

## M12 A-Coded 12-Pin Female Field Wireable Connector with IP67 Protection

Our Product Introduction

for more products please visit us on [connector-industrial.com](http://connector-industrial.com)

### Basic Information

- Place of Origin: Guangdong, China
- Brand Name: KRONZ
- Certification: CE
- Model Number: H1212FV-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
- For Connector Type: M12
- Seal Material: FPM/FKM
- Accreditation: CE
- Endurance: >100 Cycles
- Contact Nut Material: Brass, Nickel-plated
- Contact Nut Material: Brass, nickel-plated
- Output Current: Max. 500mA
- Highlight: **M12 A-Coded female connector,  
12-pin field wireable connector,  
IP67 protected M12 connector**

Product Description

M12 A-Coded 12-Pin Female Field Wirable Connector | IP67 IEC 61076-2-101

The M12 A-Coded 12-Pin Female Field Wirable Assembly, Straight is a high-density industrial circular connector engineered for multi-signal applications where up to 12 independent circuits must be connected in a single compact interface. Manufactured in full compliance with IEC 61076-2-101, this female connector delivers IP67 environmental protection combined with dense 12-pin capacity, making it the ideal solution for sensor arrays, signal distribution panels, and complex I/O wiring in industrial automation.

The housing is constructed from zinc alloy with nickel plating for superior corrosion resistance in harsh environments including outdoor installations, washdown areas, and chemical-exposed workspaces. Contacts are made of gold-plated brass for low contact resistance ( $\leq 5\text{m}\Omega$ ) and oxidation-proof signal reliability over 100+ mating cycles. The screw-type termination supports field wiring with cables of 4-8mm diameter — no crimping tools required. FPM/FKM (fluoroelastomer) seals maintain IP67 protection across the full operating range of  $-25^{\circ}\text{C}$  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 for long-term sealing integrity in demanding industrial conditions.

**12-Pin High-Density Configuration:** Twelve independent circuits in a single M12 connector footprint. Reduces connector count, panel space, and wiring time for multi-sensor nodes and dense I/O applications.

**Gold-Plated Brass Contacts:** Brass contacts with gold plating deliver  $\leq 5\text{m}\Omega$  contact resistance and  $\geq 100\text{M}\Omega$  insulation resistance, preventing signal degradation in noise-sensitive industrial environments.

**Field-Wirable — No Crimping Tools:** Screw termination accepts 4-8mm cable diameter. Strip, insert, tighten — complete wiring on-site in under 10 minutes without specialized equipment.

Technical Specifications

|                                  |                                                |
|----------------------------------|------------------------------------------------|
| Applicable Standard              | IEC 61076-2-101                                |
| Connector Type                   | M12 A-Coded Female, Field Wirable, Straight    |
| Pin Count                        | 12                                             |
| Thread Size                      | M21 x 1                                        |
| Overall Length                   | ~57 mm                                         |
| Outer Diameter                   | ~20 mm                                         |
| Housing Material (Connector Nut) | Alloy / Brass, Nickel-Plated                   |
| Contact Material                 | Gold-Plated Brass                              |
| Contact Carrier Material         | PA (Polyamide), Black                          |
| Crimp Base Material              | Zinc Alloy, Nickel-Plated                      |
| 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            | $-25^{\circ}\text{C}$ 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: ~57 mm
- Outer Diameter: ~20 mm
- Cable Exit: 4-8 mm
- Orientation: Straight (0°)
- Mating Compatibility: All M12 A-Coded 12-Pin Male Connectors

### Pin Layout (12-Pin A-Coded Female)

The 12-pin configuration arranges contacts in a single circle inside the M12 female housing, following IEC 61076-2-101 A-Coded standard:

- 12 pins evenly distributed in a circular pattern
- Standard A-Coded keyway positioning (female)
- Fully compatible with any M12 A-Coded 12-pin male connector from all major manufacturers

### Applications

- Multi-Sensor Junctions:** Aggregating signals from multiple sensors at a single connection point — temperature, pressure, proximity, and level sensors
- Dense I/O Distribution:** Connecting high-channel-count sensor arrays in process automation and factory floor installations
- Signal Distribution Panels:** Multi-circuit breakout points for distributing control signals to actuators or field devices
- Robotics & Motion Systems:** Feedback wiring for multi-axis motor controllers, encoder clusters, and servo drive interfaces
- Conveyor Systems:** Centralized sensor wiring for length measurement, object detection, and position feedback
- HVAC & Building Automation:** Multi-zone thermostat and damper control connections where panel space is limited
- Agricultural Machinery:** Sensor arrays for soil moisture, temperature, GPS guidance, and implement monitoring in outdoor environments
- Water & Wastewater Treatment:** IP67-rated connections for multi-channel level sensors, pH probes, and flow meters 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 for proper gland sealing.
- Thread the components:** Pass the cable through the coupling nut, cable gland insert (PA), and FPM sealing ring in the correct order.
- Terminate the wires:** Insert each of the 12 conductors into its designated female pin terminal. Tighten each screw — avoid overtightening to prevent contact damage.
- Assemble the housing:** Slide the female 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 by hand until the FPM seal compresses uniformly around the cable.
- Verify:** Check all 12 pins are seated, housing is fully threaded, and cable cannot be pulled out. Test continuity on all 12 circuits before commissioning.

### Complete Product Range — M12 A-Coded Female Field Wirable, Straight

| Pin Layout | Pins | Connection | Coding | Current | Voltage | Angle    | Cable Ø | Part Number |
|------------|------|------------|--------|---------|---------|----------|---------|-------------|
| ○○         | 3    | Screw      | A-CODE | 4A      | 250V    | Straight | 4-8mm   | H1203FV-0   |
| ○○○○       | 4    | Screw      | A-CODE | 4A      | 250V    | Straight | 4-8mm   | H1204FV-0   |
| ○○○○○      | 5    | Screw      | A-CODE | 4A      | 60V     | Straight | 4-8mm   | H1205FV-0   |
| ○○○○○○○    | 8    | Screw      | A-CODE | 2A      | 30V     | Straight | 4-8mm   | H1208FV-0   |
| ○○○○○○○○○○ | 12   | Screw      | A-CODE | 1.5A    | 30V     | Straight | 4-8mm   | H1212FV-0   |

### Frequently Asked Questions

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

The 12-pin M12 A-Coded female connector is rated at 1.5A per pin at 30V AC/DC. The reduced ratings compared to lower pin counts (e.g., 3/4-pin at 4A/250V) are due to smaller contact size and tighter pin spacing needed to fit 12 pins within the M12 housing. It is designed for signal-level and low-power applications, not for power distribution.

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

No. The 12-pin M12 A-Coded female connector only mates with 12-pin A-Coded male connectors. M12 connectors with different pin counts have different keyway positions and pin arrangements — they are physically incompatible by design. This prevents incorrect connections that could damage equipment.

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

Yes. The 12-pin M12 A-Coded female connector supports digital signal transmission including IO-Link, PROFINET, and other industrial communication protocols at signal level. For high-speed Ethernet (100 Mbps+), consider D-Coded or X-Coded M12 connectors. The 12-pin A-Coded is best suited for standard sensor-level signals, DC power, and low-speed digital I/O.

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

Both support 12 pins but serve different purposes. A-Coded connectors are for sensor/actuator signal wiring at low voltage (30V, 1.5A). X-Coded connectors are for high-speed data transmission (up to 10 Gbps). They have different keyways and are not interchangeable.

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

After wiring, ensure: (1) the FPM/FKM sealing ring is seated evenly around the cable with no gaps; (2) the coupling nut is hand-tightened until the cable cannot move; (3) the housing thread is fully engaged with no cross-threading. IP67 rating is only guaranteed when the connector is properly assembled and mated with a compatible male connector.

**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 — cables thinner than 4mm may not be gripped, and cables thicker than 8mm will not fit. Use an adapter if your cable falls outside this range.

**Q7: What materials are used in this connector?**

The connector nut is made of alloy/brass with nickel plating. Contacts are gold-plated brass. The contact carrier is black PA (polyamide) plastic. The crimp base housing is zinc alloy with nickel plating. Sealing uses FPM/FKM (fluoroelastomer) rings that resist oils, chemicals, and UV from -25°C to +85°C.

**KRONZ** Kronz (guangzhou) Electronics Co., Ltd.



+8618924160375



sales02@kronz.cn



connector-industrial.com

Floor 7, Building 12B, Hanhe Robot Intelligent Manufacturing Base Exhibition Center, Xiangshan Avenue,  
Zengcheng Economic Development Zone, Guangzhou, Guangdong Province, China