

Industrial & Inverter RJ45 Plugs

# Custom RJ45 Modular Plug Connector Male for Inverter & Drive Control Boards



Key specifications

|                        |                                                       |
|------------------------|-------------------------------------------------------|
| Connector Type         | RJ45 Modular Plug (8P8C / Male)                       |
| Overall Length (L)     | 26.0 mm (Specialized Short-Body Design)               |
| Housing Material       | Transparent polycarbonate (PC)                        |
| Contact Blade Material | High-Conductivity Phosphor Bronze / Pure Copper Alloy |

## Product summary

- **Precision Inverter Interface:** Specifically designed for variable frequency drive (VFD) and inverter operation panels, enabling stable signal and data communication across board-to-board interconnects.
- **Compact 26mm Body Length:** Features a space-saving 26mm overall length ( $L=26\text{mm}$ ) engineered to fit tight enclosure clearances and specialized internal control module dimensions.
- **High-Clarity Transparent Housing:** Molded from premium flame-retardant poly-carbonate for effortless visual inspection of internal wire alignment and pin contact integrity.
- **Corrosion-Resistant Contacts:** Equipped with high-conductivity pure copper contacts and custom gold plating to ensure minimal signal resistance and long-term anti-oxidation performance.
- **Factory Bulk Packaging:** Standard packaging of 100 pcs per anti-static protective box, streamlined fo

**Product page:**  
<https://www.cnplugs.com/product/rj45-modular-plug-connector-male-inverter-operation-panel/>  
**Category:** Industrial & Inverter RJ45 Plugs

## Contact & technical support

|                 |                                                                              |
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| Business hours  | Monday-Saturday, 08:30-18:00 (UTC+8)                                         |
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## Product details

# Industrial RJ45 Modular Plug Connector Male L=26mm for Inverter & Drive Operation Panels

In modern industrial automation and variable frequency drive (VFD) applications, stable board-to-board and panel-to-board communication is critical. The Industrial RJ45 Modular Plug Connector Male L=26mm is specifically engineered to meet the rigid mechanical and electrical requirements of inverter operation panels, digital control modules, and human-machine interface (HMI) keypads. Featuring a streamlined overall length of 26mm, this compact connector eliminates internal spatial interference while maintaining robust data transmission across high-power switching environments.

## Engineered for High-Density VFD & Servo Control Boards

Unlike standard telecom or network patch cable connectors, this specialized male RJ45 plug addresses the spatial constraints inside compact motor drives and control units. Modern frequency inverters demand ultra-tight clearances between the front display panel and the main power board. With a precise 26mm body length, this plug ensures a perfect physical fit without putting mechanical stress on internal wiring harnesses or PCB headers.

Furthermore, inverter environments are subject to continuous electromagnetic interference (EMI) and operational vibration. By leveraging high-precision copper alloy contacts and high-density insulation materials, this connector guarantees uninterrupted signal flow for RS485, Modbus, CAN bus, and proprietary serial protocols used in automated drive systems.

If your production line also requires heavy-duty network plugs or custom cable termination solutions, feel free to explore our comprehensive range of [RJ45 modular plugs](#) designed for industrial automation.

## High-Clarity PC Housing for Rapid Optical Quality Inspection

To support high-throughput automated manufacturing and manual assembly lines, the plug body is molded from optical-grade, transparent polycarbonate. This transparent design allows quality control technicians and automated optical inspection (AOI) camera systems to verify core wire insertion depth, sequence, and pin crimp depth in real time, virtually eliminating termination errors prior to final product enclosure.

To learn more about the universal physical dimensions and industrial standards of [modular connectors](#) and [RJ45 interfaces](#), you can consult these external technical references.

## Q1: Why is the 26mm short-body length preferred for inverter control panels?

A: Standard RJ45 plugs (typically 30mm or longer) often collide with the internal casing, display heat sinks, or front panel acrylic covers in compact VFD designs. The 26mm profile provides exact mechanical clearance, preventing cable strain while ensuring a firm, latched connection between the keypad panel and the internal logic board.

## Q2: Is this connector suitable for RS485 / Modbus serial communications?

A: Yes. Variable frequency drives commonly rely on RS485 or CAN-based serial communication transmitted through standard RJ45 pin assignments. Our high-purity gold-plated contacts ensure extremely low signal attenuation and low contact resistance across these high-speed serial fieldbuses.

## Q3: What gold plating thickness should we choose for industrial OEM orders?

A: For standard indoor operation panels, 3u" or 6u" gold flash is typically sufficient. However, for severe industrial environments with high humidity, chemical exposure, or continuous thermal cycling, we recommend specifying 30u" or 50u" heavy gold plating to prevent contact oxidation over extended operational lifetimes.

## Q4: How are these connectors packaged for bulk factory supply?

A: They are supplied in heavy-duty 100-piece anti-static grid boxes. This packaging format protects the delicate latching clips and contact blades during international shipping while facilitating convenient bench-side handling during factory assembly.

## Technical specifications

| Specification                   | Published value                                                       |
|---------------------------------|-----------------------------------------------------------------------|
| Connector Type                  | RJ45 Modular Plug (8P8C / Male)                                       |
| Overall Length (L)              | 26.0 mm (Specialized Short-Body Design)                               |
| Housing Material                | Transparent polycarbonate (PC)                                        |
| Contact Blade Material          | High-Conductivity Phosphor Bronze / Pure Copper Alloy                 |
| Contact Plating Options         | 3u" to 50u" Selective Gold Plating over Nickel Underplate             |
| Wire Compatibility              | 24-28 AWG Solid and Stranded Conductors                               |
| Target Application              | VFD Inverter Panels, HMI Keypads, Board-to-Board Signal Interconnects |
| Insulation Resistance           | ≥ 500 MΩ at 500V DC                                                   |
| Dielectric Withstanding Voltage | 1000V AC RMS 60Hz, 1 Minute                                           |
| Operating Temperature           | -40°C to +85°C                                                        |
| Packaging Standard              | 100 Pieces / Industrial Anti-Static Box                               |