M12 A-Coded 12-Pin Male Straight Connector | IP67 PG7 PG9 IEC 61076-2-101

Our Product Introduction

Basic Information

- Place of Origin: Guangdong, China
- Brand Name: KRONZ
- Certification: CE
- Model Number: H1212F-7/H1212F-9
- 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

- Cablediameterrange: 3mm To 6mm
- Input Voltage: 24VDC (±25%)
- Connector Nut: Alloy, Brass, Nickle-plated
- Insulation Resistance: ≥100MΩ
- Contact Surface Material: Brass, Gold-plated
- Cable Meterial: PVC
- Highlight: **M12 A-Coded 12-pin male connector**, **IP67 waterproof M12 connector**, **M12 connector with PG7 PG9**

Product Description

M12 A-Coded 12-Pin Female Field Wirable Connector with IP67 Protection and 90° Angled Design

The M12 A-Coded 12-Pin Male Field Wirable Assembly, Straight (B Series) is a high-density industrial circular connector engineered for on-site cable termination with dual cable gland compatibility. Manufactured to IEC 61076-2-101, this straight-type connector delivers IP67 environmental protection with 12-pin capacity and supports both PG7 (4–6mm) and PG9 (6–8mm) cable entries, providing maximum flexibility for different cable types without requiring adapter fittings.

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.

Dual Cable Gland Options (PG7 / PG9): Available in PG7 (4–6mm) and PG9 (6–8mm) versions, accommodating a wide range of industrial cable diameters from thin sensor wires to shielded multi-conductor cables.

12-Pin High-Density Configuration: Twelve independent circuits in a single M12 connector footprint. Supports multi-sensor arrays, signal distribution, and complex I/O wiring while reducing connector count and panel space.

Gold-Plated Brass Contacts: Brass contacts with gold plating deliver ≤5mΩ contact resistance and ≥100MΩ insulation resistance, ensuring stable signal integrity in noise-sensitive industrial environments.

PBT/PA Plastic Clamp Base: Lightweight PBT/PA black plastic housing with excellent chemical resistance and dimensional stability. Lighter than metal alternatives while maintaining mechanical durability.

Field-Wirable — No Crimping Tools: Screw termination with no crimping tools required. Strip, insert, tighten — complete wiring on-site in under 10 minutes.

Technical Specifications

Applicable Standard	IEC 61076-2-101
Connector Type	M12 A-Coded Male, Field Wirable, Straight (B Series)
Pin Count	12
Thread Size	M21*1
Overall Length	~60 mm
Outer Diameter	Ø 20.2 mm
Connector Nut Material	Alloy / Steel-Zinc, Nickel-Plated
Contact Material	Gold-Plated Brass
Clamp Base Housing Material	PBT / PA (Polybutylene Terephthalate / Polyamide), Black
Sealing Material	FPM / FKM (Fluoroelastomer)
Rated Current	1.5A
Rated Voltage	30V
Insulation Resistance	≥ 100 MΩ
Contact Resistance	≤ 5 mΩ
Operating Temperature	-25°C to +85°C
Mechanical Life	> 100 Mating Cycles
IP Rating	IP67
Coding	A-Coded
Termination Type	Screw Connection
Cable Exit Diameter	4–6mm (PG7) / 6–8mm (PG9)

Dimensions

Thread Standard: M21*1

Overall Length: ~60 mm

Outer Diameter: Ø 20.2 mm

Cable Exit: 4–6mm (PG7) / 6–8mm (PG9)

Orientation: Straight (0°)

Mating Compatibility: All M12 A-Coded 12-Pin Female Connectors

Applications

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 multi-channel connections for level sensors and probes

Food & Beverage Processing: Washdown-rated installations requiring IP67 protection

Material Handling: AGV signal links and conveyor sensor networks

PG7 vs. PG9: How to Choose the Right Cable Gland

Factor	PG7 (4–6mm)	PG9 (6–8mm)
Cable outer diameter	4–6 mm	6–8 mm
Typical cable types	Thin sensor cables, instrumentation cables, small multi-conductor cables	Heavier sensor cables, shielded cables, larger multi-conductor cables
Sealing grip	Optimized for smaller diameter cables	Optimized for larger diameter cables
Bend radius	Smaller bend radius, tighter routing	Larger bend radius, more cable flexibility
Common applications	Proximity sensors, small signal cables	Shielded encoder cables, multi-pair instrumentation cables

> **Important:** Using the wrong gland size will compromise the IP67 rating. A PG7 gland with an 8mm cable will not seal properly, and a PG9 gland with a 4mm cable will not grip the cable securely. Always measure your cable's outer diameter (including jacket) before selecting.

Installation Guide

Prepare the cable: Strip the outer jacket to expose 12 individual conductors. Ensure total cable diameter matches the gland size.

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

Terminate the wires: Insert each of the 12 conductors into its designated male pin terminal. Tighten each screw — avoid overtightening.

Assemble the housing: Slide the male 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.

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

Frequently Asked Questions

What is the rated current and voltage for the 12-pin M12 straight male connector (B Series)?

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

What is the difference between PG7 and PG9 cable glands?

PG7 and PG9 refer to the cable gland size standard. PG7 accepts cables with an outer diameter of 4–6mm, while PG9 accepts cables with an outer diameter of 6–8mm. Choose the gland size that matches your cable's outer diameter for proper sealing and strain relief.

What does "B Series" mean?

The B Series designation identifies this product line's specific material combination: steel-zinc alloy connector nut with nickel plating, and PBT/PA plastic clamp base housing. This combination offers a balance of corrosion resistance, lightweight construction, and chemical resistance.

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

No. The 12-pin M12 A-Coded male connector only mates with 12-pin A-Coded female connectors. M12 connectors with different pin counts have different keyway positions and pin arrangements — they are physically incompatible by design.

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