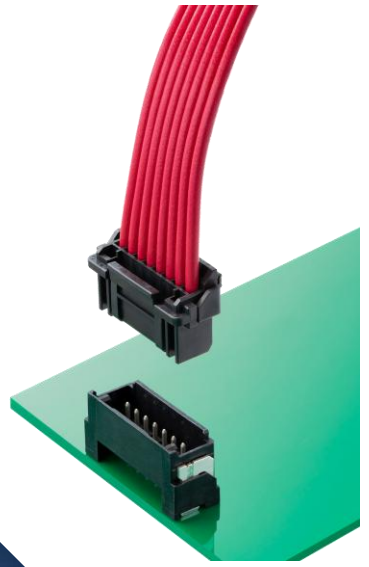


# MICRO-ONE CONNECTORS

**Adding**: 9 to 16 additional circuit sizes.
Micro-One 2.00mm-pitch wire-to-board connectors use an independent secondary lock and terminal position assurance to ensure reliable connections in high-vibration environments. New 9- to 16-circuit through-hole header options enhance design flexibility and help manufacturers optimize space on the PCB.

NPI EXTENSION

OCTOBER 2026

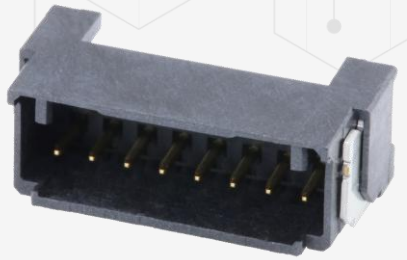
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creating connections for life

# Micro-One Connectors

Featuring an independent secondary lock (ISL) that helps prevent accidental terminal back-out, the Micro-One 2.00mm-pitch connector maintains a secure electrical connection while enhancing terminal retention and insertion with terminal position assurance (TPA). The connector also supports potting for protection against dust, moisture and corrosion in harsh environments and meets stringent flammability standards with Glow Wire compliance.





**View Product Landing Page**

**Product Overview Sheet**

**Series**

| | |
|---|---|
| 220029 | **Micro-One 2.0 TH Vertical Header** |
| 220030 | **Micro-One 2.0 TH Right-Angle Header** |
| 212724 | **Micro-One Receptacle Housing TPA** |
| 212725 | **Micro-One 2.0 TPA Retainer** |

| Key Specifications | |
|---|---|
| Configurations | Right angle and vertical |
| Current | Up to 4.0A |
| Pitch | 2.00mm |
| Operating Temperatures | -40 to +105°C |

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# Product Overview

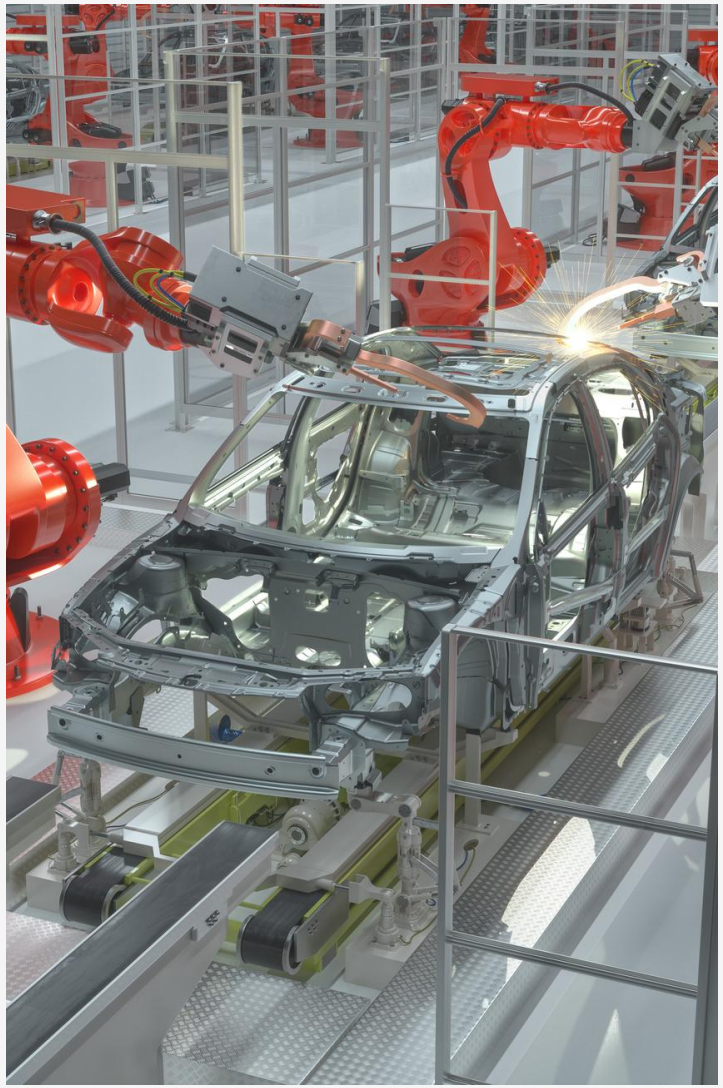
## Micro-One Connectors

### Trends and Challenges

For applications exposed to harsh environments, electrical connections need protection from dust, moisture and corrosion while also meeting applicable safety and regulatory requirements. In extreme conditions, connectors require secure contact in applications where vibration, shock and repeated mating cycles are present. Additionally, designers need to accommodate different PCB layouts, assembly methods and product design specifications without compromising performance.

### Industry Needs

Environmental protection and safety-focused design options support harsh-environment and compliance-driven applications. Enhanced terminal retention technology, including ISL, improves mating security and long-term connection reliability, while TPA features help ensure proper connector assembly and electrical performance. Flexible connector configurations address design requirements for a wide variety of PCB layouts and manufacturing processes.




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# Product Overview Cont.

## Micro-One Connectors

### Product Solutions

With potting capability and Glow Wire options, Micro-One Connectors help protect against dust, moisture and corrosion while supporting applications with enhanced safety requirements. These connectors feature ISL and optional TPA to help prevent terminal back-out, ensuring proper terminal insertion for improved reliability. Available in both surface-mount (SMT) and through-hole (TH) versions, Micro-One Connectors provide greater design flexibility and enable engineers to select the optimal mounting style for their application and manufacturing process.


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# Vital Product Information

## Micro-One Connectors

### Independent Secondary Lock (ISL)

The ISL helps eliminate terminal back-outs and manual contact-assurance checks, improving uptime and reducing inspection efforts.



### Glow Wire Capable

Glow wire capable PCB headers were designed to meet required EU regulations (IEC60335-1) for the home appliance market. This test mandates that connectors carrying a current of 0.2A or higher must pass the glow wire test. A connector passes the test if, during 30 seconds of applying a glowing wire, there is no ignition or any flames self-extinguish within two seconds.



### Potting Capability

Provides added resistance to shock and vibration and prevents moisture, liquid or corrosive agents from penetrating the PCB board. In addition, Micro-One Connectors provide a potting height of up to 7.00mm.




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# Product Advantages and Features

## Micro-One Connectors

**Provides increased contact reliability**
A gold-plated version helps prevent corrosion, improving conductivity and durability for customers requiring more robust connections.

**Supports protective potting encapsulation**
Potting boards with capable vertical-orientation connectors helps protect PCBs from liquids and corrosive agents, preventing exposure that can degrade the connector and PCB performance over time.

**Delivers high performance in harsh environments**
To avoid equipment degradation, gold plating protects contacts from oxidation when exposed to moisture. High-quality housing materials help the connectors withstand mechanical stresses and extreme temperature cycles that can damage the system.

**Provides superior ergonomics and easier assembly**
With a smooth, low-friction surface, gold plating reduces the mating force, which decreases the physical effort required during connector mating and improves operator efficiency.






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# Markets and Applications

## Micro-One Connectors



Refrigerators

### APPLIANCES

- Air conditioner
- Countertop appliances
- Dishwashers
- Dryers
- Microwaves
- Ovens
- Refrigerators
- Vacuum cleaners
- Washing machines



Display Modules

### AUTOMOTIVE

- Car infotainment wirings
- Display modules
- Lighting systems
- Sensor and actuator connections
- Switches



Industrial Robotics

### HVAC

- Air conditioners
- Heat pumps
- Humidifiers
- Ventilators


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# Markets and Applications

## Micro-One Connectors



Industrial Robotics



Servers

### INDUSTRIAL AUTOMATION

- Drones
- Factory automation
- Industrial robotics
- Power tools
- Test equipment
- Vending machines

### POWER FOR DATA CENTER

- Servers


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# Frequently Asked Questions

## Micro-One Connectors

### What are Micro-One Connectors?

Micro-One Connectors provide a compact 2.00mm-pitch, reliable wire-to-board solution that helps maintain a secure electrical connection and proper terminal insertion through its TPA. These connectors feature an ISL that helps prevent accidental terminal back-outs, and the robust design ensures high performance in applications that are subject to vibration and shock. These connectors are ideal for applications including automotive, industrial, appliances and data center systems.

### What is potting, and what benefits does it provide?

Potting is a process using protective material as an extra protective layer against shock, vibration, moisture and corrosive agents. Potting boards help prevent liquid or corrosive agents from penetrating the PCB board.

### Are Micro-One Connectors compliant with environmental and safety standards?

Micro-One Connectors provide a UL94 V-0 flammability rating that helps ensure strong fire safety performance. These connectors are designed to meet RoHS and other international environmental regulations for hazardous substance control. These connectors are also UL/CSA certified, providing recognized assurance of quality and safety across global applications.


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# Frequently Asked Questions

## Micro-One Connectors

### How do Micro-One Connectors provide a solution for home appliance applications?

Micro-One Connectors are Glow Wire compliant and rated up to 105°C, ensuring safe, reliable performance in appliances such as ovens, washing machines and dryers where heat exposure is common. These connectors offer enhanced sealing and durability against moisture, dust and vibration for long-term stability in demanding household environments as they support potting processes.

### Why should I choose Micro-One Connectors?

Micro-One Connectors offer mechanical reliability, safety compliance and environmental durability, all in a cost-effective design. This compact interconnect solution features ISL and TPA to ensure secure terminal retention and reliable electrical performance, while Glow Wire compliance supports appliance safety requirements. The connectors' compatibility with potting processes provides additional protection against moisture and dust, making them well suited for demanding operating environments. By integrating key retention features directly into the design, Micro-One Connectors also reduce bill of material complexity, simplifying assembly and lowering overall system costs.

### What is the ISL and why is it important?

The independent secondary lock (ISL) is a built-in terminal retention feature, and its primary role is to help prevent terminals from backing out of the housing, ensuring secure electrical contact and long-term connection reliability. Because the ISL is integrated directly into the receptacle housing, designers can achieve terminal retention functionality without requiring an additional component. This helps reduce bill of material costs, simplifies assembly processes and minimizes the risk of missing or incorrectly installed retention parts.


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# Frequently Asked Questions

## Micro-One Connectors

### What are the advantages of the TPA retainer?

The terminal position assurance (TPA) retainer ensures that terminals are fully seated and correctly positioned within the connector housing before the assembly is completed. This reduces the risk of poor electrical contact, intermittent connections and potential field failures. This additional layer of protection enhances connection reliability and supports consistent performance in applications exposed to vibration, movement and other demanding operating conditions.

### Are Micro-One Connectors suitable for automated assembly (pick-and-place)?

Yes, Micro-One Connectors are designed to support efficient manufacturing and are compatible with automated assembly processes, including pick-and-place operations. The compact design and reliable terminal retention features help improve assembly consistency while reducing the potential for handling errors.

### Are Micro-One Connectors a good solution for home appliance applications?

Yes, Micro-One Connectors are ideal for home appliance applications where safety, reliability and durability are crucial requirements. These connectors meet Glow Wire standards, enabling manufacturers to comply with appliance safety regulations and reduce the risk of ignition in electrical systems. Micro-One products also support potting processes, providing enhanced protection against moisture, dust and vibration commonly found in household appliances such as washing machines, refrigerators, dryers and ovens. With an operating temperature rating of up to 105°C, the connectors maintain reliable electrical performance and material stability in environments exposed to elevated temperatures, helping ensure long-term appliance reliability.


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# Product Specifications

## Micro-One Connectors

### Reference

Packaging:
Through Hole Headers—Tray
Receptacle Housing and Retainer—Bag
UL Certified: Yes
CSA Certified: Yes
Designed in: Millimeters
RoHS: Yes
Halogen Free: No
Glow Wire Capable: Yes

### Electrical

Voltage (max.): 250V
Current (max.): 4.0A (2-circuit)/AWG 22)
Circuit Size: 2 to 8 (SMT), 2 to 16 (through hole)
Contact Resistance (max.): 20 milliohms
Dielectric Withstanding Voltage: 1000V AC
Insulation Resistance (min.): 1000 Megohms

### Physical

Housing: Black
TPA : Natural
Contact: Copper alloy
Plating: Tin
Orientation: Vertical, right angle
Lock: Inner positive lock
PCB Thickness: 1.60mm
Operating Temperatures: -40 to +105°C

### Mechanical

Durability (min.): 30 cycles
Pitch: 2.00mm

| Additional Resources | |
|---|---|
| Web Overview Page | https://www.molex.com/en-us/products/connectors/wire-to-board-connectors/micro-one-connectors |
| Product Overview Sheet | 987652-9441 |
| Product Manager | Momoka Yao, PSBU, CCS |


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