

# Network Interface Connector Series Product Manual

# About Us

## Building Technology Cornerstone

Founded in 2005, TXGA has been dedicated to technological innovation, superior quality, and sustainable production for 20 years, providing customers with high-quality connector products and services.

TXGA has developed and implemented its proprietary IFDMS system to achieve comprehensive digital management across the company. While maintaining steady growth, we deeply integrate the concept of sustainable development into our strategy, achieving a balance between business value and social responsibility. By implementing a talent-driven strategy, we foster a diverse and inclusive corporate culture, laying a solid foundation for future development.

With a core focus on societal progress, human advancement, and environmental sustainability, TXGA builds the foundation of technology, connecting infinite possibilities!



## F2C Official Website (txga.com)



### Real-time Product Information

The TXGA official website provides real-time updates on product pricing, stock availability, and shipping schedules, enabling customers to stay informed and place orders with a single click.



### Technical Documentation Downloads

TXGA offers an unrestricted product documentation library, allowing users to access and download essential resources such as 3D models, drawings, product specifications, user manuals, and test reports—ensuring efficient product selection.



### Video Resources

By visiting the “T+ Vision” section of the TXGA website, users can watch product videos to gain in-depth insights into product features, functions, and application scenarios, optimizing their procurement experience.

For more information please visit: [txga.com](http://txga.com)

Looking Forward to Collaborating with You

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# Single Pair Ethernet (SPE) Connectors

## ◆ Reduced Interference:

Utilizes single-pair twisted-pair double-layer shielded cable for effective signal interference suppression.

## ◆ High-Speed Transmission:

40m distance at 1 Gbit/s; 1000m distance at 10 Mbps.



## ◆ Compact Size:

Only 20% the size of a standard RJ45 connector.

Compliant with the IEC 63171-2 (IP20), it occupies only 20% of the space of a standard RJ45 connector. The cable features dual shielding for effective signal interference suppression. With a rated current of 4A and a rated voltage of 72V, it is available in 90° and 180° board-mount sockets as well as cable plug versions. It supports transmission distances of up to 40 meters at 1 Gbit/s, and up to 1000 meters at 10 Mbps.

**Application Industries:** Industrial Sensors, Actuators, Industrial IoT (IIoT), Robotics, Smart Buildings, Rail Transit, Surveillance Cameras, Communication Systems



# Mini I/O Connectors

## ◆ Enhanced Design:

Features a non-slip push-pull latching mechanism for smoother and easier unlocking.

## ◆ High-Speed Transmission:

Supports Ethernet speeds from 10 Mbps up to 1 Gbps.

## ◆ Space-Saving:

Occupies 75% less installation space compared to standard RJ45 connectors.

Featuring a structural upgrade with an innovative design that breaks through the traditional push-pull latch mechanism, enabling more convenient unlocking. Adhering to the IEC 61076-3-122 standard, the connector features a compact design that occupies merely 25% of the space of a standard RJ45. It utilizes a dual-beam contact spring structure with a precise 1.27 mm contact pitch. The plug is designed with a shielding layer to protect against EMI/RFI interference. Supports transmission bandwidth from 100 Mbps (Cat5e) to 1000 Mbps (Cat6A), and is available in both D-type and U-type interface options.

**Application Industries:** AGV, DAS, collaborative robots, medical equipment, new energy, industrial IoT, motion and drive systems



# ► M12 Circular Connectors (X-Code & Y-Code)

◆ **X-code:**  
Supports high-speed data transmission up to 10 Gbps, compliant with Ethernet CAT6A standards.

◆ **Y-code:**  
Designed for 100 Mbps data transmission, suitable for hybrid Ethernet applications in accordance with CAT5 standards.

Effectively shielded against EMI/RFI interference to ensure reliable and stable data transmission.

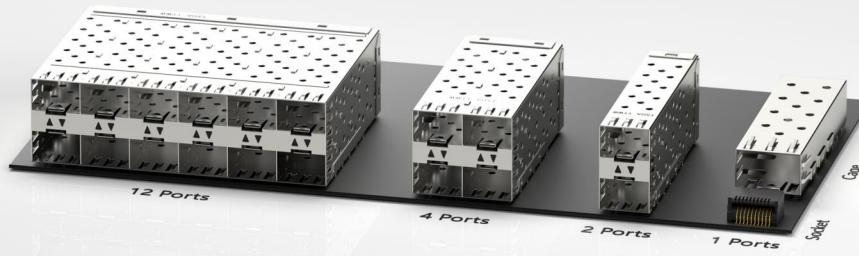


**Application Industries:** Sensors, Actuators, Medical Devices, Rail Transit, Robotics, Servo Drives, Industrial Ethernet Switches

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## ► Fiber Optic Transceiver Module



Compliant with MSA INF-8074i standards, this connector features EMI shielding. Its electrical ratings are 0.5A and 30V, with data transmission speeds of up to 5Gbps. The design ensures durability exceeding 100 mating cycles, making it ideal for high-frequency scenarios.

**Application Industries:** Fiber Channel, wireless broadband, Ethernet, Gigabit Ethernet communication technologies

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## ► RJ45 Network Connectors



Compliant with IEEE 802.3 Ethernet standards, these RJ45 connectors support data rates of up to 10 Gbps and are compatible with CAT5e, CAT6, and CAT7 cable types. Both shielded and unshielded options are available to mitigate EMI/RFI interference. A built-in power conditioning module ensures stable voltage output. The product is available in single-port, dual-port, four-port, and eight-port configurations, with top-entry, side-entry, and recessed PCB-mounting options.

**Application Industries:** Network Switches, Servers, IoT Devices, Medical Equipment, Communication Equipment, Sensors

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# **Circular Connector Series Product Manual**

## M5 Circular Connectors



Compliant with IEC 61076-2-105 standards, the M5 circular connectors are available in straight and right-angle cable-mount options. With an external thread diameter of only 5mm, they are ideal for compact device installations. Featuring an IP68 protection rating, they are available in 2, 3, and 4 positions.

**Application Industries:** Sensors, Industrial Automation, Medical Equipment, Communication Devices, Measurement Equipment

    
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## M8 Circular Connectors



Compliant with IEC 61076-2-104 standards, the M8 circular connectors offer IP65/IP68 protection. Available in shielded and unshielded versions, the shielded models effectively reduce EMI and RFI interference, ensuring stable and reliable signal transmission. With a rated current of 1.5A to 4A and a rated voltage of 30V to 63V, these connectors come in A, B, and D coding options and support through-hole soldering and wire soldering installation methods.

**Application Industries:** Sensors, Actuators, Measurement Equipment, Power Equipment, Traffic Signal Systems

    
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## M12 Circular Connectors



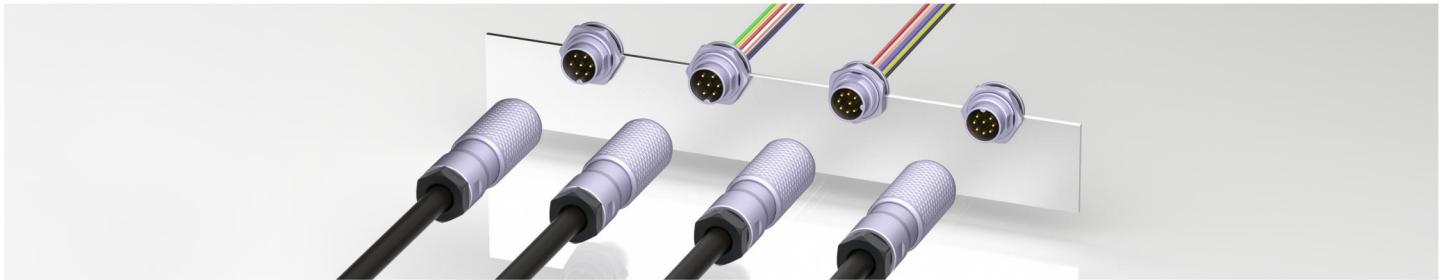
The M12 circular connector series features an IP67/IP68 protection rating and provides shielding against EMI and RFI interference. Rated for 0.5A to 6A current and 30V to 250V voltage, these connectors are available in A, B, D, X, and Y coding options. Multiple wiring methods are supported, including through-hole soldering, screw termination, and wire soldering.

**Application Industries:** Sensors, Actuators, Industrial Ethernet & Fieldbus Systems

    
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## ► M16 Circular Connectors



Compliant with IEC 61076-2-106 standards, the M16 circular connectors are available in 7 and 8 positions, with a rated current of 5A to 7A depending on the pin count. Featuring multi-layer waterproof sealing rings, these connectors achieve an IP68 protection rating and pass 1,000-hour salt spray testing, ensuring excellent durability in harsh environments.

**Application Industries:** Industrial Control, Sensor & Actuator Technology, Automation Instruments, Communication Equipment, Test & Measurement Systems, Rail Transit, Energy & Power Engineering



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## ► 7/8" Connectors



The 7/8" connectors utilize a threaded locking mechanism. The plug features an integrated anti-vibration gasket, which effectively prevents loosening and ensures a secure connection. The cables are constructed with STOOW American-standard power cords, which are resistant to acids, alkalis, UV exposure, oil, and mildew. These connectors are available in 3, 4, and 5 positions.

**Application Industries:** Industrial Automation, Energy & Power Engineering, Construction Machinery



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## ► APF Circular Connector



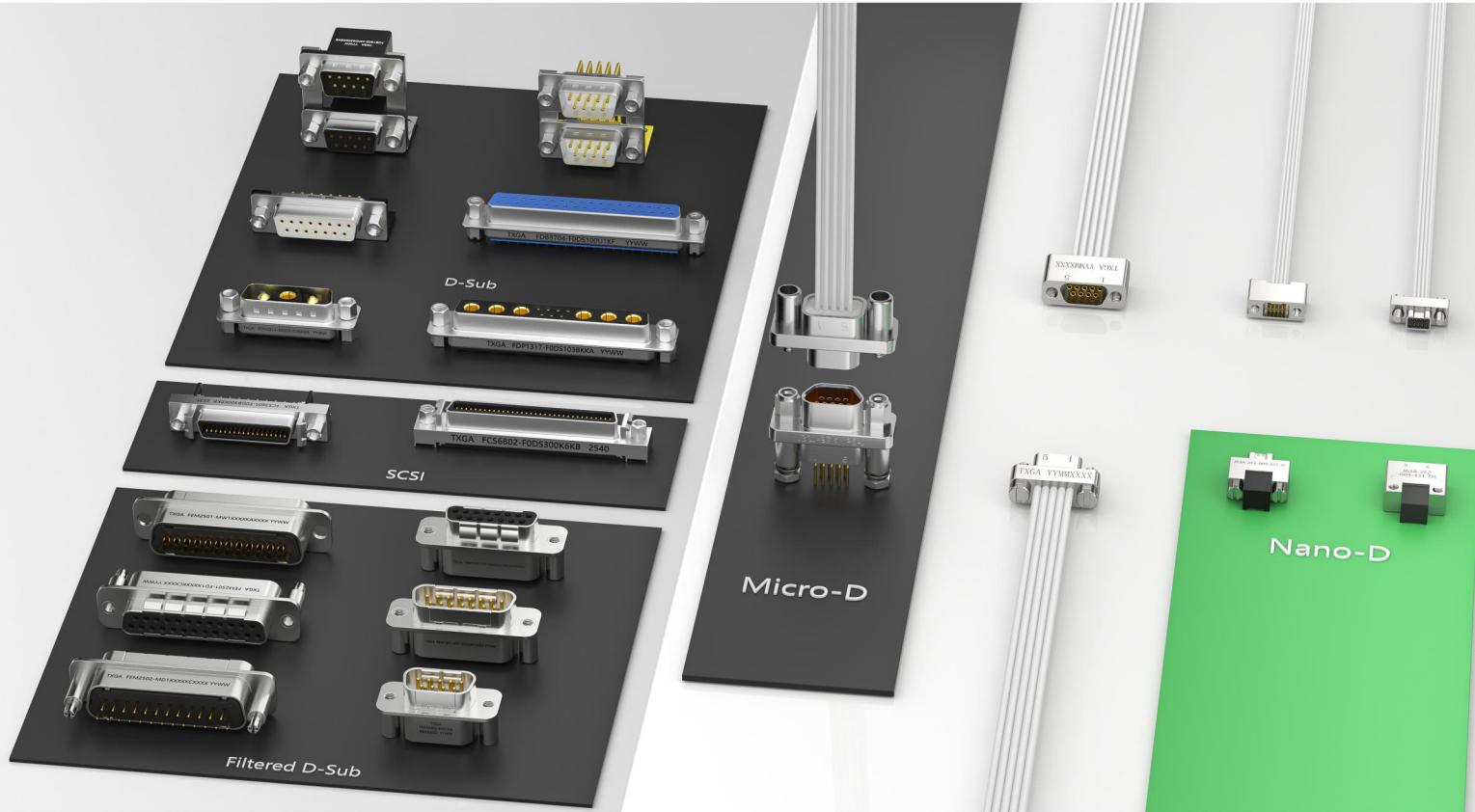
The APF Circular Connector's quick-coupling mechanism reduces installation time by 50% over threaded connectors, while its self-locking design guarantees secure blind connections. Offered in 4 to 12-pin variants (shielded/unshielded), all versions feature IP67 protection.

**Application Industries:** Communication equipment, medical devices, portable wireless equipment, industrial measurement instruments, and industrial sensors



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# D-Sub Connector Series Product Manual

# Filtered D-Sub Connector & EMI Filter Plate

## Filtered D-Sub Connector

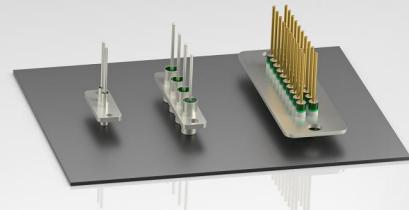
### ◆ EMI Suppression:

Integrated electronic components provide effective immunity against Electromagnetic Interference (EMI).



### ◆ Hybrid Transmission:

Supports simultaneous transmission of both power and signals within a mixed assembly.



## EMI Filter Plate

### ◆ EMI Suppression:

Isolates electronic components to minimize electromagnetic interference (EMI).

**Filtered D-Sub Connector:** Adopting an optimized Pi-filter design, it can achieve a 70dB attenuation effect at a frequency of 1GHz, effectively shielding EMI interference and protecting signal integrity. With a contact pitch of 2.77mm, it offers numerous customization options for contact counts — (9, 15, 25, 37, 50, etc.) — to meet diverse customer needs. Additionally, it supports the mixed transmission of analog and digital signals, and can integrate a hybrid structure for simultaneous power and signal transmission.

**EMI Filter Plate:** These plates provide isolation for electronic components and filter signals between system modules, effectively reducing Electromagnetic Interference (EMI) and preventing component damage. They are available in 90° and 180° mounting orientations. Supporting high-density designs of up to 50 positions, they save space and simplify installation costs.

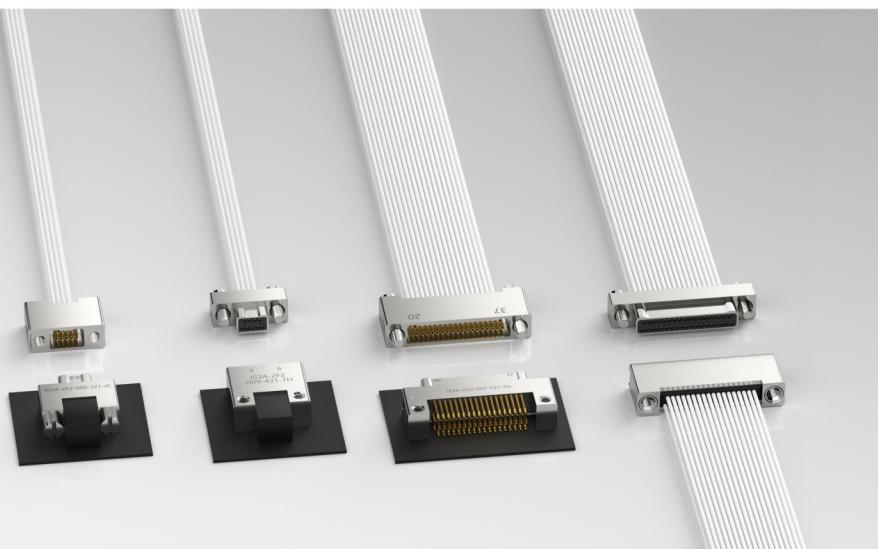
**Application Industries:** Industrial automation, communication equipment, medical devices, motor drive systems



# Nano-D Connectors

### ◆ More Compact:

Utilizes twisted-pair elastic pins with contact pitch reduced to 0.635mm.



### ◆ Miniaturized Size:

Occupies only 50% space of micro-D connectors, saving installation space.

### ◆ Secure Connection:

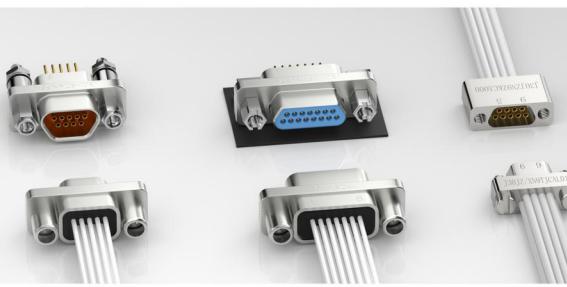
Screw-thread mating method ensures robust and reliable connections.

At only 50% the size of a Micro D-Sub connector, Nano-D Connectors are designed for high-density, compact applications. They feature an ultra-fine 0.635mm contact pitch and utilize twisted-wire elastic pins for superior contact reliability. Screw-lock coupling ensures a secure and stable connection. Rated current 1A. Contact resistance  $\leq 21\text{m}\Omega$  Max. Insulation resistance  $> 5000\text{M}\Omega$  Min.

**Application Industries:** Test & Measurement Equipment, Automation Systems, Medical Instruments



# Micro D-Sub Connectors

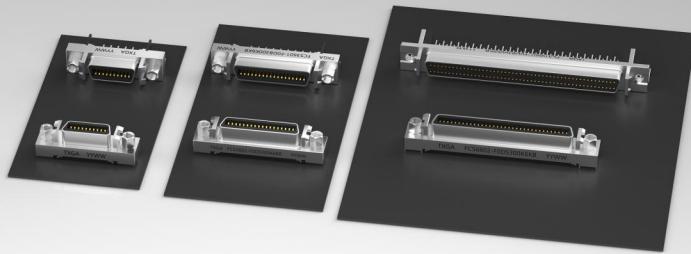


At approximately 50% the size of a standard D-Sub connector, offering a compact yet reliable solution. They feature a 1.27mm contact pitch and are available in 9, 15, 25, and 37 positions. Equipped with screw-lock mechanisms for stable connections. Twisted-wire pin design ensures stable electrical contact. Rated current 1A to 3A. Rated voltage 300V to 500V.

**Application Industries:** Navigation Systems, Radar Systems, Medical Equipment, Robotics, Unmanned Aerial Vehicles (UAVs)



# SCSI Connectors



SCSI (Small Computer System Interface) connectors support simultaneous operation of multiple peripherals with a data transfer rate of up to 10MB/s. The hot-swappable design allows for easy device replacement. They feature a maximum current rating of 1.00A per contact and a maximum voltage of 250V, with a compact contact pitch of only 1.27mm. They are available in 14, 20, 26, 36, 40, 50, 68, and 100 positions.

**Application Industries:** Servers, Data Centers, Smart Devices, Medical Equipment



# D-Sub Connectors



Designed for mixed high-frequency and low-frequency signals, high-current, and high-density device interconnection, D-Sub connectors offer robust and reliable connectivity. Available with push-lock and screw-lock mechanisms for secure mating. Configurations include single-row, dual-row, triple-row, and quad-row options, supporting 1 to 78 positions. Multiple mounting options, through-hole soldering, IDC, crimping, and soldered wire termination.

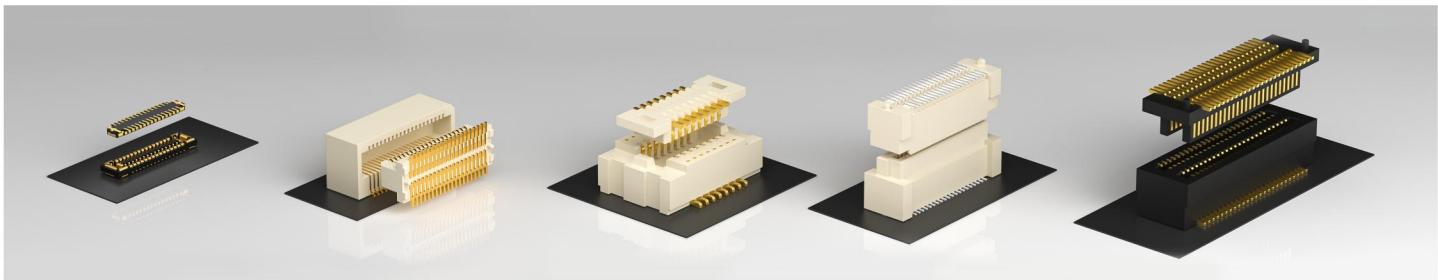
**Application Industries:** Industrial Automation, Rail Transit, Communication Equipment, Medical Devices, Internet of Things (IoT), Automotive Industry





# Rectangular Connector Series Product Manual

# Board to Board Connectors

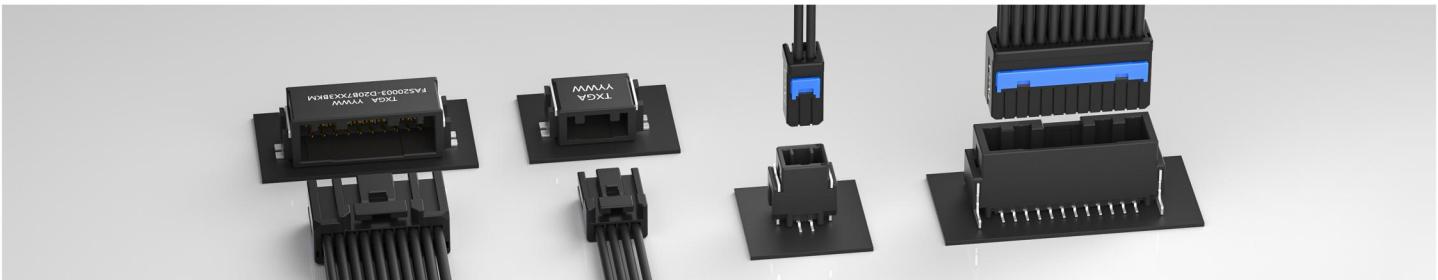


Available with pitch options ranging from 0.3mm to 2.54mm and pin counts from 6 to 500 positions. These connectors support current ratings from 0.3A to 5A and voltage ratings from 30V to 240V. Transmission speeds are offered at 15Gbps, 28Gbps, and 56Gbps, ensuring efficient data transfer between PCB boards.

**Application Industries:** Industrial Automation, Medical Equipment, Energy & Power Engineering, Smart Buildings, Smart Homes, Communication Equipment, Rail Transit



# EWB Connectors



Available in various positions and arrangements, with 2 to 24 positions in single-row or dual-row configurations. Rated current 3A, rated voltage 50V. Featuring a compact 2.0mm pitch, they are ideal for high-density wiring applications. The male contacts feature a spring structure that effectively absorbs external vibrations, ensuring stable connections.

**Application Industries:** Automotive power systems, body electronics, sensor connections, V2X communication, industrial automation robotics



# Memory Module Sockets

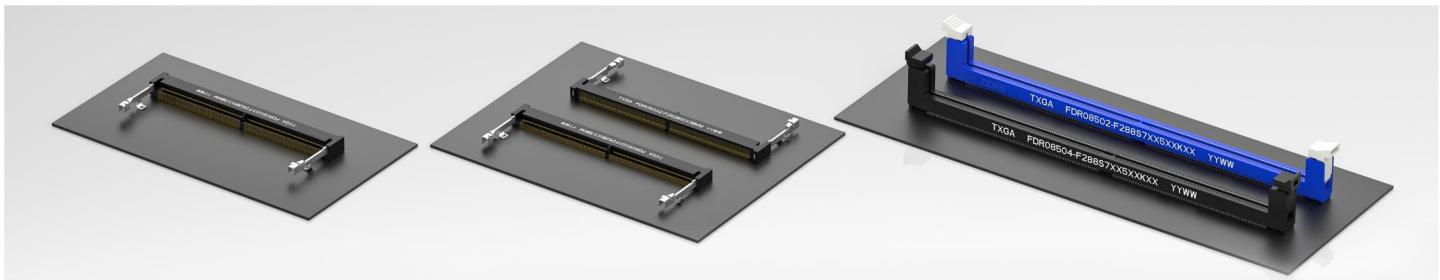


M.2 Connectors 0.5mm pitch, available in heights ranging from 3.2mm to 8.5mm. PCIe Connectors 1mm pitch, with transmission speeds up to 32GT/s. Mini PCIe Connectors Data transfer rates up to 4Gbps. SAS Connectors Compliant with SAS 4.0, supporting transmission speeds up to 24Gbps. To meet various application requirements.

**Application Industries:** Solid-State Drives (SSD), Servers, Switches, Artificial Intelligence, Industrial Measurement Equipment



## DDR Slots



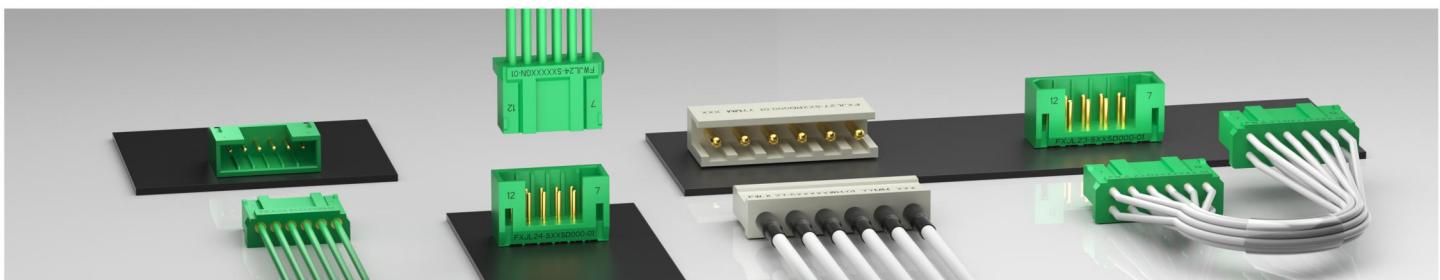
SODIMM slots feature a 0.5 mm pitch, a height of 4/5.2 mm, and 262 pins, supporting transfer rates up to 6400 MT/s. DIMM slots feature a 0.85 mm pitch, 288 pins, and are available with short, medium, or long latch options, supporting transfer rates from 3200 MT/s to 6400 MT/s.

**Application Industries:** Consumer electronics, industrial PCs, servers, storage devices, data centers

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## PCB Connectors



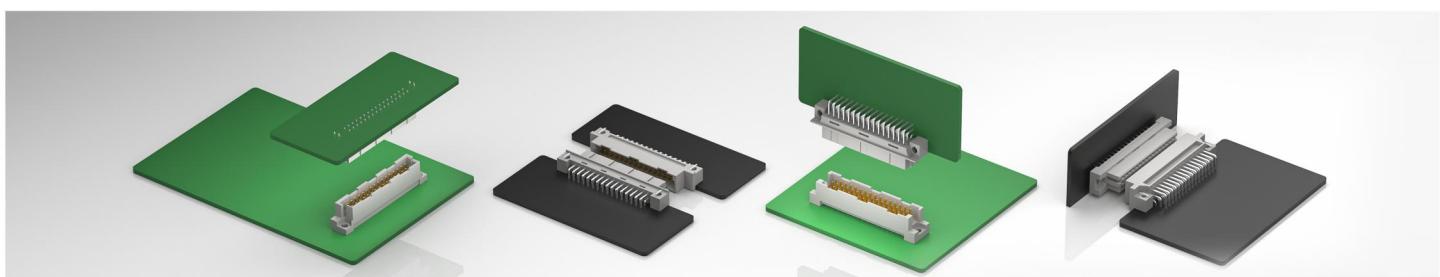
Models JL23, JL24, and JL35 pass a 96-hour salt spray test. They feature gold-plated dual-curved spring socket contacts for stable mating. Single-row options 2 to 16 pins. Dual-row options 6 to 30 pins.

**Application Industries:** Communication Equipment, Automotive Electronics, Industrial Automation, Medical Devices, Rail Transit

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## DIN 41612 Connectors

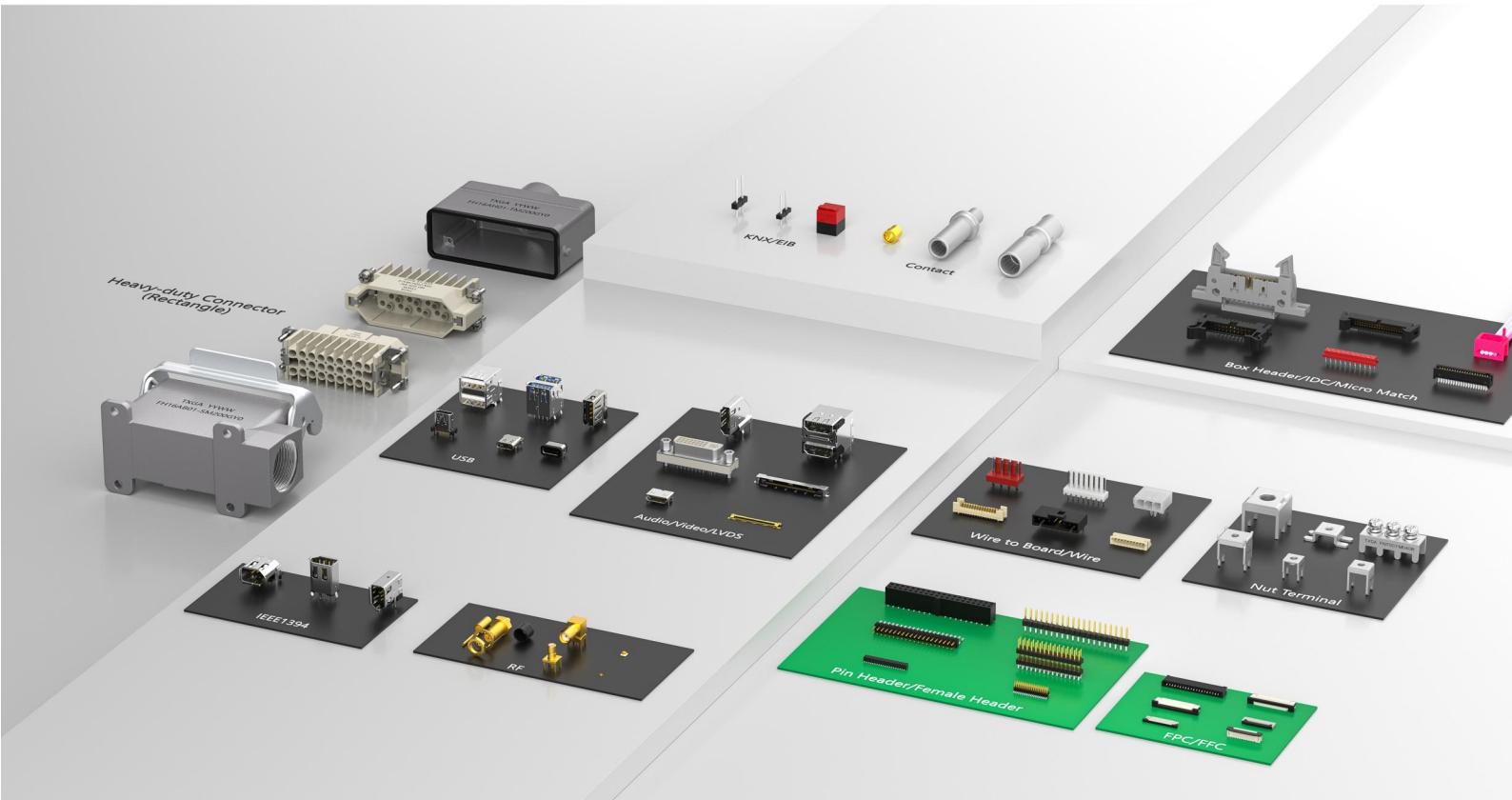


Compliant with IEC 60603-2 standards, DIN 41612 connectors feature a 2.54mm contact pitch. Dual-row terminals Available in 16, 20, 32, 48, and 64 positions. Triple-row terminals Available in 16, 24, 30, 32, and 96 positions. The connector body is designed with reinforced rib structures, ensuring high structural stability and reliability.

**Application Industries:** Communication Equipment, Industrial Control, Rail Transit, Data Centers, Power Engineering, Base Stations

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# RF/Signal/Power Connector Series Product Manual

# RF Connectors



Frequency range up to 3-11GHz. Shielded design minimizes interference. PTFE dielectric provides corrosion/aging resistance. VSWR  $\leq 1.5$ , voltage 30V-1500V, supports  $50\Omega/75\Omega$  impedance.

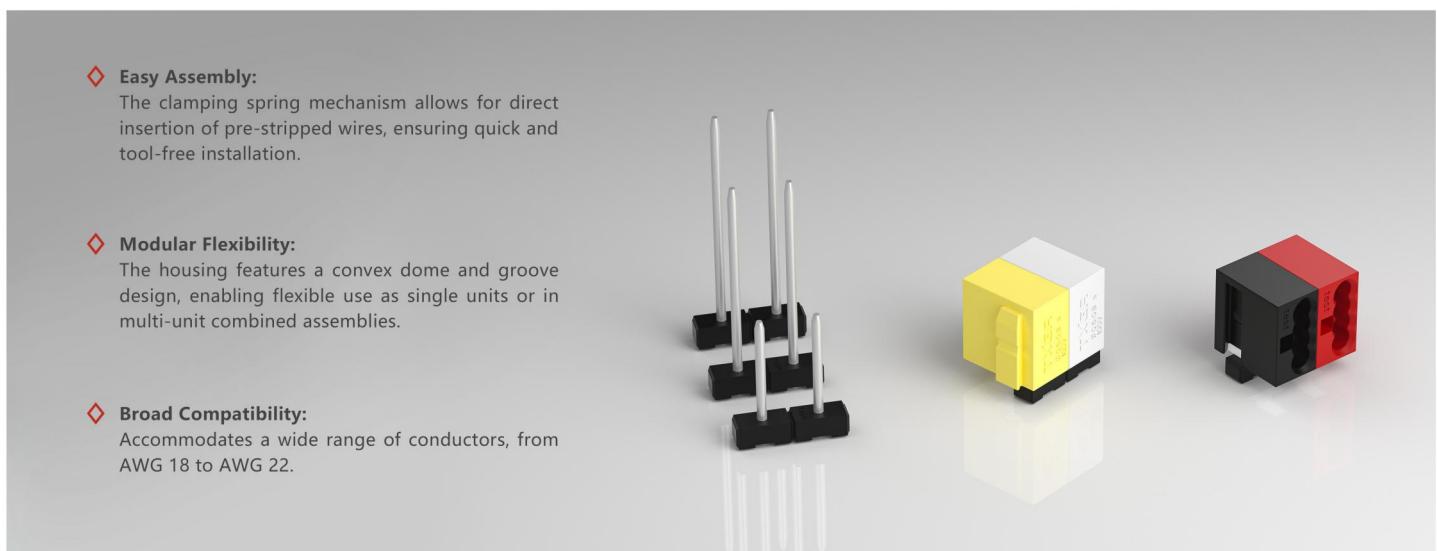
**Application Industries:** Wireless Communication, Medical Equipment, Unmanned Aerial Vehicles (UAVs), Portable Devices, Sensors, Test & Measurement Equipment, Automotive Electronics

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UL



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# KNX Terminal Blocks



#### ◆ Easy Assembly:

The clamping spring mechanism allows for direct insertion of pre-stripped wires, ensuring quick and tool-free installation.

#### ◆ Modular Flexibility:

The housing features a convex dome and groove design, enabling flexible use as single units or in multi-unit combined assemblies.

#### ◆ Broad Compatibility:

Accommodates a wide range of conductors, from AWG 18 to AWG 22.

KNX terminal blocks comply with the EN/IEC 60998-2-2 standard and feature a spring clamp structure for tool-free wire insertion. AWG22 wire (0.34mm<sup>2</sup> cross-section) Current rating 7A, Voltage rating 150V. AWG18 wire (0.75mm<sup>2</sup> cross-section) Current rating 9A, Voltage rating 130V. Available pin lengths 9.6mm, 16.6mm, 23mm, 25.1mm.

**Application Industries:** Smart Buildings, Smart Homes, Internet of Things (IoT)

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# Heavy-duty Connector



Protection level is IP65, supporting over 500 mating cycles. With a voltage rating of up to 690V and current rating of up to 63A, it ensures excellent electrical contact and low-resistance transmission, supporting high-density circuit connections. Available in 2, 3, 4, 5, 8, 12, 24, 25 and other contact configurations.

**Application Industries:** Industrial heavy machinery, Energy & Power, Rail Transit, Industrial robot joint drives, Sensors



# Nut Terminals



Available in M3, M4, M5, M8 screw sizes with through-hole or surface-mount options. 90°/180° mounting orientations. Current rating 40A-120A. Stainless steel washers provide corrosion resistance and compatibility with square/round head screws.

**Application Industries:** Industrial automation, power plants, network communications, transportation, industrial equipment, medical devices



# Wire Spring Terminals



Dual-curved spring design creates multi-point contact for reliable connectivity. Smooth mating cycle suitable for high-frequency applications. 60A current rating, 0.5mΩ contact resistance enables high-precision signal transmission.

**Application Industries:** Medical devices, electronic communications, smart equipment, automotive electronics



# Crown Spring Terminals

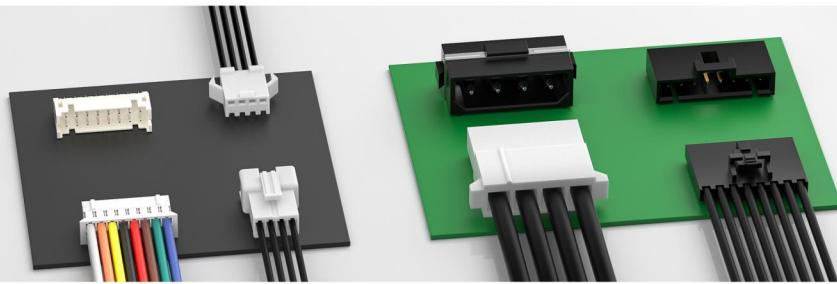


Gold/silver plating with customizable thickness. 4A-200A current rating supports hot-plugging. Internal spring mechanism ensures multi-point contact and low resistance.

**Application Industries:** Industrial automation, new energy, communication equipment, railway transportation



## Wire-to-Board / Wire-to-Wire Connectors

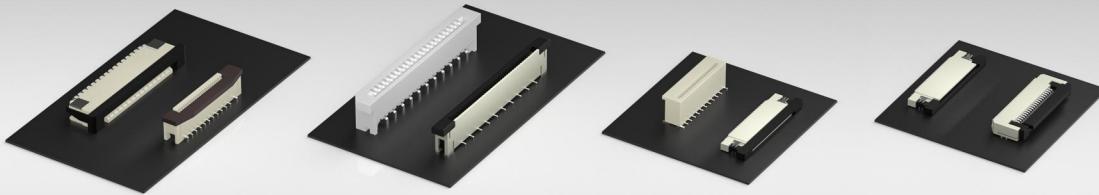


Single-row terminals Support 1 to 30 positions, with a pitch range of 0.8mm to 2.54mm. Double-row terminals Support 2 to 50 positions, with a pitch range of 1mm to 6.35mm. Triple-row terminals Support 9 to 15 positions, with a pitch range of 4.5mm to 6.35mm. Equipped with snap-lock mechanisms for enhanced mating stability.

**Application Industries:** Drones, Medical Equipment, Communication Equipment, Automotive Devices, Smart Buildings



## FPC/FFC Connectors

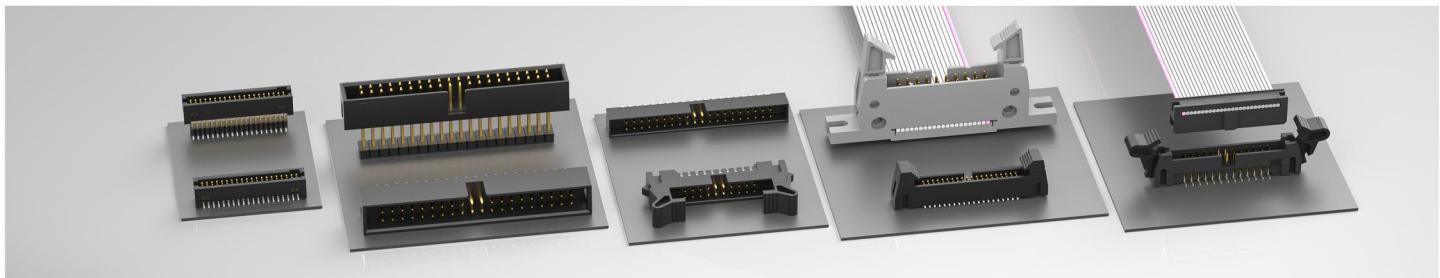


Available in pitch options of 0.3mm, 0.5mm, 1mm, and 1.25mm with 4 to 68 positions. Current rating 0.2A to 1A, voltage rating 25V to 50V. They feature four locking mechanisms (back-flip, front-flip, slide-lock, and non-locking) that significantly improve FPC installation reliability and usability.

**Application Industries:** Medical Equipment, Industrial Sensors, Controllers, Automotive Electronics, Displays



## Box Headers / IDC Connectors



Latching box header connectors feature an ear-lock structure for secure connections. Standard box header connectors eliminate side latches for easy insertion and removal. Current rating 1A to 4A. Pitch options 1.27mm, 2mm, and 2.54mm, available in 6 to 100 positions.

**Application Industries:** Communication Equipment, Industrial Automation, Computers, Medical Equipment, Rail Transit



## Micro Match

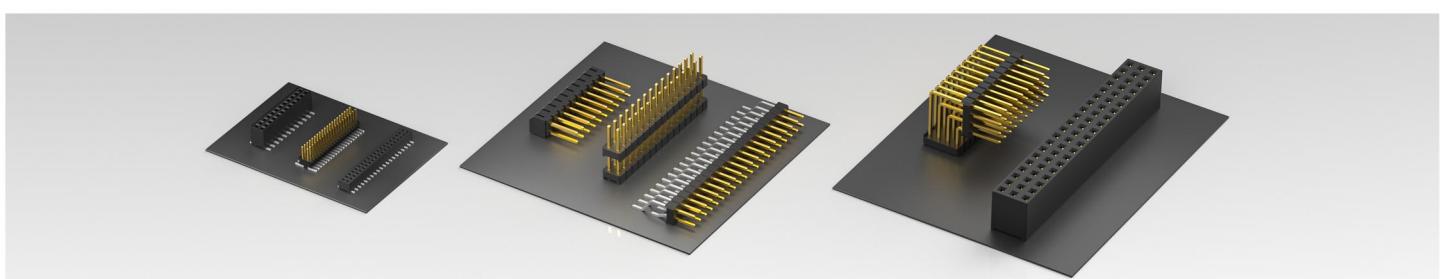


Terminals adopt an elastic structure to absorb environmental vibrations, reducing friction between contacts and pins. Pitch 1.27mm, available in 4, 6, 8, 10, 12, 14, 16, 18, and 20 positions. Flame retardancy UL94 V-0. Available in through-hole soldering, IDC, and surface-mount installation options.

**Application Industries:** Automotive Devices, Building Control Systems, Alarm Systems, Robotics, Automation Control



## Pin Headers & Female Headers



Available in 1 to 160 positions, with pitch options ranging from 0.8mm to 5.08mm. Configurable in single-row, double-row, triple-row, and four-row layouts. Current rating 1A to 5A. Flame retardancy UL94 V-0. Operating temperature range -40°C to +125°C.

**Application Industries:** Industrial Sensors, Controllers, Automotive Devices, Medical Equipment, Smart Homes



# USB Connectors

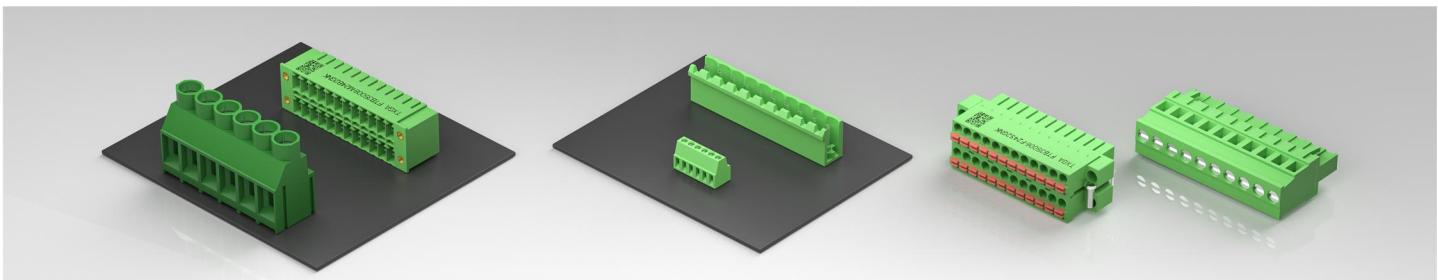


USB connectors enable peripheral expansion without occupying computer parallel/serial ports. Available in multiple versions supporting different speeds and form factors. USB 3.0 is backward compatible with USB 2.0/1.1. Waterproof versions are rated IP66/IP67/IP68.

**Application Industries:** Smart Terminals, Medical Devices, Industrial Automation Equipment, Data Centers, Robotic Control Systems



# Terminal Blocks

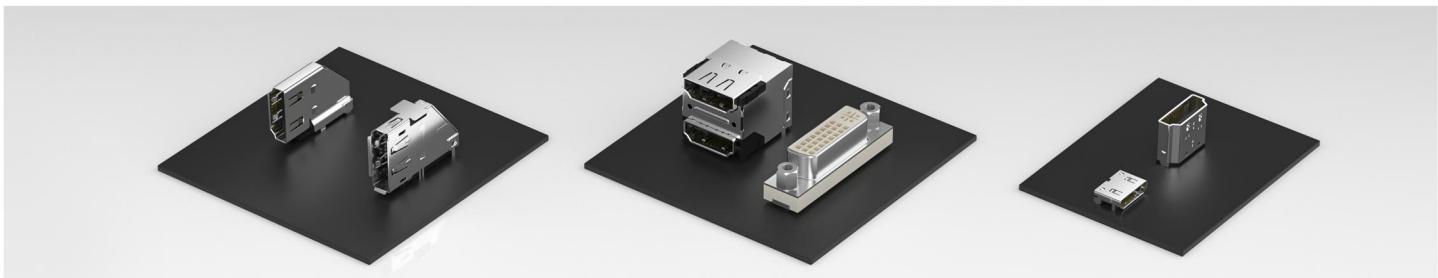


Terminal blocks are available in multiple pitch options ranging from 2.54mm to 7.62mm, with 2 to 24 pins. Maximum current capacity 30A. UL94 V-0 flame-retardant materials. Supports wire gauges from 24AWG to 10AWG. Operating temperature -40°C to +105°C, ensuring safe performance under extreme conditions.

**Application Industries:** Communication Equipment, Automotive Devices, Smart Home Systems, Industrial Automation, Energy & Power Engineering



# HDMI Connectors



Available in Type A, Type C, and Type D, HDMI connectors support multiple high-speed transmission versions. Maximum current rating 1.5A. Maximum voltage rating 40V. Flame-retardant material UL94 V-0. Operating temperature -40°C to +105°C. Mounting options Mid-mount soldering, through-hole soldering, and surface-mount. Supported versions HDMI 1.4, HDMI 2.0, HDMI 2.1.

**Application Industries:** Smart Home Devices, Audio Equipment, In-Vehicle Systems, Servers, Industrial Automation Equipment, Medical Equipment



# LVDS Connectors



LVDS (Low Voltage Differential Signaling) connectors are designed for high-speed data transmission while saving PCB space. Pitch 0.5mm. Available positions 30pins, 40pins, and 51pins. Current rating 0.5A. Voltage rating 50V to 100V. Mounting options Surface-mount and wire-soldered versions. Ultra-low profile 3.75mm height.

**Application Industries:** Medical Equipment, Displays, Automotive Electronics, Industrial Control Systems



# IEEE 1394 Connectors

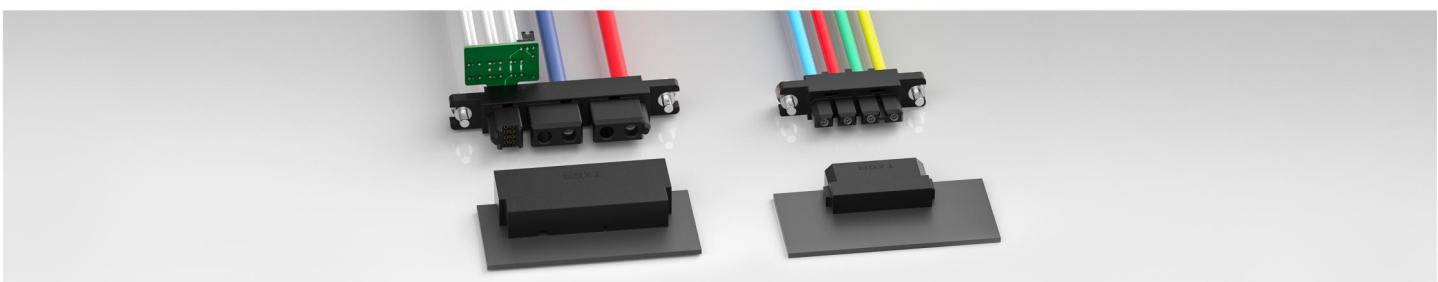


Featuring a six-wire design supporting 400Mbps data transfer and power delivery. 6 positions, 1A-1.5A current rating, 30V-40V voltage rating. UL94 V-0 flame retardant. Hot-plug capable.

**Application Industries:** Oscilloscopes, Logic Analyzers, Industrial Automation, Data Centers, Communication Networks



# Charging Pile Module Power Connector



Featuring a crown spring terminal structure that provides larger contact area and lower contact resistance. Designed with anti-misinsertion guides and support for hot-plugging operations. The housing is heat-resistant and flame-retardant, capable of operating in extreme temperatures from -55°C to +125°C. Compatible with both DC and AC systems, with output power options of 20KW and 30KW. The 20KW version offers 1, 4, and 12 positions, while the 30KW version provides 1, 4, and 14 positions.

**Application Industries:** New Energy Vehicle Charging Piles, Power Engineering, Industrial Automation, Rail Transit

