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FOWIUNYE M12-5pin-male-A-S-1

FOWIUNYE M12 5 Pin Male Connector Instruction Manual

Model: M12-5pin-male-A-S-1

Product Overview

The FOWIUNYE M12 5 Pin Male Connector is a robust and reliable industrial circular connector designed for field assembly. It features an A-coding interface and is suitable for various applications requiring stable data and signal transmission in demanding environments. Its screw-joint mechanism ensures a secure and durable connection.



Image: The FOWIUNYE M12 5 Pin Male Connector, showing its male end with five pins and threaded connection.

Key Features

- **M12 Connector:** M12 field wireable connector with A coding interface, 5 Pin, Male, Straight, Screw-Joint.
- **Durable Construction:** Shell material made of PA6, connector contacts are Brass with gold plating, suitable for PG7 cable glands.

- **Stable Transmission:** High-quality black rubber insulation ensures flame retardancy and stable signal transmission. Features a thread locking mechanism and anti-vibration design for reliability.
- **Technical Parameters:** IP67 rated, 125V rated voltage, 4A rated current, screw crimping method, max 0.75mm² line pressing range, temperature range -25°C to 85°C.
- **Wide Application:** Ideal for signal electronic connectors in aviation, various instruments, industrial cameras, electric bicycles, proximity switches, sensor devices, actuators, and field bus components.
- **Easy Assembly:** Quick connect and disconnect coupling, no tools required for installation and removal, offering flexible plug-and-play functionality.

Components and Structure

The M12 connector consists of several key components designed for secure and reliable field assembly.



Image: An exploded view illustrating the components of the M12 connector, including the threaded connection, PA66 shell, clamping coil sealing gasket, and tail hat. It also shows the PG7 cable gland for wire diameters of 4-7mm.

- **Threaded Connection:** The metallic part with the pins, providing the electrical interface and mechanical connection.
- **PA66 Shell:** The main body of the connector, made from durable PA66 material for insulation and protection.
- **Clamping Coil Sealing Gasket:** Ensures a tight seal around the cable, providing IP67 protection.
- **Tail Hat:** The rear part of the connector that secures the cable and provides strain relief.
- **Gold-Plated Pins:** The individual electrical contacts, made of brass with gold plating for optimal conductivity and corrosion resistance.

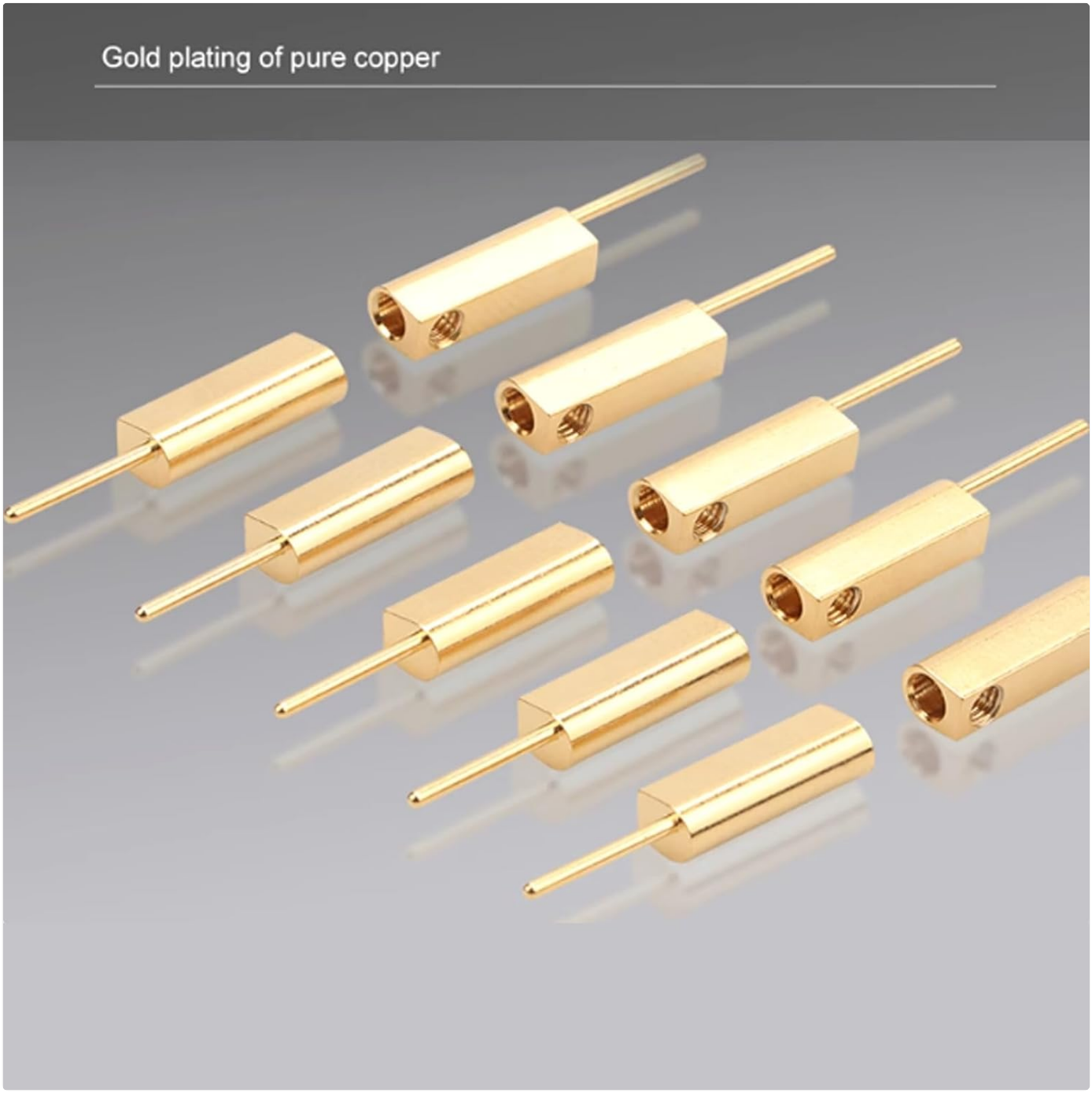


Image: A close-up view of the gold-plated pure copper pins, highlighting their quality and design for reliable electrical contact.



Image: An illustration showing the PA66 material, which is used for the connector's shell, emphasizing its durability and protective properties.

Setup and Installation

This section provides instructions for assembling the M12 field wireable connector. No specialized tools are required for basic assembly.

Assembly Steps:

1. **Disassemble the Connector:** Carefully unscrew and separate the components of the M12 connector: the main body (PA66 shell), the threaded connection with pins, the clamping coil sealing gasket, and the tail hat.
2. **Prepare the Cable:** Strip the outer jacket of your cable to expose the individual wires. Ensure the wire diameter is suitable for PG7 (4-7mm). Strip the insulation from the ends of the individual wires to expose the copper conductors.
3. **Insert Wires into Pins:** Loosen the small screws on the gold-plated pins. Insert the stripped ends of the individual wires into the corresponding pin terminals. Tighten the screws securely to ensure good electrical contact. Refer to the wiring definition table in the Specifications section for correct pin assignments.
4. **Assemble the Connector Body:** Slide the PA66 shell and the tail hat onto the cable in the correct orientation before attaching the wired pins.
5. **Secure the Components:** Carefully align the wired pin assembly with the main body of the connector. Screw the threaded connection firmly onto the PA66 shell. Ensure the clamping coil sealing gasket is properly seated to maintain the IP67 rating.
6. **Tighten the Tail Hat:** Screw the tail hat onto the rear of the PA66 shell to secure the cable and provide strain relief.



Image: An illustration showing the internal wiring process of the M12 connector, where individual wires are connected to the screw terminals of the pins. A close-up highlights the fine strands of the copper wire.

Your browser does not support the video tag.

Video: This video demonstrates the assembly process of the M12 5 Pin Male Connector, showing how to connect the wires to the pins and reassemble the connector components.

Operating Instructions

Once assembled, the M12 connector is ready for integration into your system.

- **Connection:** Align the male M12 connector with the corresponding female M12 receptacle on your device or cable.
- **Secure Connection:** Gently push the connector in and then rotate the threaded coupling nut clockwise until it is

hand-tight. This ensures a secure mechanical and electrical connection and maintains the IP67 seal.

- **Disconnection:** To disconnect, rotate the threaded coupling nut counter-clockwise until it is loose, then pull the connector straight out.

Ensure that power is disconnected from the system before connecting or disconnecting the M12 connector to prevent electrical hazards.

Your browser does not support the video tag.

Video: This video provides a brief overview of the M12 5 Pin Male Connector, showcasing its appearance and general handling.

Technical Specifications

Detailed specifications for the M12 5 Pin Male Connector.

Parameter	Value
Connector Type	M12 Field Wireable
Pin Configuration	5 Pin, Male, A-Coding
Connector Orientation	Straight
Locking Mechanism	Screw-Joint, Threaded Type
Shell Material	PA66
Contact Material	Brass with Gold Plating
IP Rating	IP67
Rated Voltage	125V
Rated Current	4A
Crimping Method	Screw Crimping
Line Pressing Range	Max 0.75mm²
Temperature Range	-25°C to 85°C
Cable Gland Compatibility	PG7 (for 4-7mm wire diameter)
Item Weight	0.634 ounces
Package Dimensions	3.98 x 2.2 x 0.94 inches

M12 electrical parameters

Pins	Male				Ratedcurrent	Rated voltage		Conductor size		Female			
	A	B	C	D		A/C	D/C	AWG	mm²	A	B	C	D
2					4A	250V	250V	22	0.34				
3					4A	250V	250V	22	0.34				
4					4A	250V	250V	22	0.34				
5					4A:A (A-Code) B (B-Code) 2A:C (C-Code)	60V	60V	22	0.34				
6					2A	30V	30V	24	0.25				
8					2A	30V	30V	24	0.25				
12					1.5A	30V	30V	26	0.14				
17					1.5A	30V	30V	26	0.14				

Image: A table detailing M12 electrical parameters, including pin configurations (2, 3, 4, 5, 6, 8, 12, 17 pins), rated current, rated voltage (A/C and D/C), and conductor size (AWG and mm²).



Image: A diagram illustrating the wire definitions for various M12 connector pin configurations, showing pin numbers and corresponding

wire core colors for different coding types (A, B, C, D).

Troubleshooting

If you encounter issues with your M12 connector, consider the following common problems and solutions:

- **No Signal/Intermittent Connection:**
  - Check wire connections at the pins. Ensure screws are tight and wires are properly seated.
  - Verify correct pin assignment according to the wiring definition table.
  - Inspect pins for damage or corrosion. Clean if necessary.
  - Ensure the connector is fully seated and the coupling nut is tightened.
- **Water/Dust Ingress (if IP67 rating is compromised):**
  - Ensure the clamping coil sealing gasket is correctly positioned and not damaged.
  - Verify the tail hat is securely tightened around the cable.
  - Check for cracks or damage on the PA66 shell.
- **Connector Difficult to Connect/Disconnect:**
  - Ensure threads are clean and free of debris.
  - Do not force the connection; align pins carefully before tightening.

Maintenance

Proper maintenance ensures the longevity and reliable performance of your M12 connector.

- **Regular Inspection:** Periodically inspect the connector for any signs of physical damage, corrosion on pins, or wear on the sealing components.
- **Cleaning:** If necessary, clean the connector surfaces and pins with a soft, dry cloth. For stubborn dirt, a small amount of electrical contact cleaner can be used, ensuring it evaporates completely before re-connection.
- **Environmental Protection:** While IP67 rated, avoid prolonged exposure to harsh chemicals or extreme temperatures beyond the specified operating range.
- **Storage:** Store unused connectors in a clean, dry environment to prevent dust and moisture accumulation.

Warranty and Support

FOWIUNYE stands behind the quality of its products. For specific warranty information, please refer to the product packaging or contact our customer support.
Customer Support:

- For technical assistance, troubleshooting, or warranty claims, please contact FOWIUNYE customer service through the retailer where the product was purchased or visit the official FOWIUNYE website for contact details.
- Please have your product model number (M12-5pin-male-A-S-1) and purchase date available when contacting support.

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