



M12 A-Coded 12-Pin Male Field Wireable Connector with IP67 Protection and Gold-Plated Contacts

Our Product Introduction

Basic Information

- Place of Origin: Guangdong, China
- Brand Name: KRONZ
- Certification: CE
- Model Number: H1212MV-0
- Minimum Order Quantity: 10 pieces
- Price: Negotiable
- Packaging Details: Paper box packing
- Delivery Time: 5-8 working days
- Payment Terms: T/T, Western Union
- Supply Ability: 100000 pieces per month



Product Specification

- Insulation Resistance: $\geq 100 \text{ M}\Omega$
- Number Of Contacts: 12 Pin
- Coding: A-Code
- Connector Type: M12 Field Wireable Connector
- Gender: Male
- Pollution Degree: 3
- For Connector Type: M12
- Seal Material: FPM/FKM
- Accreditation: CE
- Code: A
- Endurance: > 100 Cycles
- Contact Nut Material: Brass, Nickel-plated
- Contact Nut Material: Brass, nickel-plated
- Output Current: Max. 500mA

Product Description

M12 A-Coded 12-Pin Male Field Wirable Connector | IP67 Straight Screw Termination 1.5A 30V | IEC 61076-2-101

The **M12 A-Coded 12-Pin Male Field Wirable Assembly, Straight** is a high-density industrial circular connector engineered for multi-signal applications requiring up to 12 independent circuits in a single compact connector. Built to **IEC 61076-101**, this connector combines dense 12-pin capacity with full IP67 environmental protection, making it ideal for sensor arrays, signal distribution panels, and complex automation wiring where space and reliability are critical.

The **zinc alloy housing with nickel plating** provides superior corrosion resistance for harsh industrial and outdoor environments. **Gold-plated copper alloy contacts** ensure low contact resistance ($\leq 5\text{m}\Omega$) and stable signal integrity across 100+ mating cycles. The screw-type termination allows fast, tool-free field wiring with no crimping equipment required, and the **FPM/FKM sealing system** maintains IP67 protection from -25°C to $+85^{\circ}\text{C}$.

Key Features

- IP67 Environmental Protection** – Fully dust-tight and waterproof, withstands immersion in 1 meter of water for 30 minutes. FPM/FKM elastomer seals resist oil, coolant, and chemical exposure.
- 12-Pin High-Density Configuration** – Twelve independent circuits in a single M12 connector footprint. Ideal for multi-sensor nodes and dense I/O applications.
- Gold-Plated Contacts** – Copper alloy contacts with gold plating deliver $\leq 5\text{m}\Omega$ contact resistance, preventing signal degradation.
- Field-Wirable – No Tools Required** – Screw termination accepts 4–8mm cable diameter. Complete wiring on-site in under 10 minutes.

Technical Specifications

Parameter	Specification
Applicable Standard	IEC 61076-2-101
Connector Type	M12 A-Coded Male, Field Wirable, Straight
Pin Count	12
Thread Size	M21*1
Overall Length	~62 mm
Outer Diameter	~20 mm
Housing Material	Zinc Alloy, Nickel-Plated
Connector Thread Material	Alloy / Brass, Nickel-Plated
Contact Material	Gold-Plated Copper Alloy
Contact Carrier Material	PA (Polyamide), Black
Sealing Material	FPM / FKM (Fluoroelastomer)
Rated Current	1.5A
Rated Voltage	30V
Insulation Resistance	$\geq 100\text{ M}\Omega$
Contact Resistance	$\leq 5\text{ m}\Omega$
Pollution Degree	3
Operating Temperature	-25°C to $+85^{\circ}\text{C}$
Mechanical Life	> 100 Mating Cycles
IP Rating	IP67
Coding	A-Coded
Termination Type	Screw Connection
Cable Exit Diameter	4–8 mm

Dimensions

- Thread Standard: M21*1
- Overall Length: ~62 mm
- Outer Diameter: ~20 mm
- Cable Exit: 4–8 mm
- Orientation: Straight (0°)
- Mating Compatibility: All M12 A-Coded 12-Pin Female Connectors

Pin Layout (12-Pin)

The 12-pin configuration arranges contacts in a single circle inside the M12 housing. Pin assignment follows IEC 61076-2-101 A-Coded standard.

- 12 pins evenly distributed in a circular pattern
- Standard A-Coded keyway positioning
- Compatible with any M12 A-Coded 12-pin female receptacle or cable connector from all major manufacturers

Applications

The 12-pin M12 connector is specifically suited for applications that require multiple signal channels in a compact footprint:

- **Multi-Sensor Junctions:** Aggregating signals from multiple sensors at a single connection point
- **Dense I/O Distribution:** Connecting high-channel-count sensor arrays in process automation
- **Signal Distribution Panels:** Multi-circuit breakout points for control signals
- **Robotics & Motion Systems:** Feedback wiring for multi-axis motor controllers and servo drives
- **Conveyor Systems:** Centralized sensor wiring for measurement and detection
- **HVAC & Building Automation:** Multi-zone thermostat and damper control connections
- **Agricultural Machinery:** Sensor arrays for soil moisture, temperature, and GPS guidance
- **Water & Wastewater Treatment:** IP67-rated connections for multi-channel sensors in wet environments

Installation Guide

Prepare the cable: Strip the outer jacket to expose 12 individual conductors. Ensure total cable diameter is between 4mm and 8mm.

Thread the components: Pass the cable through the coupling nut, cable gland insert, and FPM sealing ring in correct order.

Terminate the wires: Insert each conductor into its designated pin terminal. Tighten each screw securely without overtightening.

Assemble the housing: Slide the connector housing over the terminated contacts, aligning the A-Coded keyway notch.

Seal and tighten: Thread the coupling nut onto the M21*1 housing thread. Tighten until the FPM seal compresses uniformly.

Verify: Check all 12 pins are seated, housing is fully threaded, and cable cannot be pulled out. Test continuity before commissioning.

Frequently Asked Questions

Q1: What is the rated current and voltage for the 12-pin M12 connector?

The 12-pin M12 A-Coded connector is rated at **1.5A per pin at 30V AC/DC**. The reduced ratings compared to lower pin counts are due to smaller contact size and tighter pin spacing required to fit 12 pins within the M12 housing.

Q2: Is the 12-pin M12 connector compatible with 8-pin or 5-pin female connectors?

No. The 12-pin M12 A-Coded connector only mates with **12-pin A-Coded female connectors**. M12 connectors with different pin counts have different keyway positions and are physically incompatible.

Q3: Can this 12-pin connector carry digital signals like IO-Link?

Yes. The 12-pin M12 A-Coded connector supports digital signal transmission including IO-Link, PROFINET, and other industrial communication protocols at signal level. For high-speed data protocols like Ethernet, consider using D-Coded or X-Coded M12 connectors.

Q4: What is the difference between 12-pin A-Coded and 12-pin X-Coded?

A-Coded connectors are designed for sensor/actuator signal wiring at low voltage (30V, 1.5A). **X-Coded** connectors are designed for high-speed data transmission (up to 10 Gbps) and are not interchangeable with A-Coded.

Q5: How do I verify IP67 sealing after field installation?

Ensure: (1) the FPM/FKM sealing ring is seated evenly with no gaps; (2) the coupling nut is hand-tightened until cable cannot move; (3) housing thread is fully engaged. IP67 rating is only guaranteed when properly assembled and mated.

Q6: What cable diameter range is supported?

The cable gland accepts cables with an outer diameter of **4mm to 8mm**. Cables outside this range will not seal properly. Consider using a different gland size or adapter for cables outside this range.

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