PICO-LOCK WIRE-TO-BOARD CONNECTOR SYSTEM

Addition of 3.00mm-pitch to the existing Pico-Lock family

NPI EXTENSION

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creating connections for life

Pico-Lock Wire-To-Board Connector System

The Pico-Lock Wire-to-Board Connector System is ideal for applications requiring ultra-low profile, high-current and secure locking. Notebook and Tablet PCs with large graphic displays continue to get thinner in design and more powerful in functionality. This combination has created a need for a new style of connector that offers a very low profile, high current-carrying capability and a robust positive lock to maintain connection even when subjected to shock or vibration. The Pico-Lock system, available in 1.00, 1.50, 2.00mm and 3.00mm pitch versions, is the first miniature wire-to-board connector system to combine all these features to meet these needs.

View Product Landing Page

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Key Product Information

Category:	Wire-to-Board Connectors
Current (max):	10.0A per circuit (3.00 mm Pitch/ 2-circuits)
Voltage (max.):	250V AC rms/DC (3.00 mm Pitch)
Durability (min.):	30 cycles
Housing (Positive Lock) Strength (min.):	29.4N (3.0kgf) (3.00 mm Pitch)
Operating Temperature:	-40 to +105°C

Series

221115	PICO-LOCK 3.0 W/B HEADER ASSY ETP
221114	PICO-LOCK 3.0 W/B REC HSG
221113	PICO-LOCK 3.0 W/B REC TERM AWG#16-20

Vital Product Information

Pico-Lock Wire-To-Board Connector System

What makes this product different from the competition?

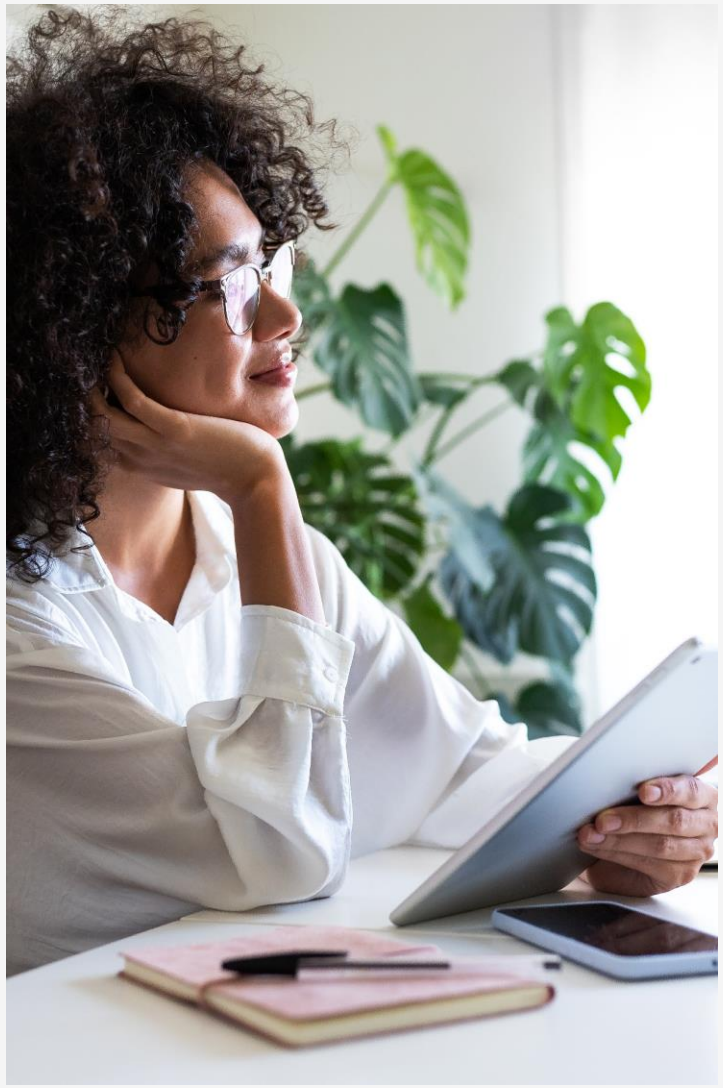
The Pico-Lock system is designed to handle higher current ratings compared to similar connectors, making it suitable for power applications. The connectors feature a positive locking mechanism that ensures a secure connection, reducing the risk of accidental disconnections. The 3.00 mm pitch allows for a more space-efficient design, making it ideal for applications where PCB real estate is limited. Molex's quality control and material selection contribute to the durability of the connectors, ensuring they can withstand environmental stresses and mechanical wear. The above features make the Pico-Lock system a competitive choice for engineers looking for reliable and efficient connector solutions.

How does this product/solution create value for our customers?

Supporting a range of wire sizes and configurations makes the Pico-Lock system adaptable for various applications, from consumer electronics to industrial machinery, allowing customers to use the same connector in multiple projects. With a higher current rating than many competitors, the Pico-Lock system can be used in power applications without compromising safety or performance, which is crucial for customer satisfaction. The Pico-Lock system helps customers enhance product performance, streamline production processes, and reduce costs, creating significant value across various industries.

What is the Molex advantage?

Global manufacturing capability, robust engineering support, and the latest and most high-performance components make Molex a unique partner in finding capability solutions.



Product Overview

Pico-Lock Wire-To-Board Connector System

Compact Design

The 3.00 mm pitch allows for efficient use of PCB space, enabling more components to be placed in smaller areas. This is crucial for modern devices where size constraints are often a priority.

Robustness

The robust design of the Pico-Lock Connectors help maintain connection integrity under various conditions, reducing the risk of disconnections caused by movement or impact. The robustness of the connectors ensure that customers can rely on these connectors in a wide range of applications, contributing to better overall system reliability and performance.

Easy Assembly

The connectors are designed for simple mating and unmating, which simplifies assembly processes and reduces manufacturing time and costs.

Markets and Applications

Pico-Lock Wire-To-Board Connector System

Control Units

AUTOMOTIVE

- Infotainment
- Interior electronics
- Heads-up displays
- Control units
- Black boxes

LED TVs

APPLIANCES

- LED/LCD TVs
- Notebook PCs
- Tablets
- Gaming equipment
- LED lightings
- Heaters/fans

Factory Automation Equipment

INDUSTRIAL AUTOMATION

- Smart meters
- Factory automation equipment
- Power supplies
- Security/Surveillance devices
- Transformers

Markets and Applications

Pico-Lock Wire-To-Board Connector System

Servers

TELECOMMUNICATIONS

- Wireless modems
- Servers

Product Advantages and Features

Pico-Lock Wire-To-Board Connector System

Allows for more efficient use of space on circuit boards

The compact design of low-profile Pico-Lock connectors maximizes the efficient use of space on circuit boards and in tight electronic assemblies, enabling smaller, thinner and more compact electronic devices while maintaining robust electrical connections.

Helps carry larger amounts of electrical current

The high-current Pico-Lock connectors are engineered to provide secure and reliable electrical connections for applications requiring higher power transmission capabilities. Their design allows for efficient handling of up to 10.0A (AWG 16, 2-circuit) of current, making them well-suited for a variety of industrial, automotive and other high-power electronic applications.

Offers secure PCB retention and additional mechanical stability

The wide robust-fitting nails (solder tabs) provide a larger surface area for soldering onto the PCB that ensures a strong and secure mechanical connection between the connector and the PCB.

Provides additional mating retention and visual mating assurance

The top friction locks are designed to enhance the reliability and security of the connection.

Product Advantages and Features

Pico-Lock Wire-To-Board Connector System

Prevents mis-mating while guiding the housing into the header

The mating guide for polarization plays a critical role in preventing mis-mating, guiding the connector housing into the header, and enhancing the ease and reliability of connector assembly.

Provides smooth mating and pin-contact protection

The beveled header pin design enhances the ease of use, protects pins and contacts from damage, and improves the overall durability of the connectors.

Helps ensure secure mating retention with additional space savings compared to top-style locks

The side positive locks consist of small tabs on the sides of the connector housings that creates a secure mechanical connection. The reduced footprint of the connectors with side positive locks enables designers to achieve higher component density and more efficient use of available space.

Product Specifications

RJ45 In-Line Coupler

Reference Information

Packaging:
- Header (Embossed tape)
- Housing (Bag)
- Crimp Terminal (Reel)

Designed In: Millimeters

RoHS: Yes

Halogen Free: Low-halogen

Electrical

Voltage (max.): 150V (1.00mm and 1.50mm Pitch)

Voltage (max.): 250V AC rms/DC (2.00mm and 3.00mm Pitch)

Current (max.): 10.0A per circuit (3.00 mm Pitch/ 2 circuits)

Contact Resistance(max.): 20 milliohms

Dielectric Withstanding Voltage:
- 500V AC (rms) for 1 minute (1.00 and 1.50mm)
- 800V AC (rms) for 1 minute (2.00 and 3.00mm)

Insulation Resistance(min.): 1000 Megohms

Mechanical

Housing (Positive Lock) Strength (min.):
- 1.00mm Pitch: 5N (0.50kgf)
- 1.50mm Pitch: 10N (1.02kgf)
- 2.00mm Pitch: 19.8N (2.0kgf)
- 3.00mm Pitch: 29.4N (3.0kgf)

Crimp Terminal Retention Force (min.):
- 1.00mm Pitch: 4N
- 1.50mm Pitch: 6.7N
- 2.00mm Pitch: 9.8N
- 3.00mm Pitch: 19.6N

Durability (min.): 30 cycles

Physical

Housing/Header: Polyamide (PA), UL 94V-0, Black

Contact: Copper Alloy

Plating:
- Contact Area — gold
- Solder Tail Area — gold
- Underplating — nickel

Operating Temperature: -40 to +105°C

Additional Resources	
Web Overview Page	Pico-Lock Connectors | Molex
Datasheet	987650-9061.pdf
Global Product Manager	Kazuhiko Ishikawa, CCS, PSBU


THANK YOU
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molex