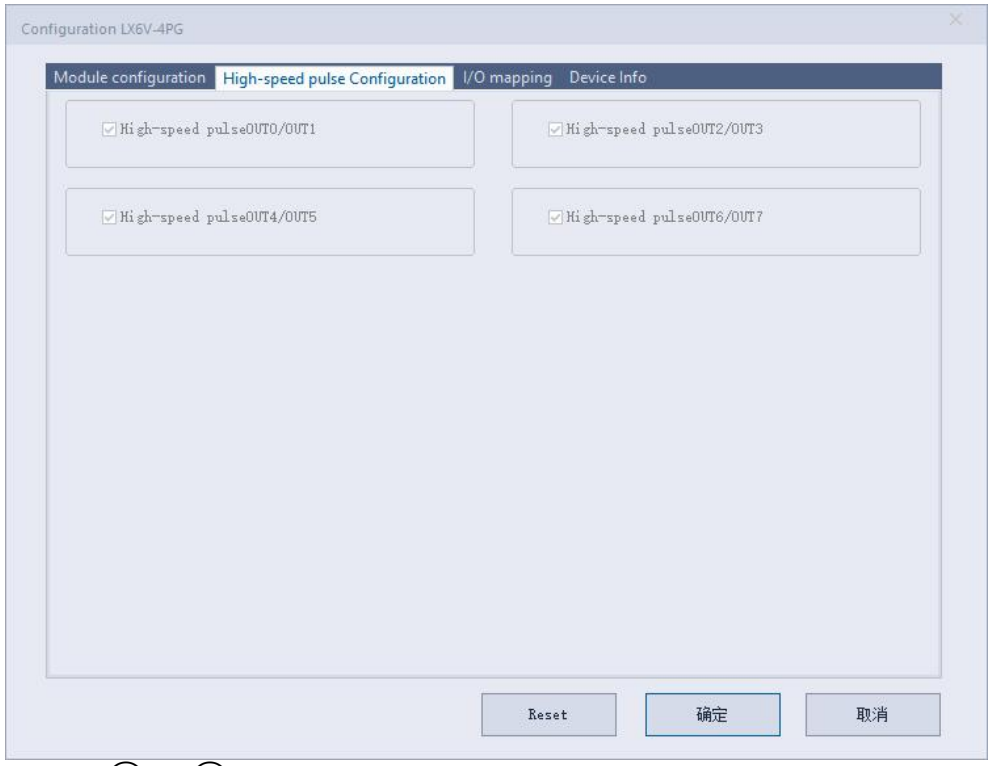


4.1.2 Module configuration

[Double-click] the 4PG module to enter the “Configuration” interface. The module general input filter time (unit: ms) can be configured.

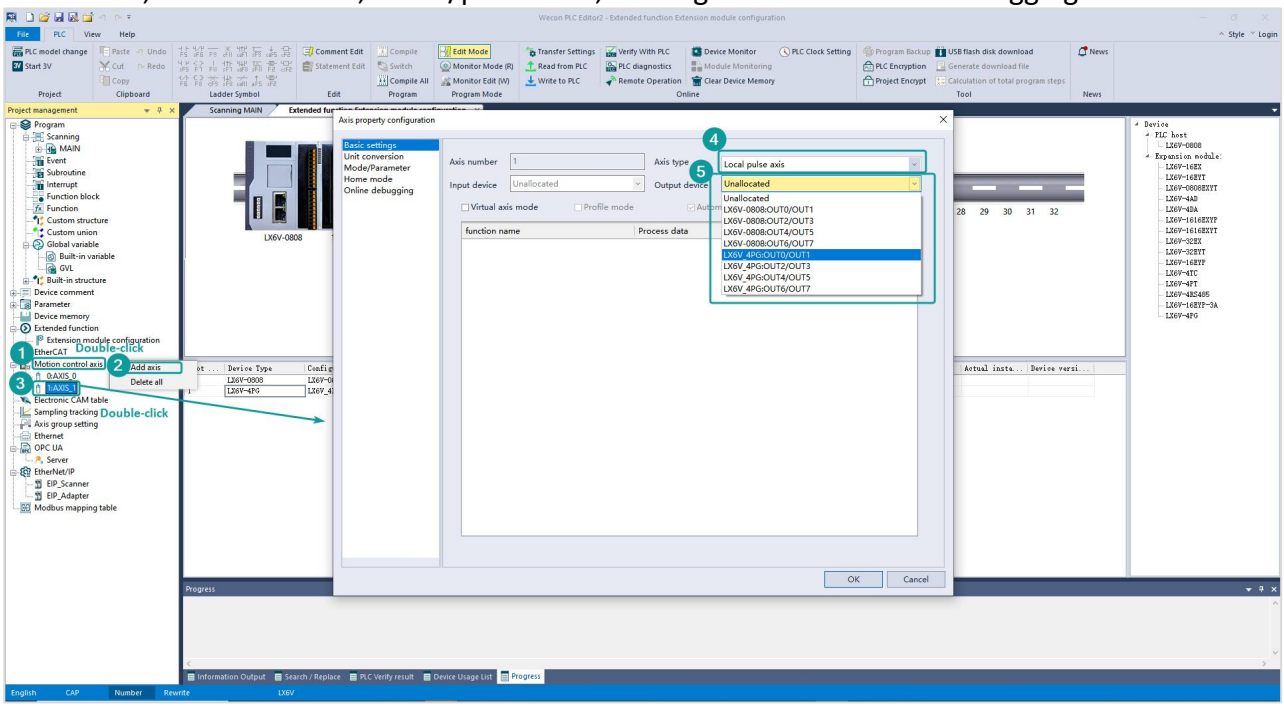


The high-speed pulse channel enable currently uses four channels by default and cannot be modified now.



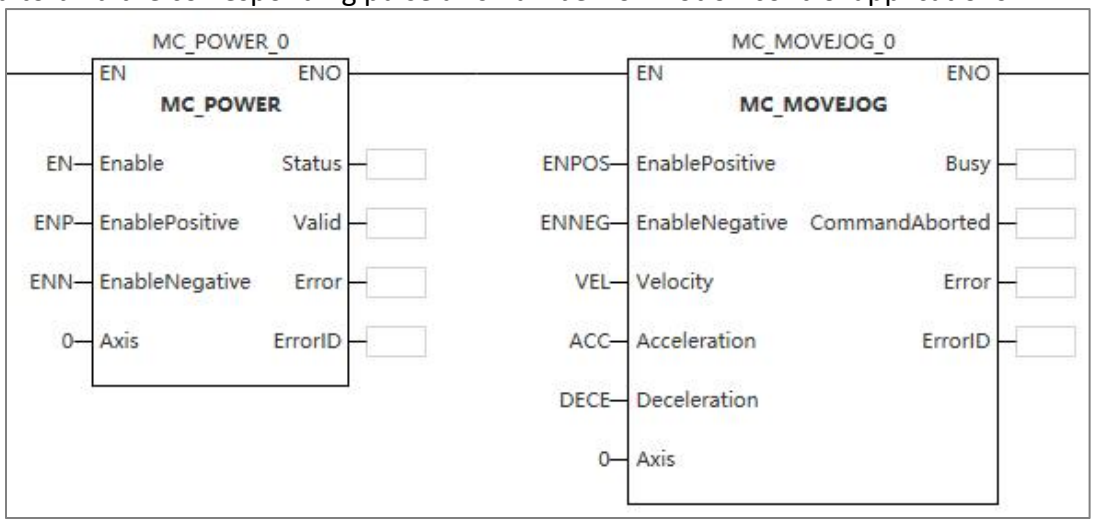
According to steps ① to ⑤ in the figure below, right-click the motion control axis -> Add axis -> [Double-click] to open the “Axis property configuration”, configure the corresponding axis type in “Basic setting” and select the local pulse axis; select the corresponding channel of the specific pulse module as the output device.

In addition, unit conversion, mode/parameter, homing mode and online debugging are available.



4.1.3 Application configuration

After the pulse axis configuration is completed, the corresponding Motion Control instruction can be used to bind the corresponding pulse axis number for motion control applications.



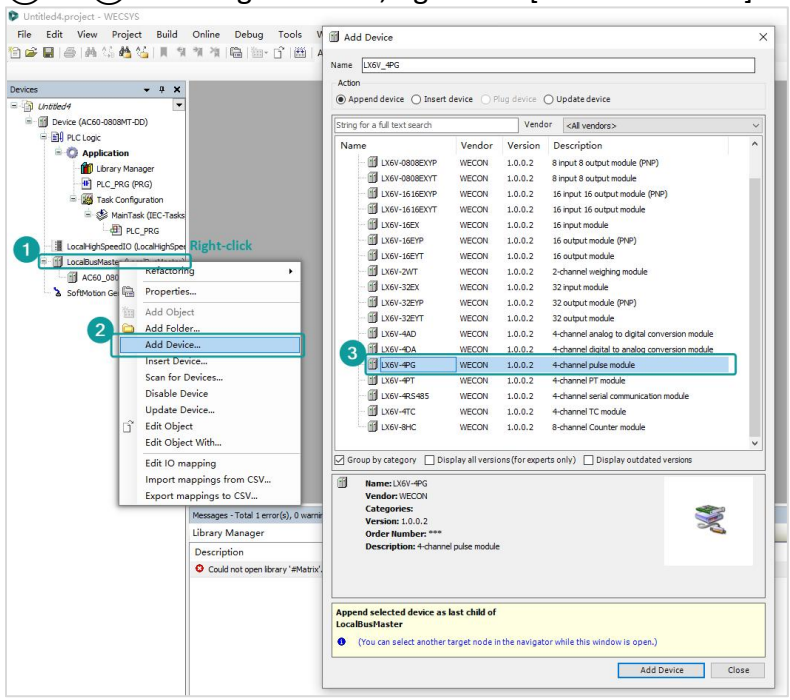
4.2 Use on AC60 host

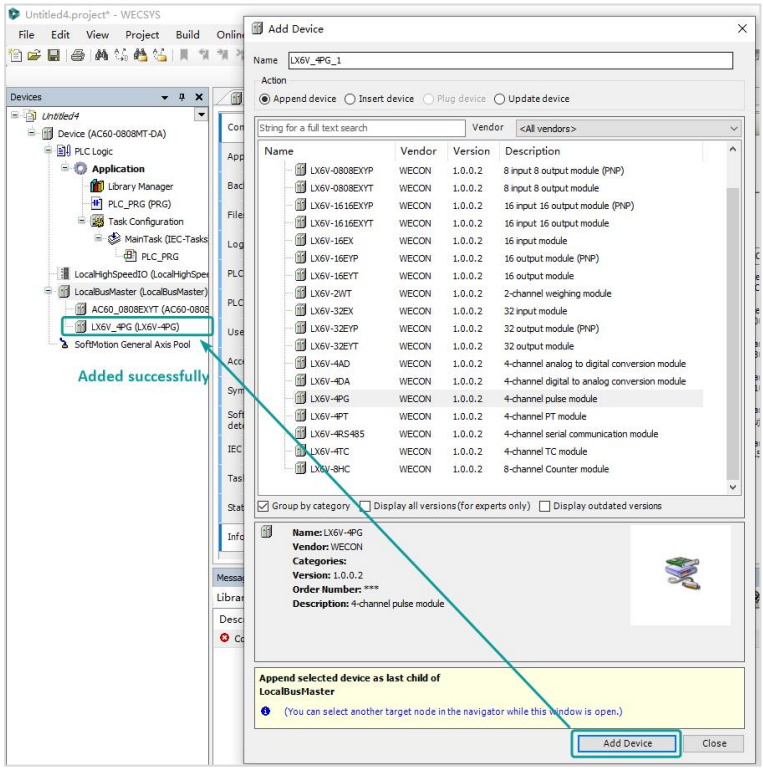
✎**Note:** The upper computer plug-in package version supporting this module must be V0.1.9.16 or above.

4.2.1 Add device

(1) Add device manually

According to steps ① to ④ in the figure below, right-click [LocalBusMaster] -> Add device.

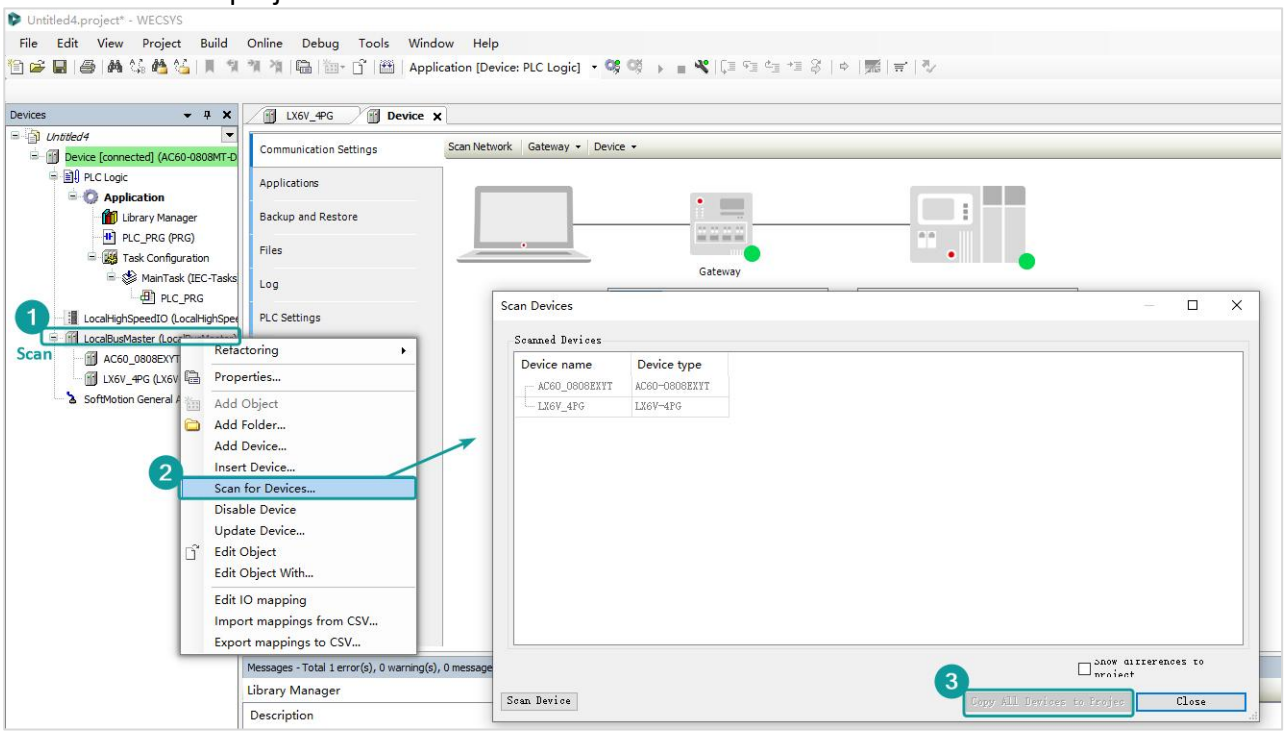




✎**Note:** The actual connected module type must be consistent with the configuration type, otherwise it cannot run!

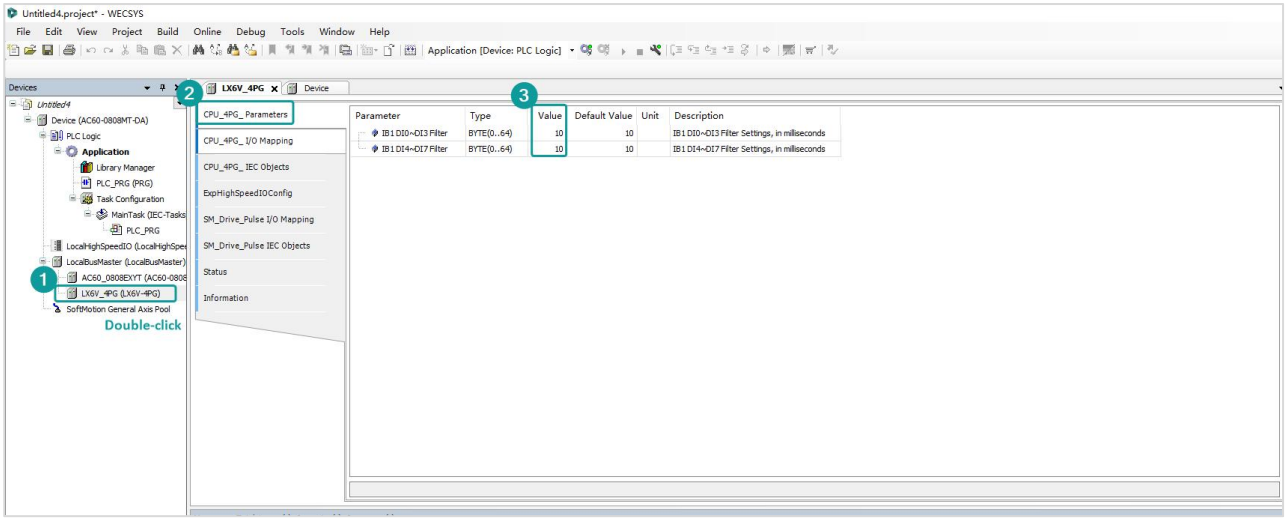
(2) Scan to add device

According to steps ① to ③ in the figure below, right-click LocalBusMaster -> Scan device -> Copy all devices to the project.

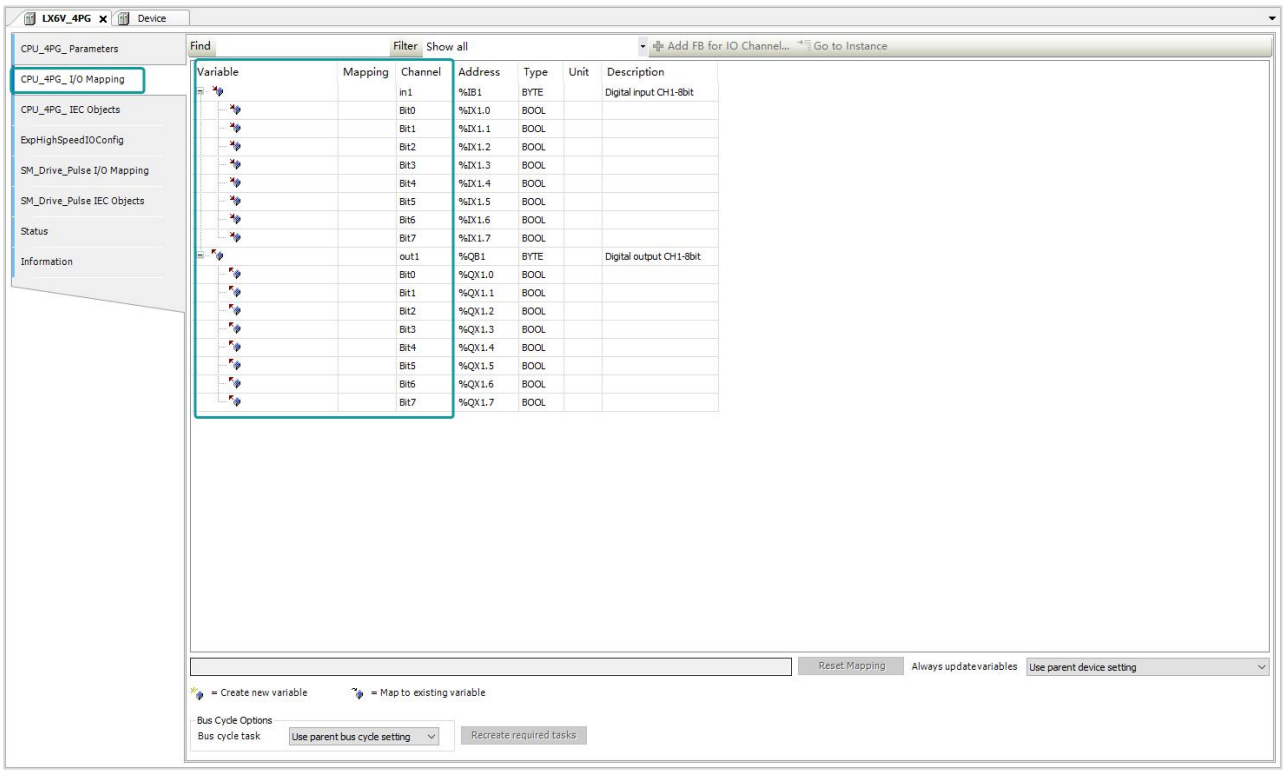


4.2.2 Module configuration

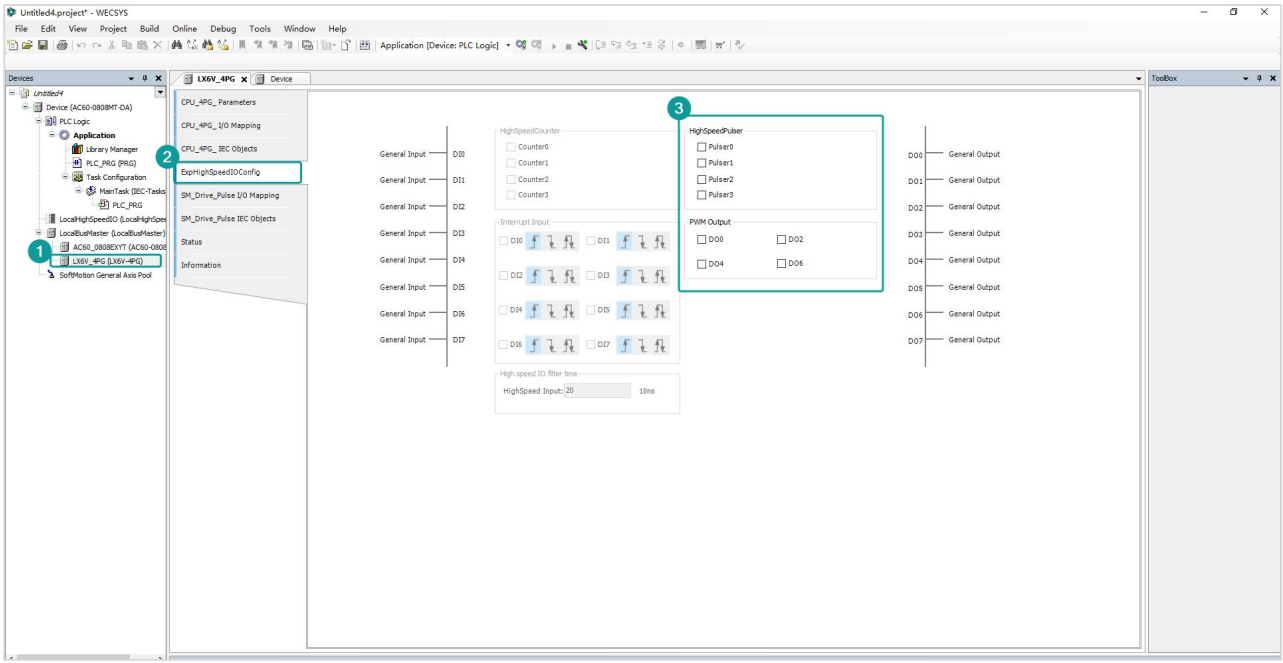
(1) Configure input filter parameters



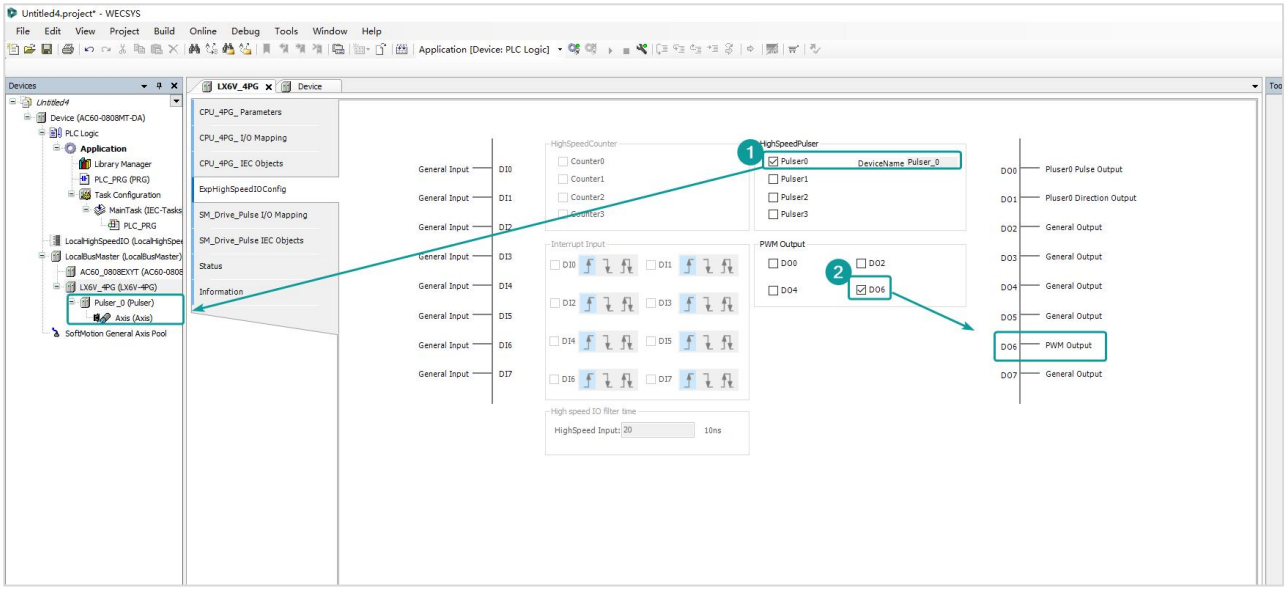
(2) Configure I/O mapping



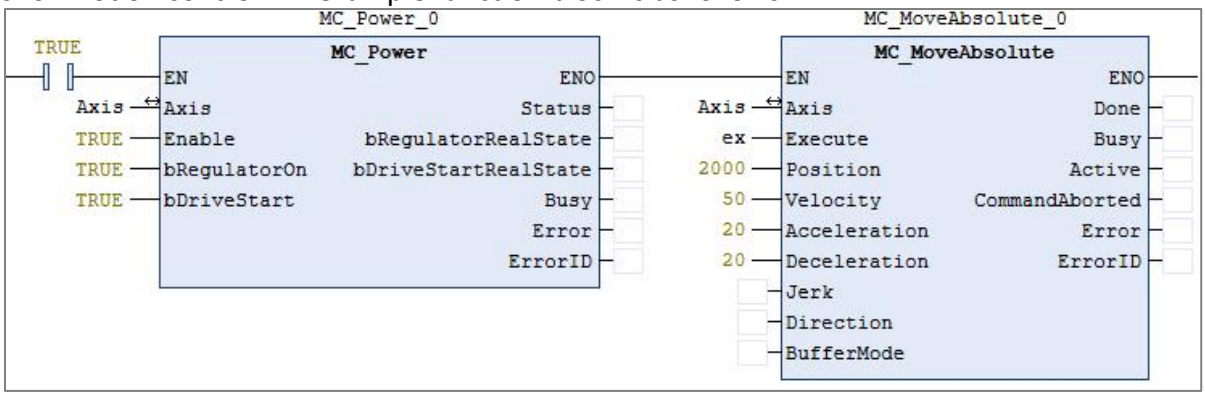
(3) Open the extended high-speed IO configuration interface of the 4PG module



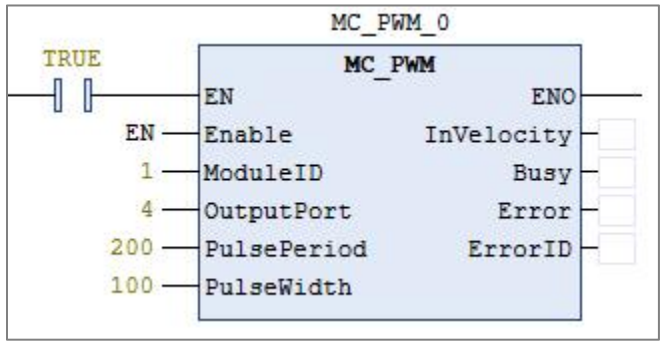
(4) Add the pulse axis of the corresponding module or enable the corresponding PWM function



Use the corresponding MotionControl instruction of LX6V_4PG to bind the corresponding pulse axis for motion control. An example function block is as follows:



Use the PWM output function of DO4 of the first LX6V_4PG module. An example function block is as follows:



5 Version history

Current version: REV1.0		
Revision date	**Version**	**Revisions**
2026-07	V1.0	First release