

INNOVATIVE SOLUTIONS > FOR LED LIGHTING APPLICATIONS

*Retail and Hospitality, Office and Industry, Outdoor,
Electronic Control Gear, Interconnect and Wiring Solutions*



molex[®]



**SIMPLICITY, FLEXIBILITY,
INNOVATION >
ENABLING ADVANCED
LED LIGHTING SOLUTIONS**

Molex manufactures some of the most innovative and reliable interconnect products in the world. Our extensive product range of standard interconnect systems and user interface solutions for the LED lighting industry helps enhance design flexibility and lower product cost. We also offer custom solutions that meet your requirements, ranging from tailored wire and cable assembly designs to fully assembled LED modules that we can co-design, develop, manufacture and test to your specific needs.



Molex - The Interconnect Experts

Our commitment to Lighting

Molex is committed to the lighting industry, developing the most innovative and reliable interconnect products in the world. Our extensive product portfolio includes solutions for a range of LED lighting applications with a focus on retail and hospitality lighting, office and industry lighting and outdoor lighting.

Molex Lighting components

We have a wide range of standard products that include connectors, terminal blocks, copper flex products, LED lamp holders and many more.

We will continue to expand our portfolio with new and innovative interconnect solutions that help you build luminaires that address your application needs and meet long lifetime requirements.

Molex Custom Solutions

In addition to our standard products, Molex offers customer specific solutions for lighting. These solutions range from custom made cable assemblies to fully designed, manufactured and tested LED light modules.

Member of Zhaga

Molex is an active member of Zhaga - a global consortium of more than 200 companies from the lighting industry. The consortium creates specifications aimed at ensuring the interchangeability of LED light sources from different manufacturers, focussing on mechanical, photometric, thermal and electrical compatibility. Molex's active contribution to Zhaga emphasises our commitment to fuelling LED adoption growth rate in the lighting industry.

Member of  Zhaga

RETAIL AND HOSPITALITY >



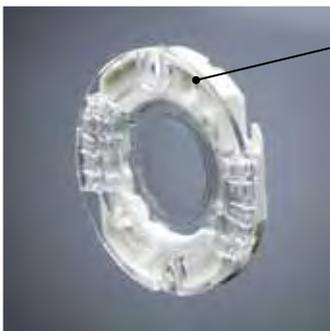
LED lighting is well suited to creating unique ambient experiences, which can set the scene for any occasion. LED solutions can highlight a product, create drama and interest, and can stimulate your mood. Molex helps you to develop LED based luminaires by providing innovative interconnect solutions that simplify luminaire design and manufacturing.

LED Array Holders

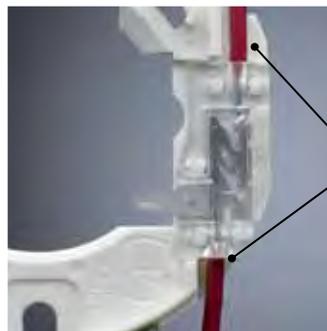
Molex uses advanced interconnect technology to produce a range of solderless LED holder solutions for mounting LED arrays into a luminaire. These holders make it very easy to integrate LEDs into a lighting fixture without the need for special tools.

Unique compression contacts power the arrays, while eliminating solder variability due to hand soldering. The easy screw-down connection enables lean manufacturing and easy integration of the latest LED technology into a luminaire. It facilitates the interchangeability of LEDs and allows for future upgrades.

With the increased ease of installation, more flexibility in manufacturing and better ways to update a system with the latest LED technology, Molex LED holders help to drive down the overall system cost.



Molex LED array holders with optional clear protective cover



Molex LED array holders utilise a dual wire trap that can accommodate a poke-in wire connection and allows LEDs to be daisy chained together



Pico-Clasp™

- 1.00mm (.039") pitch wire-to-board connector system for signal connections
- Smallest pitch wire-to-board connector with positive lock
- Ideal for space constraint applications
- Single and dual row versions available

Pico-EZmate™

- 1.20mm (.047") pitch wire-to-board connector system
- Compact and ultra-low profile for maximum clearance to optical components
- Secure locking features between the receptacle housing and the header



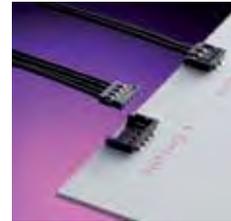
Pico-Clasp™

Pico-Spox™

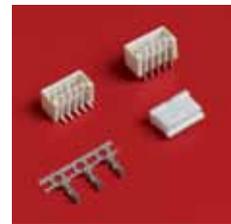
- 1.50mm (.059") pitch wire-to-board connector system
- Rated for 3.0A max. for higher current configurations in tight packaging applications
- Box-style contact with two points of contact for good electrical connection
- Friction lock ensures good mating retention

PicoBlade™

- 1.25mm (.049") pitch single row wire-to-board and wire-to-wire system with SMT and through hole headers designed for high-density harness applications
- Provides the same 1.0A of current as similar 2.00mm (.079") pitch systems
- Uses 45% less PCB real estate as compared to typical 2.00mm wire-to-board systems



Pico-EZmate™

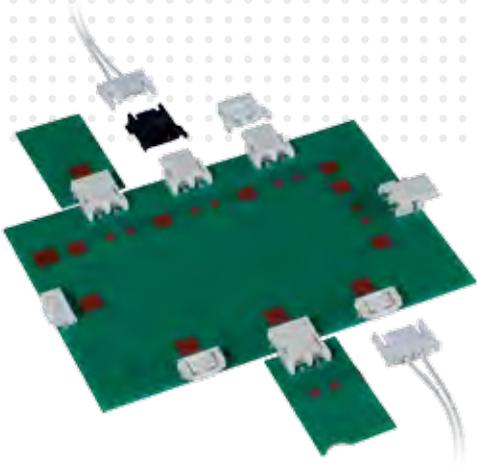


Pico-Spox™

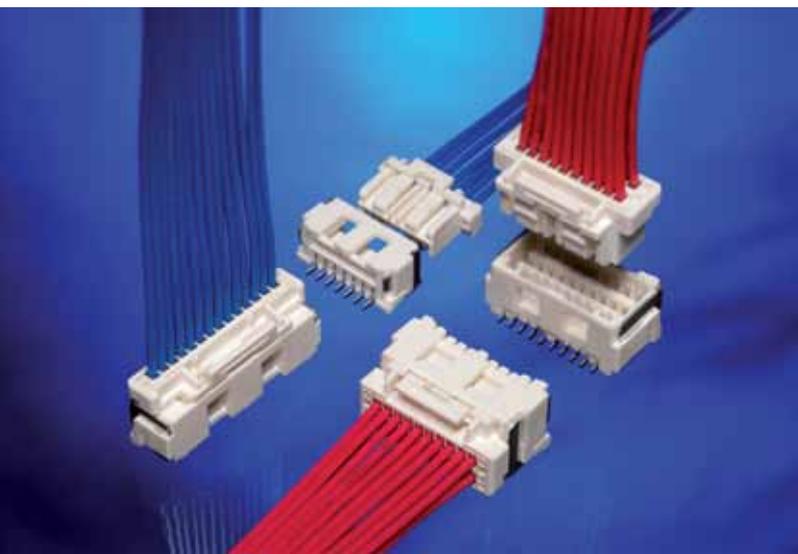


PicoBlade™

OFFICE AND INDUSTRY >



LED lighting holds great opportunity for office spaces. Freedom of shape and design, use of colours and full control over intensity and direction contribute to an enhanced lighting experience. On top of this, when combined with lighting controls, LED technology brings great energy saving potential. Molex helps you make the switch to LED based luminaires easier with our line of low profile wire-to-wire and wire-to-board interconnect solutions that are developed for modern, space-limited lighting designs.



*CLIK-Mate™
Wire-to-Board Connectors
CLIK-Mate connectors are available
in three pitch sizes: 2.00mm
(.069"), 1.50mm (.059") and
1.25mm (.049") to meet various
high-density application needs.*



C-Grid® and SL™

- 2.54mm (.100") pitch C-Grid® and SL™ products offer the largest number of variations and cabling configurations in the industry for low power signal applications
- C-Grid® is a dual row, board-to-board system for press-fit and SMT applications
- SL™ is a modular, single row, wire-to-wire and wire-to-board system for press-fit applications and IDT termination of discrete wire or ribbon cable and piercing crimp termination of FFC/FPCs
- Both systems are interchangeable

CLIK-Mate™

- Designed for applications that require higher pin count connectors to carry more signal lines in less space
- Unique tuning-fork terminal concept provides low-insertion force and secure mating contact
- Positive inner locking system for secure mating retention and audible "click" to confirm mating
- Reinforced metal solder tabs for secure PCB retention and provide solder joint strain relief

PanelMate™

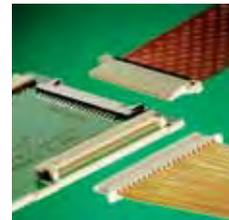
- 1.25mm (.049") pitch wire-to-board connector system
- Offers the lowest profile of any fully-shrouded wire-to-board system from Molex
- Features an SMT header with robust solder tabs for good PCB retention
- Friction lock at the housing for secure mating

Flexi-Mate™

- 3.70mm (.146") system provides a full range of co-planar board-to-board and wire-to-board solutions for the lighting industry
- Designed to easily and reliably connect LED panels across lighting fixtures in office and industry lighting applications

Picoflex®

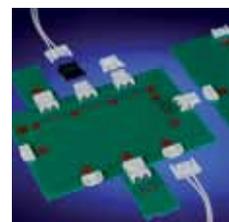
- 1.27mm (.050") power and signal connectors provide high-density ribbon cable solutions
- Possibility to daisy-chain multiple circuit
- Strong one-piece upper housing provides excellent cable retention and is ideal for small circuit size applications
- Highly reliable contact design features a four-point interface with the cable and two points of contact between the header and receptacle



PanelMate™



C-Grid® and SL™



Flexi-Mate™



Picoflex®

OUTDOOR >



LEDs provide an unparalleled way of illuminating urban environments in an exciting and practical manner. Small form factors allow luminaire makers to move away from traditional designs. The robustness and energy efficiency LED lighting increase the product life cycle and reduces maintenance work. Molex interconnect products help to meet the long lifetime requirements of your luminaires with high quality solutions that are designed to work in the harshest environments.



*Passive-Safety Pole Connector
The system safely disconnects power
on impact within 0.4 seconds*



Mini-Fit® H20™

- 4.20mm (.165") pitch system suitable for compact wire-to-wire applications up to 9.0A per circuit
- Sealed IP67-rated system with pre-installed seals for weatherproof connections
- UV stabilised molded material for direct sunlight applications
- Available as 2, 3 and 4 circuit versions
- Positive locking ensures secure connection and prevents accidental unmating

Multi-Drop Sealed Connector and Cable System

- Features UV protected housings, gel mats and rugged IP-66 and -67 interface seals
- Field-termination cable-pierce technology offers a flexible, modular assembly design for internal and external data/signal and power applications
- Lead-in chambers on the housings allow for blind mating

Passive-Safety Pole Connector

- Quick-disconnect power connector system with overmolded cables
- Emergency power quick-disconnect system prevents poles and cables from becoming live conductors at crash sites
- Low extraction forces and IP68 sealing properties to reduce installation, repair and temporary removal times of roadside lighting, electrified signage and other ruggedised lighting installations
- Meets EU legislation EN12767 for passive safety of road-side lighting and signage

Mizu-P25™

- Miniature sealed IP67 wire-to-wire connector system
- Provides superior levels of dustproof and waterproof protection along with space savings
- Includes two sub-families: the low-voltage system rated up to 125 volts and the high-voltage system rated up to 250 volts

MX150™

- 3.50mm (.138") single and dual row high-performance connector system supporting both signal and power applications o 22.0A
- Pre-assembled with silicone-based seals in the plug and receptacle housing for cost savings by eliminating the need to purchase, handle and crimp individual wire seals
- Fully-submersible through ring-seal technology to meet IP6K7 and IP6K9K sealing requirements
- Integral terminal position assurance (TPA) and optional connector position assurance (CPA) eliminate time-consuming and costly assembly operations

Brad® Micro-Change® M12 and Brad® Nano-Change® M8

- Brad® connectors and cordsets are a rugged and reliable IP67 / 68 / 69k rated solution suitable for outdoor use due to excellent resistance to UV, water and dust
- Ultra Lock® connection allows for simple and quick connects and disconnects and withstands shock, vibration and corrosion



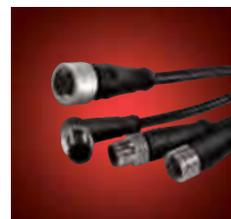
Mizu-P25™



MX150™



Multi-Drop Sealed Connector and Cable System

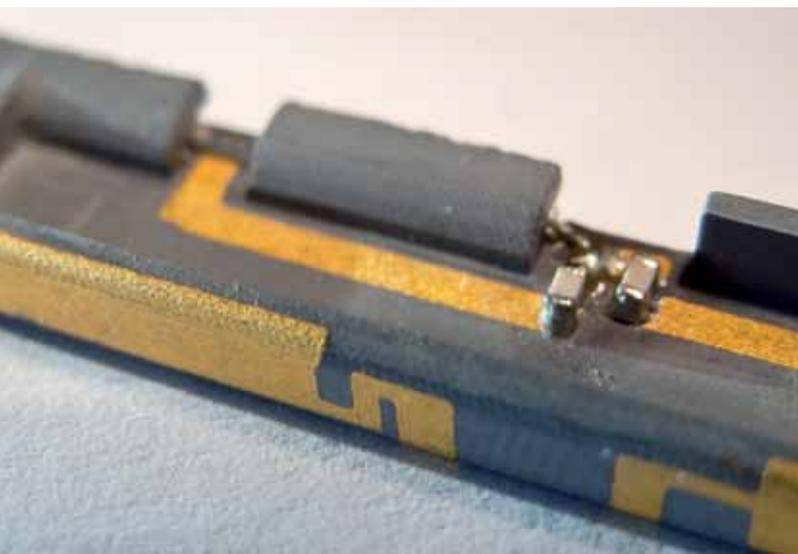


Brad® Micro-Change® M12 and Nano-Change® M8

ELECTRONIC CONTROL GEAR >



Molex has a long history in providing solutions for lighting control gear. Our large portfolio holds many standard interconnect solutions that are ideal for compact electronic designs. We also provide a range of customer specific products such as membrane and capacitive I/O interfaces, copper flex products, antennas and control panel interfaces. Whatever your interconnect product need is, Molex will likely have the solution.



*MobliquA™ Antenna Technology
Supports small-volume antenna
designs for an unlimited
range of wireless applications*



Micro-Fit 3.0™

- 3.00mm (.118") pitch high-density wire-to-wire and wire-to-board system with single and dual row versions
- Rated up to 5.0A for low- to mid-range power applications
- Fully isolated contacts on each side of the interface to eliminate potential arcing with four points of contact for redundancy
- Housings utilise positive-lock features to prevent accidental disconnects
- UL recognised, CSA approved and TUV licensed

Mini-Fit Jr.™

- 4.20 mm (.165") pitch single- and dual-row high-current wire-to-wire and wire-to-board system that can handle between 9.0A to 13.0A per circuit
- Ideal for applications that require design flexibility

MobliquA™ Antenna Technology and Standard Antennas

- Standard, modular and customised antenna solutions with superior bandwidth enhancing capability
- Support small-volume antenna designs without compromising efficiency for an unlimited range of wireless applications
- Design supports a variety of manufacturing technologies including Laser Direct Structuring (LDS) and flex foils

Membrane and Capacitive Switches

- Complete cost-effective, durable, lightweight and low-profile interface solution
- Integrated LED circuitry bonded to Molex flexible polyester circuitry with a graphic overlay or a Molex membrane switch offers unlimited design options
- Tactile and non-tactile membrane switches or solid-state circuitry to detect key touch available

Copper Flex Products

- Ideal for packaging problems in tight spaces, harsh environments or where the ability to bend or flex the substrate is impossible
- Allow assemblies with no separate boards, connectors and cables

Control Panel Assemblies

- Molex utilises membrane-switch expertise and user-interface technology to provide higher functioning control-panel interfaces for customers
- Single-solution control panels can include active components such as controllers, LCDs, seven-segment displays, drivers and other necessary electronics tested and functioning as a complete package



Micro-Fit 3.0™



Mini-Fit Jr.™



Membrane and Capacitive Switches



Copper Flex Products

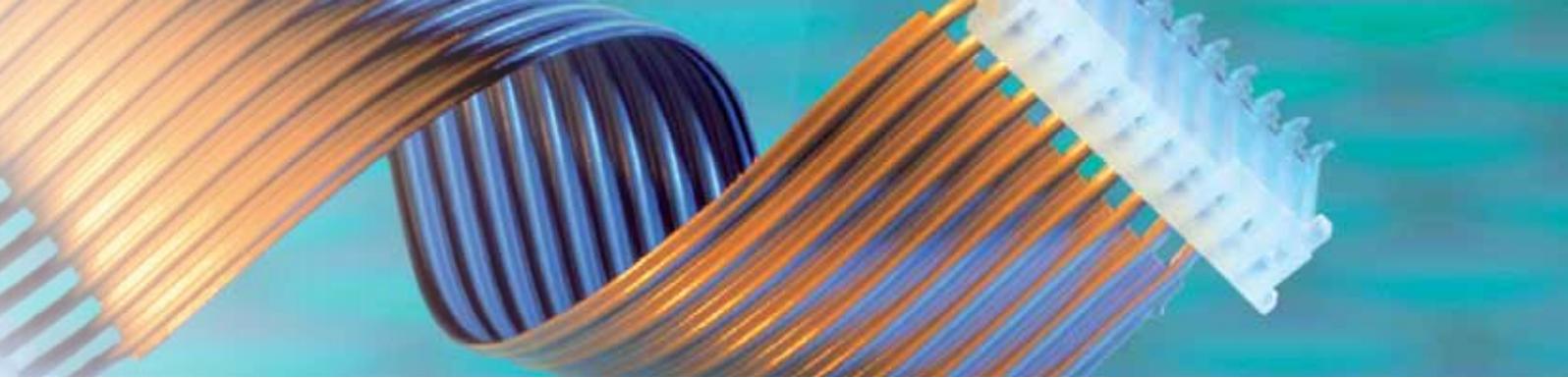
INTERCONNECT AND WIRING SOLUTIONS >



Molex provides unique and customer-specific cable harnesses and, with our manufacturing capabilities around the world, we can achieve quick turn around times. Molex can also help you with LED assemblies on flexible substrates. These unique capabilities help to reduce overall system cost and increase ease of assembly of a lighting system.



Fully integrated SSL solutions from Molex give you the confidence to get superior and seamless service around the world - from Design and Development to Prototyping and Production to Quality Control and Logistics.



LED Assemblies

- Support efficient custom-lighting solutions
- Polyimide and Polyester flexible substrates, along with PCB rigid can be used to control signals, drive power and function as heat sinks in some applications
- Reduce component BOM and improve the quality by providing a complete tested assembly

Rigid Flex Circuits and Assemblies

- Hybrid constructions consisting of rigid and flexible substrates laminated together into a single structure
- Can be built with three to 20 or more layers of conductors
- Reduced costs by simplifying the overall system, resulting in ease of assembly, tighter packaging and lighter application weight

Cable Assemblies

- Total interconnect solution to meet customer cost and performance needs
- Complete electrical and functional testing UL/CSA/ISO certified manufacturing locations
- Power and Signal Solutions
- I/O Solutions
- Industry Standard Solutions
- Flatflex and Ribbon Cable Solutions

Terminal Blocks and Barrier Strips

- Multiple configurations and styles available for broad range of wire-to-board and wire-to-wire configurations
- Support currents from 8.0 - 115.0A
- Circuit sizes from 1 - 48 and pitch sizes from 3.50mm (.138") to 17.46mm (.687")



Cable Assemblies



LED Assemblies



Terminal Block



Rigid Flex LED Assembly

ABOUT US >

Molex is a leading global supplier of innovative interconnect solutions. To meet the needs of customers all over the world, we have developed one of the industry's largest product portfolios, including over 100,000 connectors, interface solutions, cable assemblies, application tooling and more.

Innovation through intensive research

With some of the world's best and brightest engineers, as well as state-of-the-art product design centers, Molex has made a serious commitment to research and development. In fact, we're a leader in R+D investment and introduce hundreds of new products each year.

But Molex doesn't engage in innovation for its own sake. All of our products are designed to meet the demands of next-generation applications and are based on a deep understanding of industry trends. Because of such insights, Molex products are often selected as industry standards.

At Molex, we use the latest systems and technology, including advanced Computer Aided Engineering software and predictive engineering tools. In addition, our advanced laboratory facilities help ensure rapid prototyping and concept evaluation. It's all part of our focus on delivering tomorrow's technologies, today.



*Molex is a leader
in R+D investment*



A Strong Commitment to Sustainability

We believe the global environment is an important issue for everyone. That's why we not only adhere to all environmental regulations, but also insist on environmentally focused and safety-focused business practices.

All of our design and manufacturing facilities operate in ways that consider the efficient use of natural resources, and we continually strive to develop products that have minimal impact on the environment. In recent years, we have dramatically increased recycling efforts, reduced energy usage and emissions, and educated both employees and partner companies on our environmental, health and safety policies. We have also established a global Environmental Council to oversee these efforts.

Continuing to ask "What's Next?"

Molex has always been a company focused on innovation. Since we were founded in 1938, we have not only looked ahead to the future, but also helped to shape it. We have a reputation for setting standards and paving the way for new solutions - from the world's smallest interconnects to some of the highest density power connectors on the market. And we continue to break new ground every day.

ecocare™

www.molex.com/ecocare.html

www.molex.com/industry/solidstatelighting.html