

## IMC30-6G Series

# Axis Control Module Hardware Manual



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## Safety Instructions

### Safety Precautions

- 1) Before installing, using, and maintaining this equipment, read the safety information and precautions thoroughly, and comply with them during operations.
- 2) To ensure the safety of humans and equipment, follow the signs on the equipment and all the safety instructions in this user guide.
- 3) "CAUTION", "WARNING", and "DANGER" items in the manual do not indicate all safety precautions that need to be followed; instead, they just supplement the safety precautions.
- 4) Use this equipment according to the designated environment requirements. Damage caused by improper usage is not covered by warranty.
- 5) Inovance shall take no responsibility for any personal injuries or property damage caused by improper usage.

### Safety Levels and Definitions



indicates that failure to comply with the notice will result in severe personal injuries or even death.



indicates that failure to comply with the notice may result in severe personal injuries or even death.



indicates that failure to comply with the notice may result in minor personal injuries or damage to the equipment.

### Safety Instructions

Unpacking	
	<ul style="list-style-type: none"><li>◆ Check whether the packing is intact and whether there is damage, water seepage, damp, and deformation.</li><li>◆ Unpack the package by following the package sequence. Do not hit the package with force.</li><li>◆ Check whether there are damage, rust, or injuries on the surface of the equipment or equipment accessories.</li><li>◆ Check whether the number of packing materials is consistent with the packing list.</li></ul>

 WARNING

- ◆ Do not install the equipment if you find damage, rust, or indications of use on the equipment or accessories.
- ◆ Do not install the equipment if you find water seepage, component missing or damage upon unpacking.
- ◆ Do not install the equipment if you find the packing list does not conform to the equipment you received.

## Storage and Transportation

 CAUTION

- ◆ Store and transport this equipment based on the storage and transportation requirements for humidity and temperature.
- ◆ Avoid transporting the equipment in environments such as water splashing, rain, direct sunlight, strong electric field, strong magnetic field, and strong vibration.
- ◆ Avoid storing this equipment for more than three months. Long-term storage requires stricter protection and necessary inspections.
- ◆ Pack the equipment strictly before transportation. Use a sealed box for long-distance transportation.
- ◆ Never transport this equipment with other equipment or materials that may harm or have negative impacts on this equipment.

 WARNING

- ◆ Use professional loading and unloading equipment to carry large-scale or heavy equipment.
- ◆ When carrying this equipment with bare hands, hold the equipment casing firmly with care to prevent parts falling. Failure to comply may result in personal injuries.
- ◆ Handle the equipment with care during transportation and mind your step to prevent personal injuries or equipment damage.
- ◆ Never stand or stay below the equipment when the equipment is lifted by hoisting equipment.

## Installation

 WARNING

- ◆ Thoroughly read the safety instructions and user guide before installation.
- ◆ Do not modify this equipment.
- ◆ Do not rotate the equipment components or loosen fixed bolts (especially those marked in red) on equipment components.
- ◆ Do not install this equipment in places with strong electric or magnetic fields.
- ◆ When this equipment is installed in a cabinet or final equipment, protection measures such as a fireproof enclosure, electrical enclosure, or mechanical enclosure must be provided. The IP rating must meet IEC standards and local laws and regulations.



**DANGER**

- ◆ Equipment installation, wiring, maintenance, inspection, or parts replacement must be performed by only professionals.
- ◆ Installation, wiring, maintenance, inspection, or parts replacement must be performed by only experienced personnel who have been trained with necessary electrical information.
- ◆ Installation personnel must be familiar with equipment installation requirements and relevant technical materials.
- ◆ Before installing equipment with strong electromagnetic interference, such as a transformer, install an electromagnetic shielding device for this equipment to prevent malfunctions.

Wiring



**DANGER**

- ◆ Equipment installation, wiring, maintenance, inspection, or parts replacement must be performed by only professionals.
- ◆ Never perform wiring at power-on. Failure to comply will result in an electric shock.
- ◆ Before wiring, cut off all equipment power supplies. Wait at least 10 minutes before further operations because residual voltage exists after power-off.
- ◆ Make sure that the equipment is well grounded. Failure to comply will result in an electric shock.
- ◆ During wiring, follow the proper electrostatic discharge (ESD) procedures, and wear an antistatic wrist strap. Failure to comply will result in damage to internal equipment circuits.



**WARNING**

- ◆ Never connect the power cable to output terminals of the equipment. Failure to comply may cause equipment damage or even a fire.
- ◆ When connecting a drive with the motor, make sure that the phase sequences of the drive and motor terminals are consistent to prevent reverse motor rotation.
- ◆ Wiring cables must meet diameter and shielding requirements. The shielding layer of the shielded cable must be reliably grounded at one end.
- ◆ After wiring, make sure that no screws are fallen and cables are exposed in the equipment.

## Power-on



- ◆ Before power-on, make sure that the equipment is installed properly with reliable wiring and the motor can be restarted.
- ◆ Before power-on, make sure that the power supply meets equipment requirements to prevent equipment damage or even a fire.
- ◆ At power-on, unexpected operations may be triggered on the equipment. Therefore, stay away from the equipment.
- ◆ After power-on, do not open the cabinet door and protective cover of the equipment. Failure to comply will result in an electric shock.
- ◆ Do not touch any wiring terminals at power-on. Failure to comply will result in an electric shock.
- ◆ Do not remove any part of the equipment at power-on. Failure to comply will result in an electric shock.

## Operation



- ◆ Do not touch any wiring terminals during operation. Failure to comply will result in an electric shock.
- ◆ Do not remove any part of the equipment during operation. Failure to comply will result in an electric shock.
- ◆ Do not touch the equipment shell, fan, or resistor for temperature detection. Failure to comply will result in heat injuries.
- ◆ Signal detection must be performed by only professionals during operation. Failure to comply will result in personal injuries or equipment damage.



- ◆ Prevent metal or other objects from falling into the device during operation. Failure to comply may result in equipment damage.
- ◆ Do not start or stop the equipment using the contactor. Failure to comply may result in equipment damage.

## Maintenance



- ◆ Equipment installation, wiring, maintenance, inspection, or parts replacement must be performed by only professionals.
- ◆ Do not maintain the equipment at power-on. Failure to comply will result in an electric shock.
- ◆ Before maintenance, cut off all equipment power supplies and wait at least 10 minutes.



- ◆ Perform daily and periodic inspection and maintenance for the equipment according to maintenance requirements and keep a maintenance record.

Repair



- ◆ Equipment installation, wiring, maintenance, inspection, or parts replacement must be performed by only professionals.
- ◆ Do not repair the equipment at power-on. Failure to comply will result in an electric shock.
- ◆ Before inspection and repair, cut off all equipment power supplies and wait at least 10 minutes.



- ◆ Require for repair services according to the product warranty agreement.
- ◆ When the equipment is faulty or damaged, require professionals to perform troubleshooting and repair by following repair instructions and keep a repair record.
- ◆ Replace quick-wear parts of the equipment according to the replacement guide.
- ◆ Do not operate damaged equipment. Failure to comply may result in worse damage.
- ◆ After the equipment is replaced, perform wiring inspection and parameter settings again.

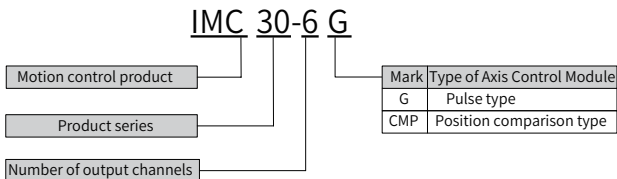
Disposal



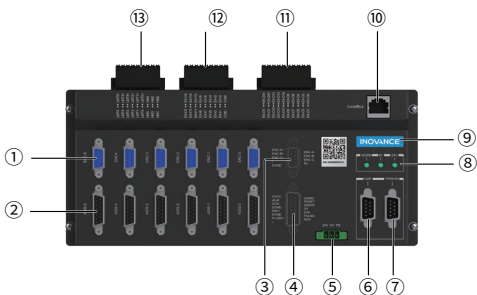
- ◆ Dispose of retired equipment by following local regulations or standards. Failure to comply may result in property damage, personal injuries, or even death.
- ◆ Recycle retired equipment by following industry waste disposal standards to avoid environmental pollution.

## 1 Product Information

### 1.1 Nameplate and Models



### 1.2 Components



No.	Component Name	Function Description	Quantity
1	ENC	Encoder input	6
2	AXIS	Pulse control output	6
3	ENC silkscreen	Encoder pin definition	1
4	AXIS silkscreen	Pulse output control pin definition	1
5	Power terminal	24 VDC power input	1
6	CMP	Position comparison output	1



No.	Component Name	Function Description	Quantity
7	PWM	PWM output	2
8	LED	Indicating the status of 24V, 5V, and CPU signals respectively	3
9	LOGO	Inovance logo	1
10	LocalBUS	LocalBUS interface	1
11	EX-O	Common DO	16
12	EX-I	Common DI	16
13	LMT&&HM	Positive and negative limits	12
		Home signal	6

### 1.3 Overall Dimensions

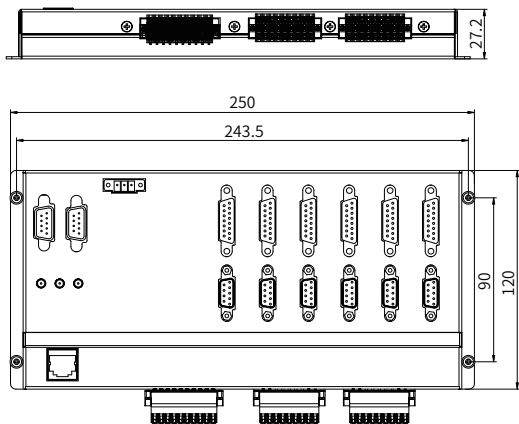


Figure 1-1 IMC30-6G series axis control module (unit: mm)

## 1.4 Technical Specifications

Function	Specifications
Pulse axis control	6 channels
	Maximum output frequency: 4 MHz
High-speed position comparison output	4 channels
	Maximum output frequency: 4 MHz
Low-speed position comparison output	4 channels
	Maximum output frequency: 10 kHz
PWM output	2 channels
	Maximum output frequency: 1 MHz
Encoder sampling	6 channels
	Maximum input frequency: 4 MHz
Common DO	16 channels
	Rated voltage: 24 V (Input voltage range: 19 V to 29 V)
	Maximum output impedance: < 0.1 $\Omega$
	Maximum output load current (typical 24V): 0.35 A
	Maximum leakage current at OFF: < 10 $\mu$ A
	Output mode: Equivalent OC output
	Isolation mode: optocoupler isolation
	Protection: Overload, short-circuit protection
	Maximum output frequency: 4 kHz
Common DI	16 channels
	Input voltage range: 19 V to 30 V
	Input current: 4 mA
	Input impedance: > 4.7 k $\Omega$
	Isolation mode: optocoupler isolation
	Input mode: PNP/NPN
	Maximum input frequency (Bit0-14): 4 kHz
	Input frequency (Bit15): 500 kHz

Function	Specifications
Mechanical zero, limit input	16 channels
	Rated voltage: 24 V (Input voltage range: 19 V to 29 V)
	Input current: 4 mA
	Input impedance: > 4.7 kΩ
	Isolation mode: optocoupler isolation
	Input mode:NPN
	Maximum input frequency: 4 kHz

## 1.5 Product Models

Name	Model	Description	Remarks
Motion control card	IMC30G-E-032PCI	EtherCAT general-purpose motion control card based on the PCI bus, supporting control of a maximum of 32 axes	Mandatory
	IMC30G-E-016PCI	EtherCAT general-purpose motion control card based on the PCI bus, supporting control of a maximum of 16 axes	
	IMC30G-E-008PCI	EtherCAT general-purpose motion control card based on the PCI bus, supporting control of a maximum of 8 axes	
Axis control module	IMC30-6G	Axis control module for IMC30G-E-032PCI (terminal board)	Mandatory if the position comparison output function is required
			Optional for other conditions

Name	Model	Description	Remarks
AM600- ECAT module	AM600-RTU- ECTA	AM600-RTU-ECTA EtherCAT communication module	Optional
	AM600-0016ETP	AM600-0016ETP 16-channel DO module	Optional
	AM600-1600END	AM600-1600END 16-channel DI module	Optional
	AM600-0016ER	AM600-0016ER 16-channel DO module	Optional
	AM600-0032ETN	AM600-0032ETN 32-channel DO module	Optional
	AM600-3200END	AM600-3200END 32-channel DI module	Optional
	AM600-4DA	AM600-4DA AO module	Optional
	AM600-4AD	AM600-4AD AI module	Optional
AM600  EtherCAT slave module	AM600- 1616ETNE	AM600-1616ETNE EtherCAT slave 16-input 16-output module	Optional
	AM600- 0808ETNE	AM600-0808ETNE EtherCAT slave 8-input 8-output module	Optional
	AM600-4PME	AM600-4PME EtherCAT slave positioning module	Optional
Stepper ECAT drive	SS-EC	MOONS SS-EC EtherCAT stepper servo drive	Optional
	SSDC-EC	MOONS SSDC-EC EtherCAT stepper servo drive	Optional
	SSDC-EC-MW01	MOONS SSDC-EC-MW01 EtherCAT stepper servo drive	Optional
	DM3E-556	LEADSHINE DM3E-556 EtherCAT stepper drive	Optional
	DM3E-870	LEADSHINE DM3E-870 EtherCAT stepper drive	Optional
	DM3E-522	LEADSHINE DM3E-522 EtherCAT stepper drive	Optional
	DM3E-542	LEADSHINE DM3E-522 EtherCAT step drive	Optional
	MS-MiniE	YAKO MS-MiniE EtherCAT hybrid stepper servo drive	Optional

Name	Model	Description	Remarks
Servo drive	IS620N series servo drive	Inovance IS620N series network-type servo drive	Optional
	SV820N series servo drive	Inovance multi-axis SV820N series servo drive	Optional
	IS510N series servo drive	Inovance IS510N customized press servo drive	Optional
Servo control cable	IMC30-L-C00-1.5	Pulse servo control cable, shielded, 1.5 m (RoHS)	Optional
	IMC30-L-C00-3.0	Pulse servo control cable, shielded, 3.0 m (RoHS)	Optional
Stepper control cable	IMC30-L-C10-1.5	Stepper control cable, shielded, 1.5 m (RoHS)	Optional
	IMC30-L-C10-3.0	Stepper control cable, shielded, 1.5 m (RoHS)	Optional

**NOTE**

- ◆ The motion control card is necessary for building the IMC30G series motion control system. The axis control module is necessary if the position comparison output function is required. Select other modules according to requirements.
- ◆ For selection of Inovance servo drives (IS620P, IS620N, SV820N), refer to the servo drive selection guide.

## 2 System Connection

The axis control module (IMC30-6G series), motion control card (IMC30G-E series), servo system, and expansion modules constitute the IMC30G series motion control system to implement pulse control, network control, and network & pulse hybrid control. This system supports EtherCAT bus expansion, connection to the servo drive such as Inovance SV820N and IS620N, and expansion of EtherCAT modules including AM600-RTU-ECATA, AM600-0016ETP, AM600-1600END, AM600-4DA, AM600-4AD, AM600-0808ECTNE, AM600-1616ECTNE, and AM600-4PME, meeting applications of various industrial automation sites.

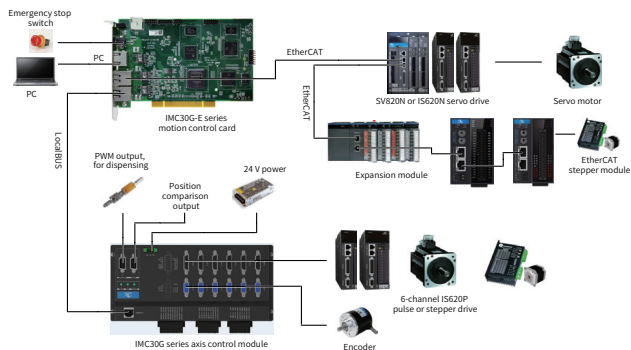


Figure 2-1 Wiring diagram of the motion control system

## 3 Hardware Connection

### 3.1 Description and Wiring of High-Speed Position Comparison Output Interface

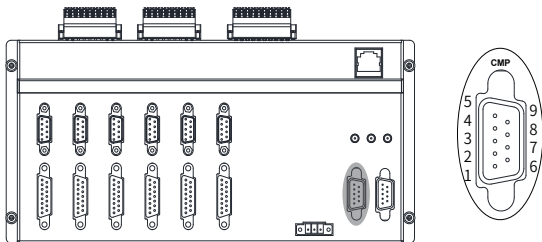


Table 3-1 Definition of high-speed position comparison output interface

Pin	Signal	Description	Electrical Specifications
1	CMP_0+	Position comparison output channel 0, twisted pair for this differential signal	RS422 differential output
6	CMP_0-		
2	CMP_1+	Position comparison output channel 1, twisted pair for this differential signal	
7	CMP_1-		
3	CMP_2+	Position comparison output channel 2, twisted pair for this differential signal	
8	CMP_2-		
4	CMP_3+	Position comparison output channel 3, twisted pair for this differential signal	
9	CMP_3-		
5	DGND	Digital ground/Differential reference ground	

The wiring is as follows:

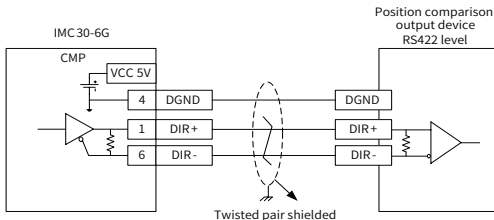


Figure 3-1 Wiring of position comparison output (RS422 level)

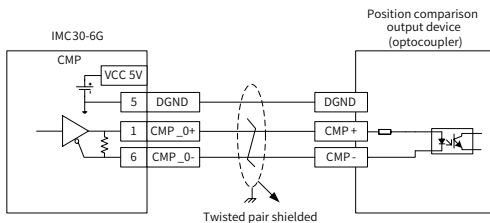
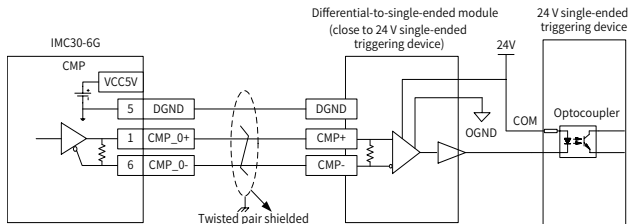


Figure 3-2 Wiring of position comparison output (optocoupler)

If there is no device for receiving RS422 level in the position comparison input circuit, a level conversion module needs to be added. The wiring of this module is shown in the following figure:







## NOTE

- It is recommended to place the differential-to-single-ended module close to the 24 V single-ended triggering device to make the advantages of the differential signal in long-distance transmission and strong anti-interference.

### 3.2 Description and Wiring of PWM Output Interface

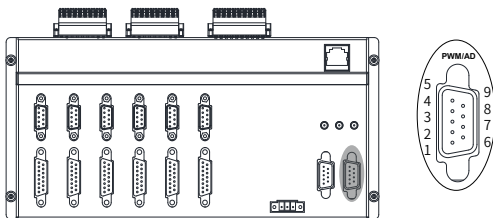


Table 3-2 Definition of PWM output interface

Pin	Signal	Description	Electrical Specifications
1	PWM_0+	PWM differential output channel 1, twisted pair for this differential signal	RS422 differential output
6	PWM_0-		
2	PWM_1+	PWM differential output channel 1, twisted pair for this differential signal	
7	PWM_1-		
3	DGND	Digital ground/Differential reference ground	
8	DGND	Reference digital ground of differential signal	
4	Reserved	Reserved	-
9	Reserved	Reserved	-
5	Reserved	Reserved	-

The wiring of PWM output is as follows:

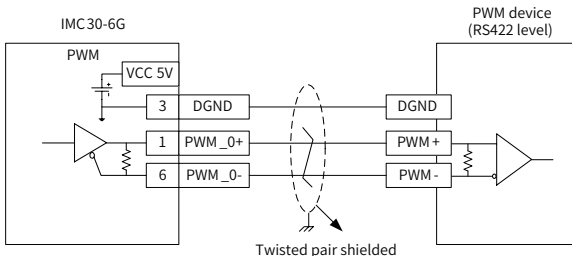


Figure 3-3 Wiring of PWM output (RS422 level)

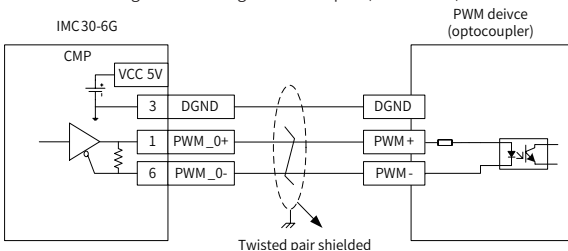


Figure 3-4 Wiring of PWM output (optocoupler)

### 3.3 Description and Wiring of Encoder Output Interface

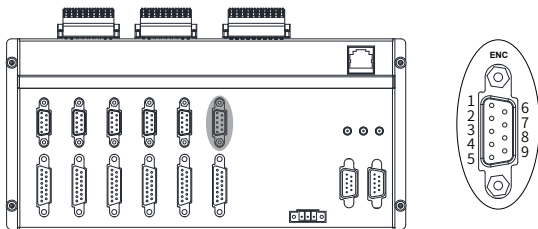


Table 3-3 Definition of encoder output interface

Pin	Signal	Description	Electrical Specifications
1	ENC_A+	Encoder phase A signal, twisted pair for this differential signal	RS422 differential output
6	ENC_A-		
2	ENC_B+	Encoder phase B signal, twisted pair for this differential signal	
7	ENC_B-		
3	ENC_C+	Encoder phase C signal, twisted pair for this differential signal	
8	ENC_C-		
4	Reserved	Reserved	-
9	5V	5 V output	-
5	DGND	Digital ground/Differential reference ground	-

The wiring of encoder output is as follows:

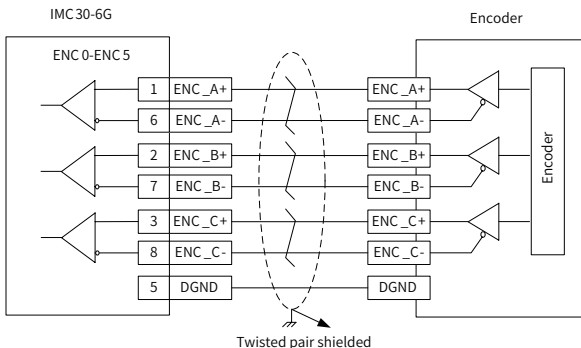


Figure 3-5 Wiring of encoder output

### 3.4 Description and Wiring of Pulse Control Output Interface

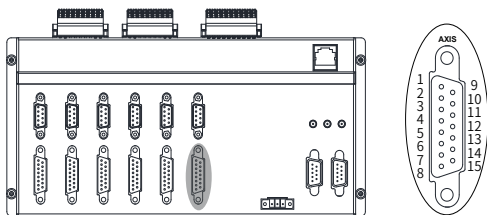


Table 3-4 Definition of pulse control output interface

Pin	Signal	Description	Electrical Specifications
1	OVCC	Internal 24 V output	-
2	ALM	Servo/Stepper drive alarm signal input	Optocoupler input, isolation
3	SON	Servo on	Optocoupler output, isolation, equivalent OC gate
4	DGND	Digital ground	-
5	DIR+/CCW+	Pulse direction differential signal	RS422 differential output
6	DGND	Digital ground	-
7	CW+	Pulse differential signal	RS422 differential output
8	Reserved	-	-
9	OGND	Internal 24 V ground	-
10	RESET	Controller output reset signal	Optocoupler output, isolation, equivalent OC gate
11	SERDY	Motor limit signal	Optocoupler input, isolation
12	5V	Internal 5 V output	-
13	DIR-/CCW-	Pulse direction differential signal	RS422 differential output
14	PULSE-/CW-	Pulse differential signal	RS422 differential output



### 3.5 Description and Wiring of General Output/Low-Speed Position Comparison Output Interface

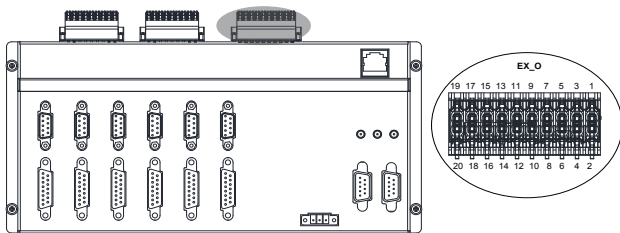


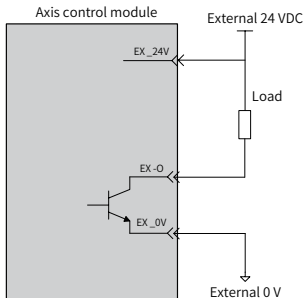
Table 3-5 Definition of general output interface

Pin	Signal	Description	Electrical Specifications
1	EX-O0	General output 0 /Low-speed position comparison output channel 0	Optocoupler output, isolation, equivalent OC gate
2	EX-O1	General output 1 /Low-speed position comparison output channel 1	
3	EX-O2	General output 2 /Low-speed position comparison output channel 2	
4	EX-O3	General output 3 /Low-speed position comparison output channel 3	
5	EX-O4	General output 4	
6	EX-O5	General output 5	
7	EX-O6	General output 6	
8	EX-O7	General output 7	
9	EX-O8	General output 8	
10	EX-O9	General output 9	
11	EX-O10	General output 10	
12	EX-O11	General output 11	
13	EX-O12	General output 12	
14	EX-O13	General output 13	
15	EX-O14	General output 14	
16	EX-O15	General output 15	

Pin	Signal	Description	Electrical Specifications
17 /19	EX_24V	External power input (24V)	-
18 /20	EX_GND	External power input (GND)	-

### 1 Wiring of general output interface

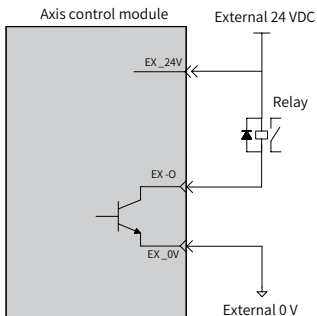
The wiring of general output is as follows:



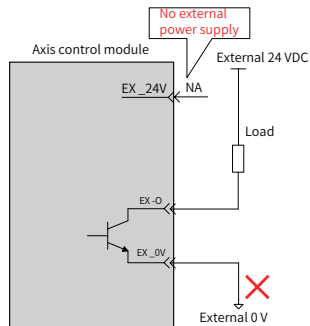
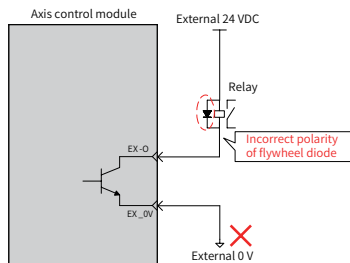
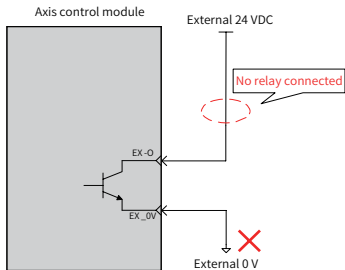
#### NOTE

- ◆ To ensure normal operation of the output interface, use external power supply for EX\_O, and connect EX\_24V to 24 VDC power and EX\_0V to 0 V.
- ◆ When external power supply is used, the maximum continuous output current of a single I/O circuit is 0.35 A.

1) When driving relay load (be sure to connect a flywheel diode to prevent damage)

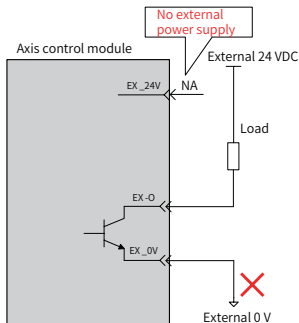


The following figures show the incorrect wiring.





## 2) When driving optocoupler load



## 3 Wiring of low-speed position comparison output interface

The low-speed position comparison output channels 0 to 4 and the general outputs EX-00 to EX03 are reused, as described in the following table.

Pin	General Output Interface	Low-Speed Position Comparison Output Interface	Description
0	EX-00	Low-speed position comparison output channel 0	Up to 10 kHz at position comparison output
1	EX-01	Low-speed position comparison output channel 1	Up to 10 kHz at position comparison output
2	EX-02	Low-speed position comparison output channel 2	Up to 10 kHz at position comparison output
3	EX-03	Low-speed position comparison output channel 3	Up to 10 kHz at position comparison output

The wiring of low-speed position comparison output is as follows:

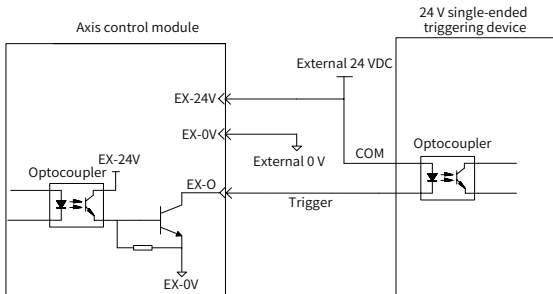


Figure 3-8 Wiring of low-speed position comparison output



NOTE

- ◆ When using the low-speed position comparison output function, set EX-00 to EX-03 (general output bit0 to bit3) as the low-speed position comparison output interface using the `IMC_SetLocalGpoUseType` instruction. For details of the function, refer to the IMC30G Series Motion Control Card Software Programming Manual.

### 3.6 Description and Wiring of General Input Interface

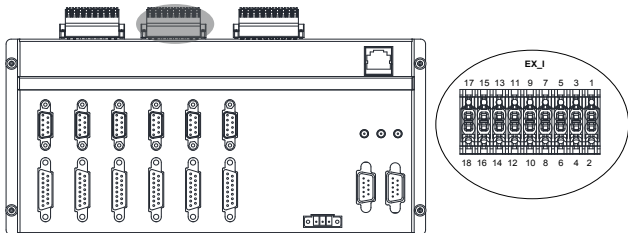


Table 3-6 Definition of general input interface

Pin	Signal	Description	Electrical Specifications
1/2	COM	Common, connecting to 24V or 0V	NPN: 24V PNP: 0V
3	EX_I0	General input 0	Optocoupler input isolation
4	EX_I1	General input 1	
5	EX_I2	General input 2	
6	EX_I3	General input 3	
7	EX_I4	General input 4	
8	EX_I5	General input 5	
9	EX_I6	General input 6	
10	EX_I7	General input 7	
11	EX_I8	General input 8	
12	EX_I9	General input 9	
13	EX_I10	General input 10	
14	EX_I11	General input 11	
15	EX_I12	General input 12	
16	EX_I13	General input 13	
17	EX_I14	General input 14	
18	EX_I15	General input 15	

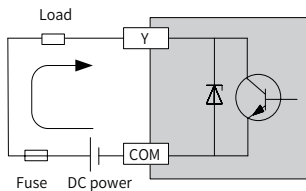
### 1 Wiring rules

- 1) 16-Channel inputs EX-I0 to EX-I15
- 2) COM is the common terminal. When COM is connected to 24V and EX-I is connected to 0V, the input signal is active (optocoupler on); When COM is connected to 0V and EX-I is connected to 24V, the input signal is active (optocoupler on). The NPN or PNP I/O device can be connected.

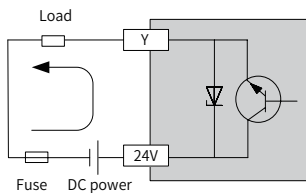
### 2 Difference between NPN output and PNP output

- NPN output (sink) (negative common)

The load current flows to the output terminal (Y), called NPN output, that is, low level output.



■ PNP output (source) (negative common)



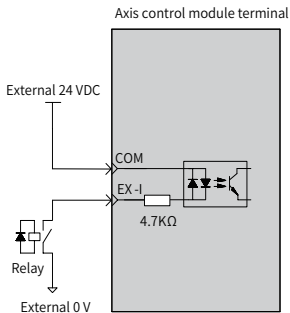
NOTE

◆ PNP output is high level output.

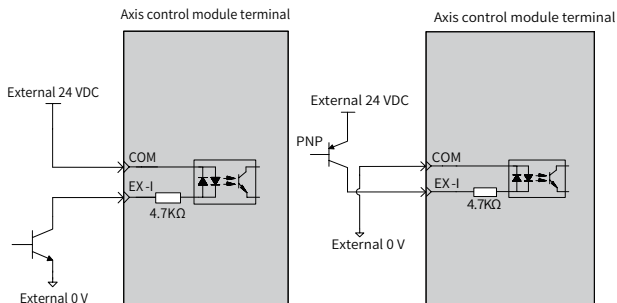
### 3 Wiring diagram

The following part takes EX-I0 as an example to describe the wiring.

- 1) When the host controller provides relay output:



2) When the host controller provides OC output:



### 3.7 Description and Wiring of Mechanical Limit and Home

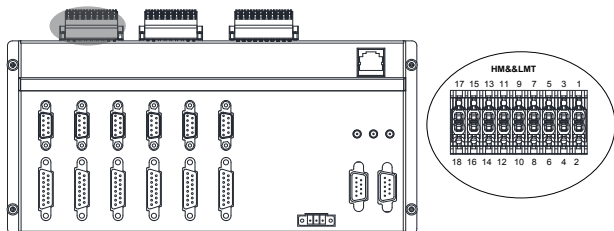
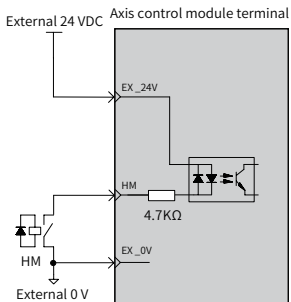


Table 3-7 Definition of mechanical limit and home interface

Pin	Signal	Electrical Specifications	Description
1	HOME0	Optocoupler input, isolation	HOME0 signal input
3	HOME2		HOME2 signal input
5	HOME4		Home4 signal input
7	LMT0+		Positive limit 0
9	LMT1+		Positive limit 1
11	LMT2+		Positive limit 2
13	LMT3+		Positive limit 3
15	LMT4+		Positive limit 4
17	LMT5+		Positive limit 5
2	HOME1		Home1 signal input
4	HOME3		Home3 signal input
6	HOME5		Home5 signal input
8	LMT0-		Negative limit 0
10	LMT1-		Negative limit 1
12	LMT2-		Negative limit 2
14	LMT3-		Negative limit 3
16	LMT4-		Negative limit 4
18	LMT5-		Negative limit 5

The following part takes EX-HOME0 as an example to describe the wiring.





## NOTE

- ◆ To ensure normal operation of the mechanical limit (LMT) and home (HOME), use external power supply, and connect EX\_24V to 24 VDC power and EX\_0V to 0 V.
- ◆ Note that the mechanical limit (LMT) and home (HOME) are single polarity input, which is different from the general input.

## 3.8 Description and Wiring of Power Interface

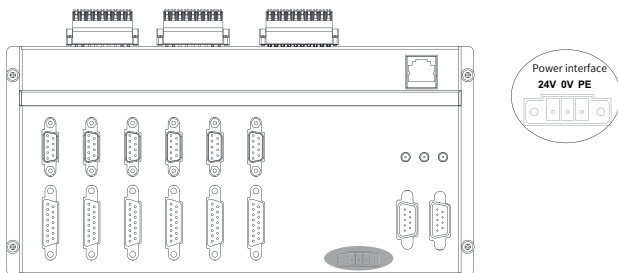


Table 3-8 Definition of power interface

Pin	Signal	Description
1	24V	24 VDC power input
2	0V	24 VDC ground
3	PE	Housing ground

### 3.9 Wiring of Control Modes

The IMC30G-E series motion control card and the IMC30-6G axis control module used together support network (EtherCAT) control, pulse control, and network and pulse hybrid control, and implement control on EtherCAT stepper drive, servo drive, and six local axes (pulse axes). This document describes the wiring of the pulse control mode.

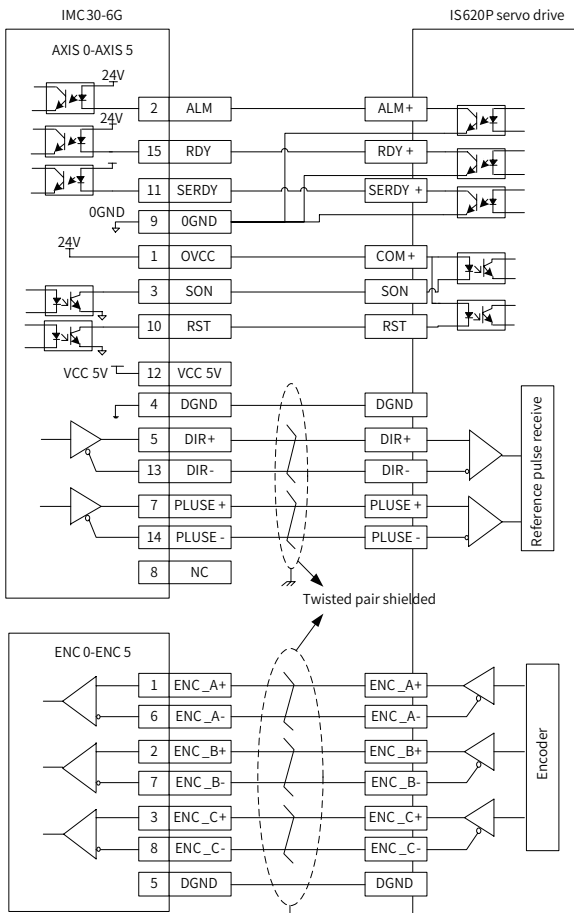
The IMC30-6G axis control module provides the pulse output control interface, encoder input interface, and special I/O signal (including alarm signal, motor limit signal, enable signal, alarm reset/clear signal). The pulse output signal and special I/O signal are integrated into DB15 terminal.

The pulse signal/ encoder signal is differential signal and complies with the RS422 physical layer standard, and can directly drive the RS422 compliant receiver or differential optocoupler receiving circuit. Adjust the wiring of the stepper drive of single-ended optocoupler according to actual requirements. Sections 3.9.1 and 3.9.2 shows different wiring methods for different drives.

Prepare the cables for connecting the axis signal interface (AXIS0-AXIS5) and encoder signal interface (ENC0-ENC5) to the drive or encoder according to actual requirements. You can also purchase these cables from Inovance. For cable selection, refer to ["1.5 Product Models"](#).



## 3.9.1 Wiring of Servo Control Mode



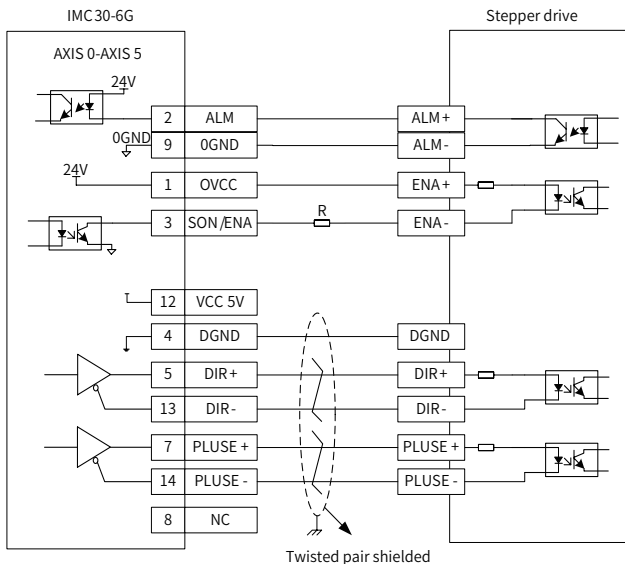
### 3.9.2 Wiring of Stepper Control Modes

Open-loop control on the stepper motor does not require external feedback, and the wiring is shown in the following figure.



**NOTE**

- ◆ Determine whether to connect an external resistor R based on the descriptions of the stepper drive, and choose a proper resistance based on the data from the drive. This resistor is not required for LEADSHINE DM series stepper drive.

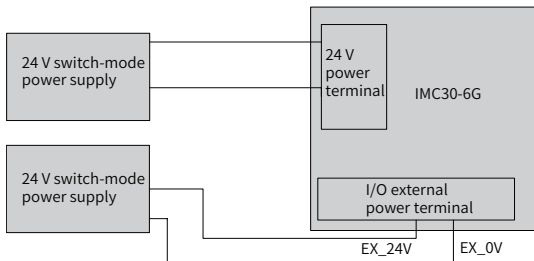


## Appendix: Power Supply Mode of Terminal Board

- 1) Power supply requirements of the IMC30-6G axis control module (terminal board)

Item	Axis Control Module (Terminal Board)
IMC30-6G main circuit power supply	24 VDC
IMC30-6G working current	300 mA

- 2) Power supply diagram of the IMC30-6G axis control module (terminal board)



## Revision History

Date	Version	Change Description
February 2019	A00	First issue
November 2020	A01	Made minor corrections

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