

ICDM-10 3PH Current Detection Module

User Manual



Preface

Thank you for choosing INVT ICDM-10 3PH current detection module.

The ICDM-10 3PH current detection module is used for AC current detection of GD880 series general-purpose inverter products and must be used in conjunction with the GD880 series VFD control box. The module transmits the detected signals to the control box via optical fiber, enabling current feedforward control.

This manual provides the product overview, installation, wiring, and commissioning instructions. To ensure safe and proper use of the product and to maximize its performance, please carefully read the manual before installation.

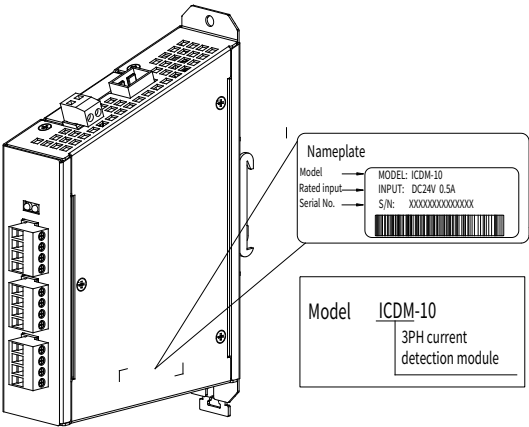
Product features:

- Supports three-channel voltage-output open-loop Hall sensing with high accuracy.
- Adopts optical fiber communication, delivering high speed and excellent stability.
- Supports wall and DIN rail mounting for easy installation and removal.

1 Product overview

1.1 Model description

Figure 1-1 Product nameplate and model



1.2 Specifications

Table 1-1 Specifications

Item	Specifications
Working temperature	-10~+50°C
Storage temperature	-10~+60°C
Relative humidity	5%~95% (No condensation)
Operating environment	No corrosive gas
Installation method	Wall mounting and DIN rail mounting
Ingress protection (IP) rating	IP20
Cooling method	Natural air cooling

1.3 Technical parameters

Table 1-2 Technical parameters

Item	Specifications
Supply voltage/current	DC 24V±5% / 0.5A
Communication connection method	Optical fiber communication
Current sampling	Three-channel voltage-type open-loop Hall current sensor

1.4 Structural diagram

Figure 1-2 Component diagram

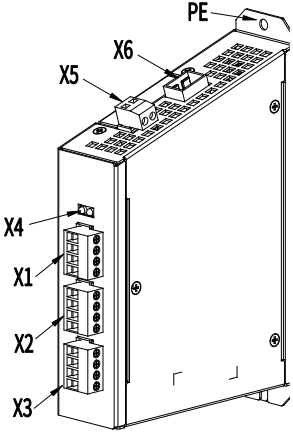



Table 1-3 Component description

Item	Symbol	Component	Description
1	X1	Current detection terminal A	Wiring terminal A for the current-sensing Hall element Cable cross-sectional area: 0.5~2.5mm² Cable type: 4-core twisted shielded cable, grounded at both ends; total cable length < 1.5m
2	X2	Current detection terminal B	Wiring terminal B for the current-sensing Hall element Cable cross-sectional area: 0.5~2.5mm² Cable type: 4-core twisted-pair shielded cable, grounded at both ends; total cable length < 1.5m
3	X3	Current detection terminal C	Wiring terminal C for the current-sensing Hall element Cable cross-sectional area: 0.5~2.5mm² Cable type: 4-core twisted-pair shielded cable, grounded at both ends; total cable length < 1.5m
3	X4	Status indicator	PWR: Power status indicator OFF-LINE: Run status indicator
4	X5	DC 24V power input terminal	External power supply: DC 24V±5% / 0.5A Cable cross-sectional area: 0.5~2.5mm² Cable type: 2-core twisted-pair cable
5	X6	Optical fiber connection terminal	Communicates with the control box via the optical fiber expansion module. Optical fiber type: Plastic optical fiber
6	PE	Grounding terminal	-

2 Installation and wiring

2.1 Installation precautions

	<ul style="list-style-type: none">• Before installation, disconnect the 24V power supply and the mains power.
Note	<ul style="list-style-type: none">• Do not drop the module or subject it to impact, as this may damage the module.• Do not disassemble the module, as this may cause damage to the module.• Tighten the screws to the specified torque to avoid screw damage or insufficient tightening.

Tools required for installation: Phillips screwdriver PH1; flat screwdriver SL3.

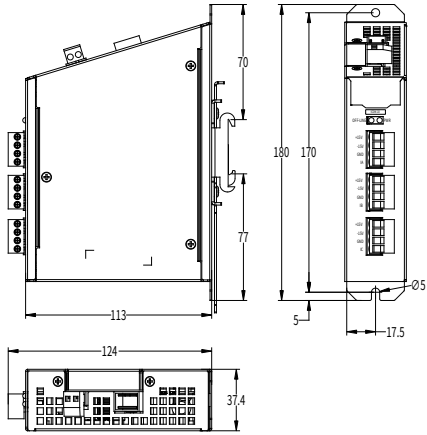
Table 2-1 Screw torque requirements

Screw size	Fastening torque
M3	0.55 N · m
M4	1.2 N · m

2.2 Dimensions

The dimensions of the 3PH current detection module is 37.4×113×180mm (W×D×H). See Figure 2-1.

Figure 2-1 Product outline and installation dimensions (unit: mm)

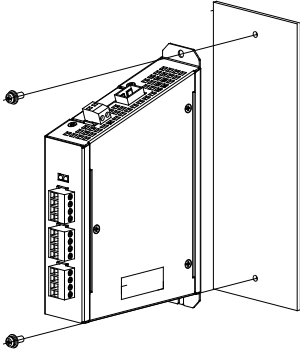


2.3 Installation and disassembly instructions

The ICDM-10 module supports wall mounting and DIN rail mounting.

2.3.1 Wall mounting and disassembly

- **Installation method**
Align with the mounting holes and tighten the screws.



Note:

- ✧ Ensure that all terminals and optical fiber connectors are installed in place for effective electrical connection.
- ✧ The module is grounded through contact between its exposed metal shell and the assembly board inside the cabinet, so the assembly board must be an exposed metal plate. To ensure the reliable operation of the module and meet the EMC requirements, please tighten the screws to ensure reliable grounding.

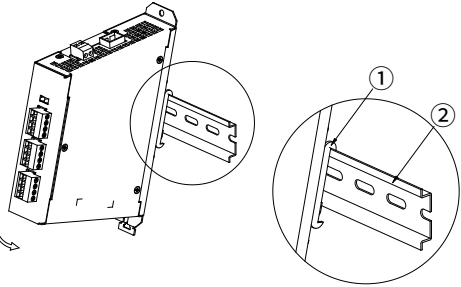
■ Disassembly method

- Step 1 Disconnect the power supply and disconnect all cables connected to the module.
- Step 2 Use the Phillips screwdriver to remove the grounding screw of the module.
- Step 3 Pull the module outward and place it in a suitable location.

2.3.2 DIN rail mounting and disassembly

■ Installation method

Hold the ICDM-10 module, tilt it so that the upper part of the DIN rail mounting slot rests on the DIN rail, and press down the lower part of the mounting slot in the direction of the arrow until the mounting slot ① is fully secured onto the DIN rail ②.



The final effect of DIN rail mounting is shown in the following figure.

