

# Power Connector Systems

Technology Innovation Service

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# PwrBlade® Power Distribution Connector System



- Rugged blind mate connector system available in both right angle and vertical headers and receptacles

- Wide variety of configurations for custom design 1-20 power contacts, 0-148 signal contacts in any length housing up to 8 inches

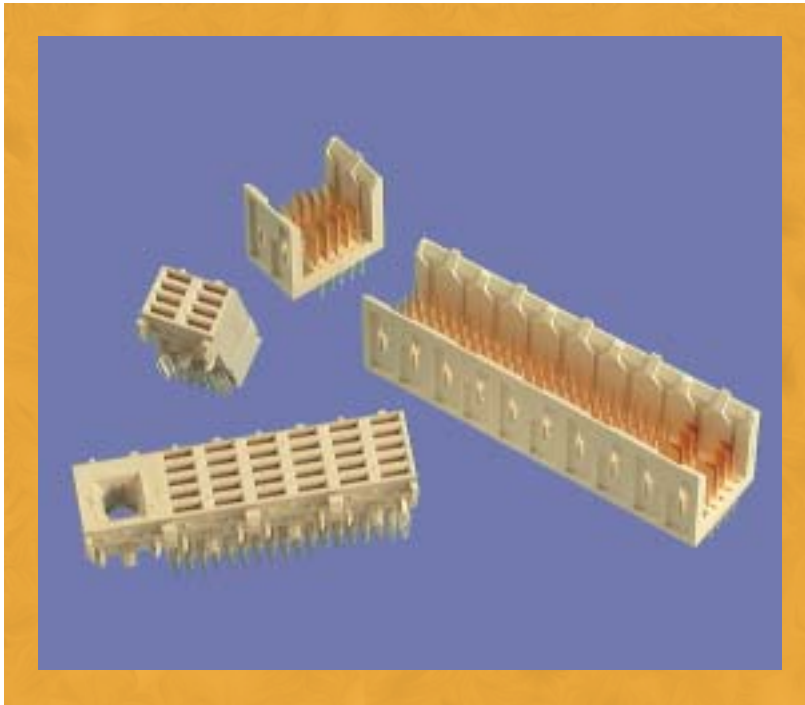
Also available:

- AC Cable Port receptacles available in right angle and vertical
- 6 Position Floating Panel Mt Cable connector for Power only (please note this is available in 6 position only)
- FMLB (First Make Last Break) contacts allow up to 3 levels of power and signal sequencing-2 levels for power contacts and 2 levels for signal contacts
- Robust .100in (2.54mm) centerline pitch for signal contacts and .200in, .250in, .300in centerline for power contacts
- Available in Solder or Press Fit
- Modular product design and manufacturing process allows product flexibility
- Pluggable power supply interface
- Stamped and selectively plated power contacts provide a low cost solution
- Foundation for the SSI (Server System Infrastructure) Specification
- Flexible to satisfy the requirements of other emerging standards

## Applications

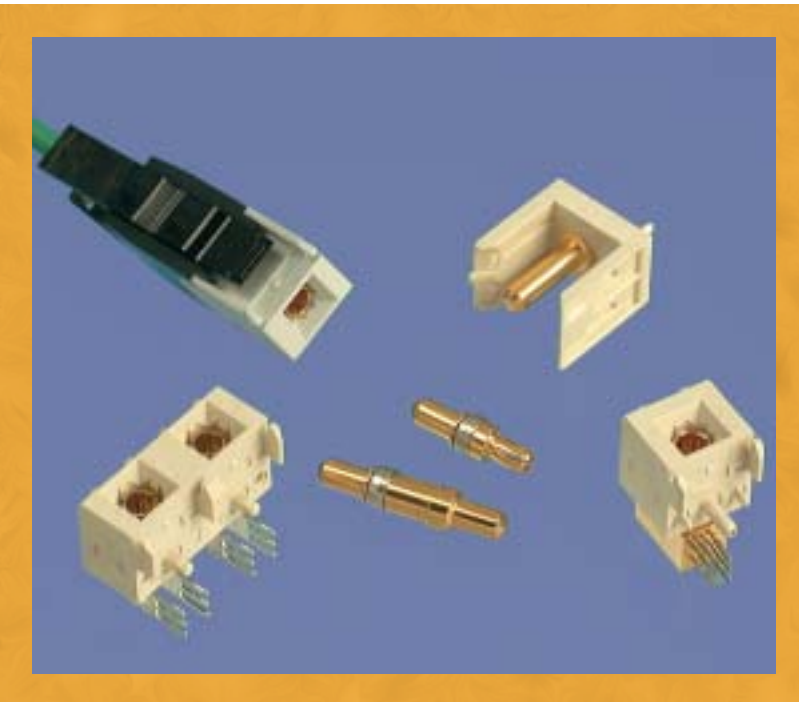
SSI Server Power Supply  
Fault-tolerant Computers  
Hot-swap redundant N+1 power distribution system  
Distributed Power

## Metral® 3A Power Blades



- Provide 8 (4x2) or 10 (5x2) contacts per 12mm module
- Up to 3 amps per contact
- Stackable with Metral® signal, High-speed Metral®, coax and accessories
- Versions for R/A, coplanar and parallel board-to-board applications
- Contacts available in solder-to-board and press-fit
- Various mating lengths available for sequenced mating

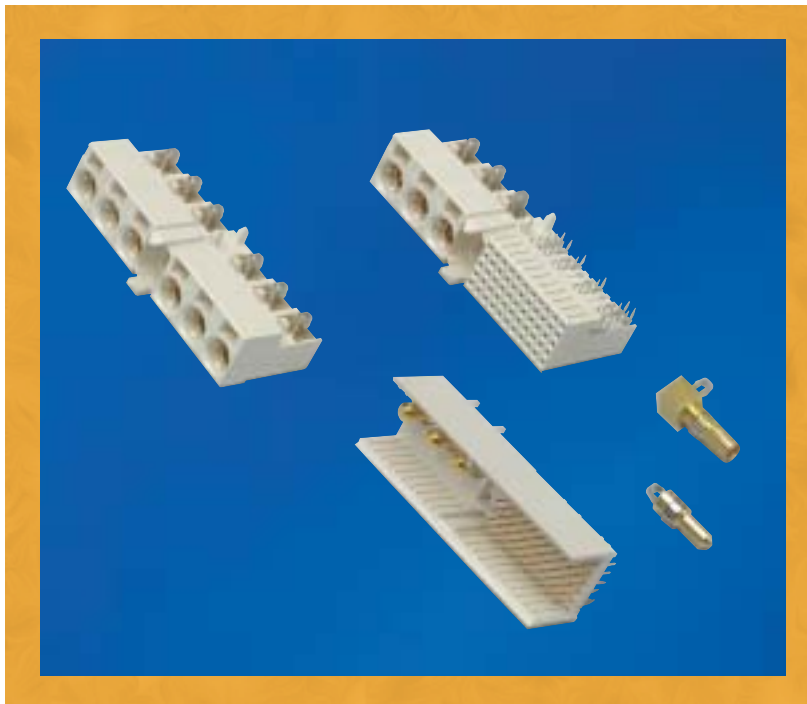
## Metral® Circular DIN Power Connectors



- Available in 12mm modules – 1 contact per module
- Up to 30 amps per contact
- Stackable with Metral® signal, High-speed Metral®, coax and accessories
- Versions for R/A, coplanar and rear-plug-up board-to-board applications
- Cable mount in crimp or solder versions
- Board mount in solder or press-fit versions
- Various pin lengths available for sequenced mating



## Millipacs®



- High precision contacts
  - Type L (6 Power Contacts)
  - Type M (3 Power Contacts + 55 Signal Contacts)
  - Type N (3 Power Contacts)
- Beryllium copper locking spring
- Wide variety of contact styles for crimp, dip and hand solder connections
- Cost effective contact plating types to meet various application requirements
- Wide range of installation tools optimizing crimp connection performances
- Contact easily removed from housing with simple extraction tool

### Applications

Any hybrid Power – Hard  
Metric/Millipacs, or cPCI products  
Power distribution and management  
modules  
Hubs, routers, switches and  
gateways  
Industrial instrumentation, test  
and measurement systems

## DIN Power Connector System

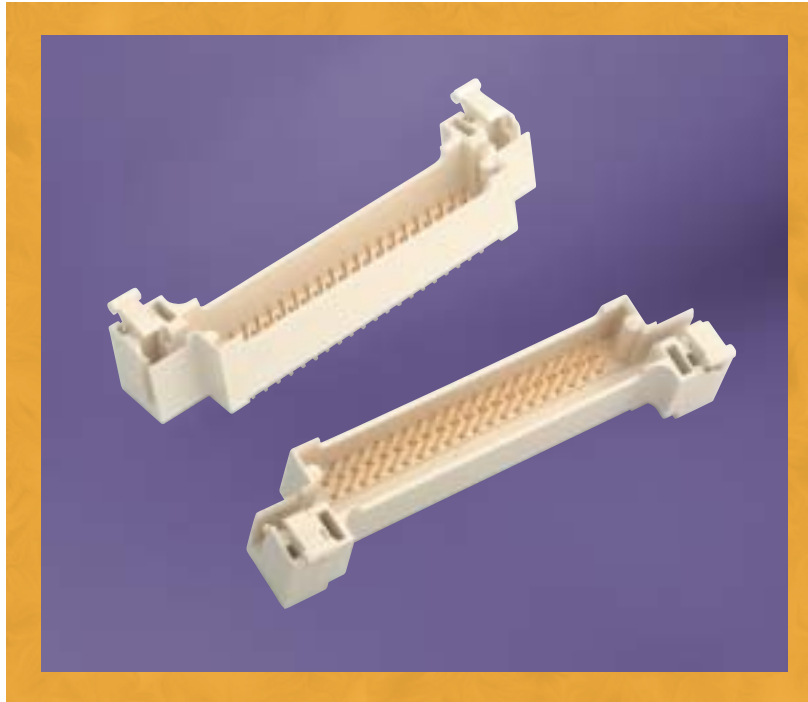


- Complete line of signal, power, mixed signal and power, and cable connectors
- High reliability and robust connector system
- 2- and 3-row headers and receptacles
- Complete line of power and coax contacts
- Meets the DIN 41612 Specification

### Applications

Voice Message/Response  
Transmission Equipment  
Bridges, Hubs, Routers, Gateways  
Disk arrays  
Motion Controls  
Encoders  
Image processors  
Bus/Network-Interface systems

## VRM 8 Header



- High Temperature Plastic
- Press-fit or solder tails
- Solder tail pins
  - With board retention features
  - Without board retention features
- Multiple tail length options
- 15u" or 30u" gold simplex or duplex plated pins
- 2 retaining latches to secure mated receptacle
- Optional pin polarization

Application  
Power Supply Modules

## D-Subminiature Power Connectors



- Press-fit power D-Subs rated up to 40 AMPS per contact
- Full offering of solder and crimp cable connectors
- Vertical and right angle terminations for design flexibility
- New hood system offers better retention, strain relief
- Full shielding available on board connectors and cables
- Mixed power and signal offerings

Applications  
Press-fit power  
Power management  
Mixed signal  
Robust applications  
Rack Mount

# Bus Bars



- Distribution systems for electrical & electronic cabinets, integrated control function (breakers, fuses)
- Directly mountable to backplanes: reduces PCB aspect ratio by eliminating power layers
- High electrical performance: low inductance, high capacitance, high current density and minimum voltage drop
- EMI/RFI shielding available
- Many interconnection possibilities (connecting directly to the Bus Bar or using FCI connectors)
- Proprietary copper laminating technology
- Carry more current, generate less heat, easier to install than cable harness
- Lower overall cost, error-free installation, easy assembly and field maintenance
- Superior mechanical and packaging design, space saving concept in multiple and modular configurations
- FCI is a global laminated bus bar supplier with multiple design and manufacturing sites
- Turnkey power distribution solutions complete with ANSYS thermal modeling

## Applications

Telecom/Datacom Base Stations  
Power Supplies/Motor Controllers

Unlimited Applications for Power  
Distribution



## Maxi PV

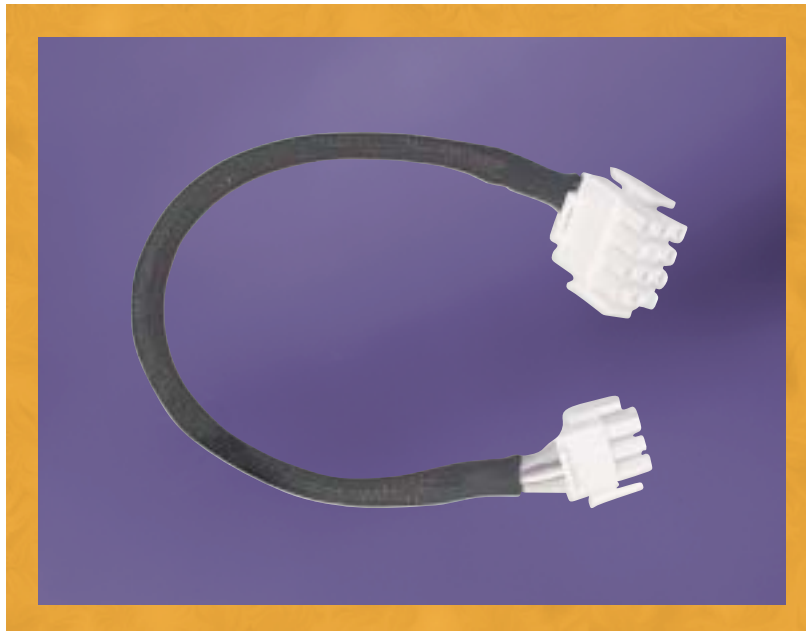


- Early pin contact
- Brass body
- Heat treated beryllium copper spring
- Choice of Gold or Tin-Lead
- Three wire crimp sizes from 18 AWG to 32 AWG
- Complete line of application equipment
- Product is offered in either reeled or loose piece
- Dual metal design

### Applications

Power Supplies  
Battery Packs  
LEDs  
Liquid Level and Flow Sensors  
Switch Assemblies  
Motors  
Scanners

## Power Harness Cable Assembly



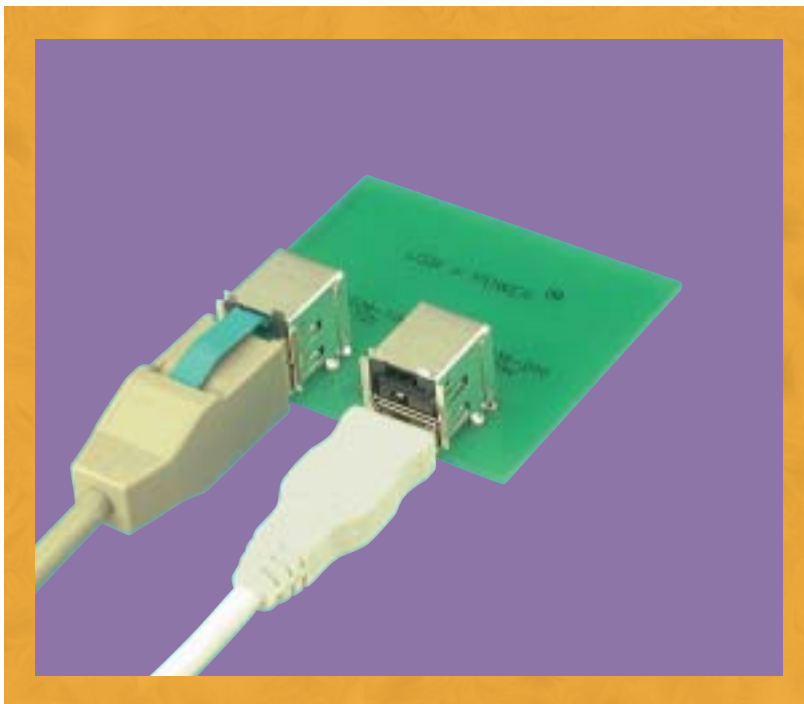
- Product Range: 2, 3, 4, 6, 9, 12 and 15 positions
- Wire Gauge: 16 to 26 AWG
- Current Rating: up to 8 Amps
- Voltage Rating: 250V AC
- Splash -proof seal option
- Available in Discrete Wire or Jacketed Wire

### Applications

Power Supply Cables  
Outdoor Applications  
Vending Machines  
Air Conditioners



## USB+Power Cable Assembly



- Power contacts are designed for 3 amps at 12 and 24 volts
- Power over signal design allows use of standard "A" USB cable or USB+Power cable
- Keyed and color coded plugs for different voltages
- Positive latching mechanism
- Full shielding provides maximum EMI protection

### Applications

Retail Point of Sales Terminals  
PC  
Hubs  
Speakers  
High power devices

## Power Drive Unit Cable Assembly



- 12 position male circular connector
- Waterproof
- Custom Design Seal for 15 pin female D-Sub
- Shielded Round Cable (non-shielded cable optional)

### Applications

Airport Cargo Transport  
Heavy Vehicles  
Test Equipment  
Instrumentation

## Power Distribution Blocks and UNITAP



- High conductivity aluminum multiple-tap connectors
- Dual rating for copper and aluminum conductors
- Wire ranges #10 AWG to 2000 Kcmil (1.5 to 1000mm<sup>2</sup>) standard
- Multiple configurations available
- Insulation for faster installation
- Range-taking (reduced need for connector inventory)

### Applications

In-line splice applications  
Reducer applications  
Tap application

## Small HYDENT



- Wide range of copper terminals
- Splices and disconnects
- Wire ranges #26 AWG to 4/0 AWG (.5 to 120mm<sup>2</sup>) standard
- Insulation types – PVC, Nylon, Kynar
- Non-insulated versions

### Applications

Harness Wiring  
Control Wiring  
Automotive  
Aerospace  
Military  
Motor Leads

## Mateable Connectors



- Plug-in and Bi-Polar connectors
- Bi-Polar Housings – Sizes of 50, 175 and 350 Amp
- Color coded and keyed Single Pole
- Current rating: 650 Amp max.
- Standard operating voltages of 600V/AC

### Applications

High currents must be carried with the ability to disconnect easily  
AC or DC application amperage and voltage requirements – globally  
Voltage specific applications

## Flexible Braid

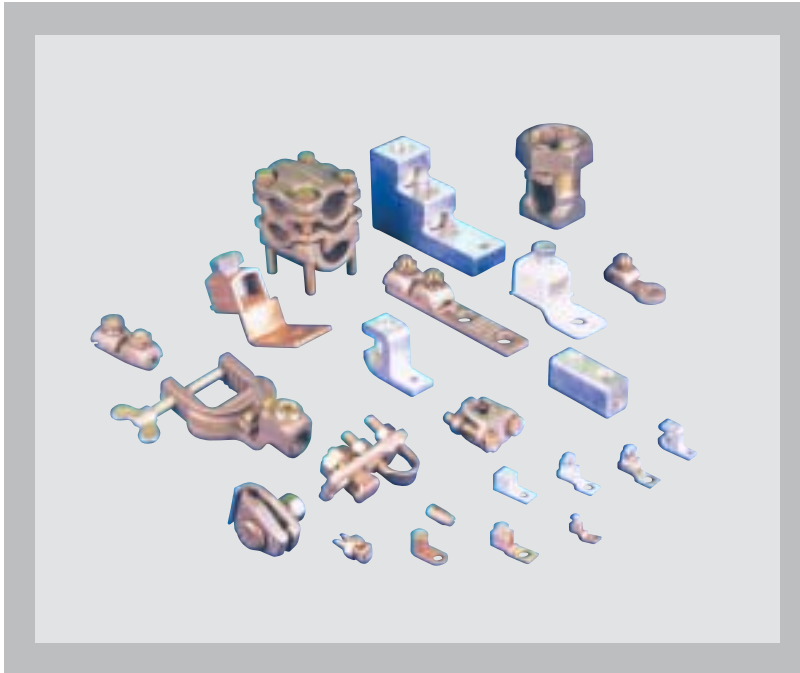


- Copper Braid jumpers protect electrical equipment
  - Linear expansion and contraction
  - Movement of components
  - Misalignment
- Engineering assistance available for custom configuration

### Applications

Unlimited grounding applications  
Industrial applications and machines  
Substation and Utility applications  
Transportation  
Military  
Petro-chem

## Standard Mechanical Power



- Made of Copper or Aluminum
- Set Screw or bolted designs for connecting various power or grounding conductors:  
Copper, Aluminum, Steel
- Easy installation
- Outstanding durability

### Applications

Bus Bar  
Transformers  
Fence Post, Pipe & Tubing  
Ground Rods & Rebar  
Cable & Braid  
Rail & I-Beams  
Cable Tray  
Static Ground

## HYDENT Connectors



- Manufactured from electrolytic copper
- Low- resistance, dependable service
- Single, two and four-hole pads standard
- Industry's most extensive pad configurations
- Various plating options
- UL and CSA listed

### Applications

Unlimited applications for  
Tapping, Terminating or Splicing  
electrical conductors worldwide



## Trim-Trio Connectors



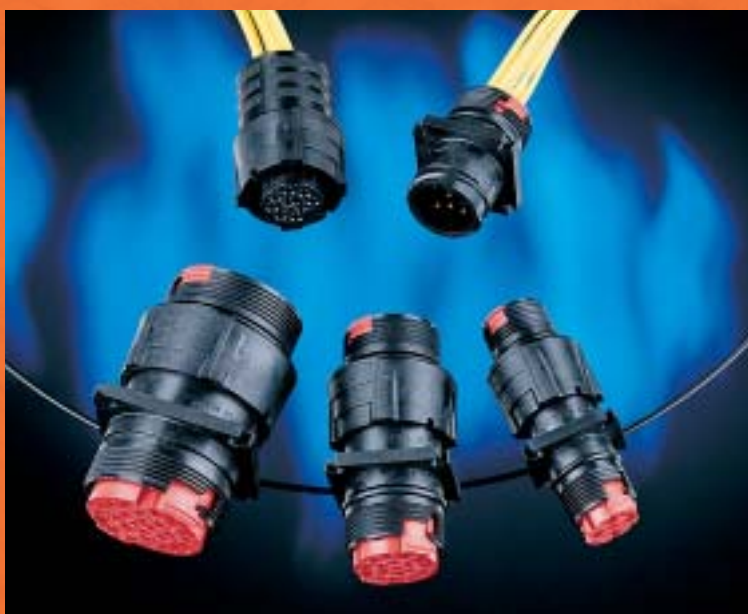
- Available in circular or rectangular housings
- For wire-to-wire and wire-to-p.c. board applications
- Water protection: IP 65 / IP 67
- Number of contacts: 1 – 152
- Current rating: 13 Amp max.
- Contact size: 1.6 mm

### Applications

Industrial Controls  
Process Control  
Test and Measurement  
Equipment  
Traffic Control  
Medical and Automotive  
Diagnostic Equipment

Industrial

## Sealed Plastic Connectors



- Clipper Series
- Lightweight plastic connectors
- No insertion/extraction tooling required
- Number of contacts: 1 – 40
- Current rating: 13 Amp max.
- Contact size: 1.6 mm and 2mm

### Applications

Watertight: IP 67 / IP 68  
Industrial instrumentation

## Push-Pull Connectors

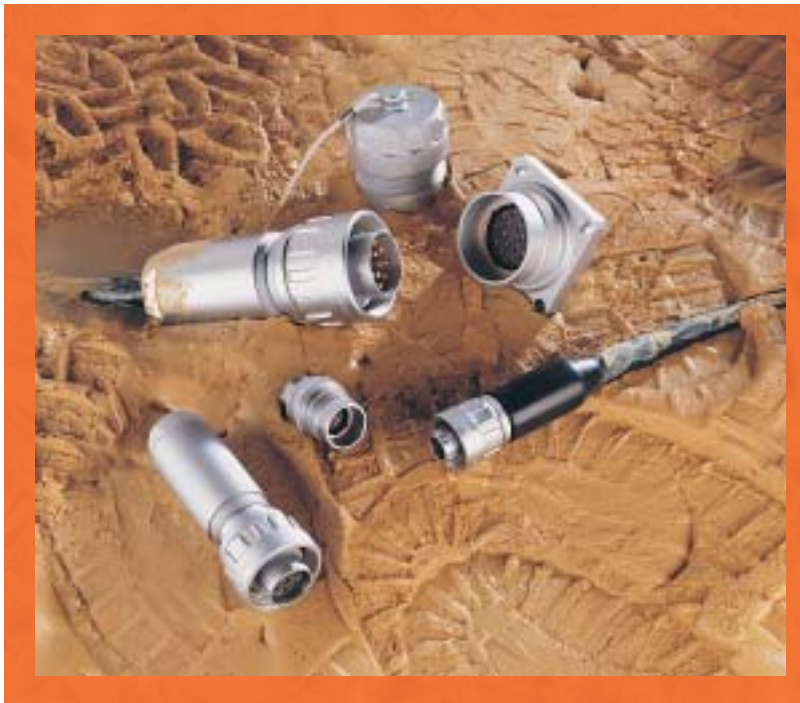


- Push-pull locking provides fast connect/disconnect
- Aesthetics allow perfect integration on front panel equipment
- Number of contacts: 1 – 30
- Current rating: 30 Amp max
- Contact size: 0.5 mm, 0.7 mm, 1.3 mm, 1.6 mm and 2 mm

### Applications

Medical Equipment  
Professional Audio/Video  
Instrumentation  
GPS  
Telecommunications

## Harsh Environment Connectors



- TP Series
- Rugged corrosion-resistant construction
- Water protection: IP 68 (up to 300 meters deep)
- Scoop-proof design
- Suitable for prolonged use in harsh environment
- Number of contacts: 1 – 32
- Current rating: 115 Amp max.
- Contact size: 1.6, 1.9, 2.4, 5 & 7 mm

### Applications

Geophysics  
Underwater instrumentation  
Rail transportation  
Civil construction  
Water Treatment  
Heavy industry

## Industrial Circular Connectors



- 84 Series
- Aluminum or steel shell
- 500 cycles durability
- Number of contacts: 1 to 61
- Water protection: IP 65 / IP 68
- Current rating: 200 Amp max
- Contact size: 1.5, 2, 3.5, 5 & 10 mm

### Applications

Factory automation  
Machine tool  
Heavy transportation  
Mining and harsh environment

## MIL-C-26482 Series



- 851, 852, Smooth Bantam Series
- Lightweight Aluminum alloy or Environmental stainless steel versions
- Optional RFI shielded plug
- Lightweight backshells
- MS or proprietary versions
- Current Rating: 23 Amp max
- Contact size: 1.6 mm and 2 mm

### Applications

Industrial Controls  
Instrumentation and Civil/  
Military applications



## 38999 Series I, II and III



- 8LT, 8T and 8D Series
- High density circular connectors from 1 – 128 contacts
- Excellent for shock, vibration and fluid resistance
- Bayonet locking system for Series I & II
- Tri-start thread with anti-decoupling mechanism for Series III
- Scoop-proof design, Series I & III
- Available in Aluminum, stainless steel or composite shells
- Current rating: 23 Amps, 45 Amps (Series III only)
- Contact size: 16, 12, 8 (Series III only)

### Applications

High density connectors for military and aeronautical purposes  
Harsh engine environments / Firewall (Series III, K & S classes)

## High Temperature Engine Connectors



- 8533 Series
- Screw coupling
- Plug with self-locking system
- High temperature rating
- High level of resistance to shock and vibration
- Contact size: 16, 12
- Current rating: 23 Amps max.

### Applications

Aircraft engine area sensors in harsh environments  
Railway (braking system)  
Severe climates and high temperature applications



## High Temperature Power Connectors



- 891/892 Series
- Screw coupling
- Fire resistant and fire wall
- High resistance to shock and vibration
- Stainless steel shells
- Hermetic versions available
- Contact size: 16, 12
- Current rating: 23 Amps max.

### Applications

Aircraft engines  
High temperature environments

## ARINC 600



- SB600 Series
- High-density connector with up to 800 signal contacts
- Low insertion force contact design
- Sealed and unsealed versions available
- Multiple polarization positions
- Wide range of high performance rack applications
- Contact size: 16, 12

### Application

Mechanical and electrical interface  
between on-board civil avionics  
equipment and racks

## High Power Connectors

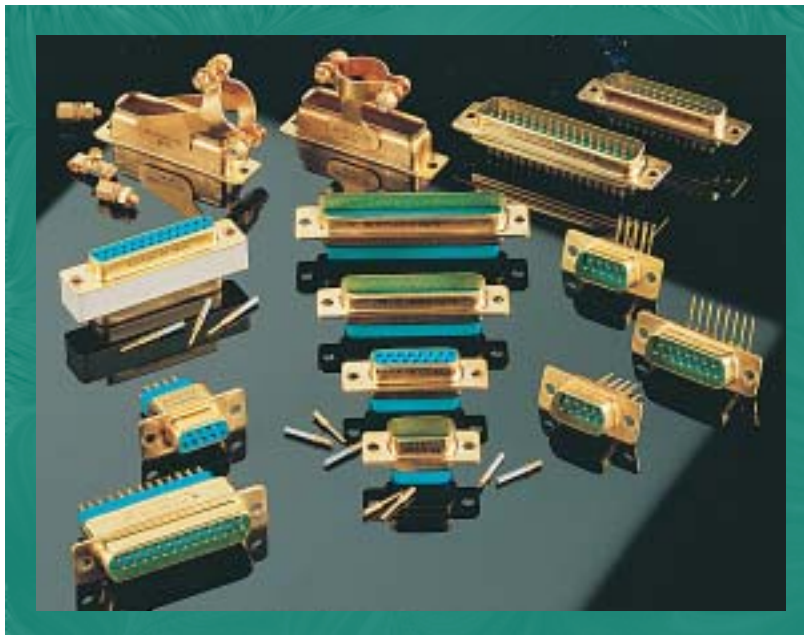


- 895 Series
- Screw coupling with self-locking system
- Power crimp contacts size 4/0 gold plated
- Contact size: #4/0
- Current rating: 260 Amps max.

### Applications

Power supply for pylon/engine nacelle electrical interface  
High power applications 260A

## Space Grade D-Sub Connectors



- D\*M-NMB, 8630-NMB, 8949 040 xx NMB series
- Power and combination signal/power contact layouts
- Non-magnetic
- Non-outgassing
- Current rating: 40 Amps max.
- Contact size: #8 AWG wire

### Applications

Satellites  
Launch Vehicles  
Space Station  
Shuttle Hardware  
Space Probes

### Standards

ESA/SCC 3401/001  
MIL-C-24308

## Space Grade 38999 Circular Connectors



- 8LTS, 8TS, 8DS, 8975-xxxx series
- Multiple shell sizes and layouts available
- Non-magnetic
- Non-outgassing
- Current rating: 80 Amps max.
- Contact size: #4 AWG wire

### Applications

Satellites  
Launch Vehicles  
Space Station  
Shuttle Hardware

### Standards

ESA/SCC 3401/052  
MIL-C-38999 Series I, II & III

## Bronze 38999 Circular Connectors



- JVS Series
- Corrosion resistant Nickel, Aluminum Bronze Alloy
- Intermateable with MIL-C 38999
- Multiple shell sizes and layouts available
- Current rating: 46 Amps max.
- Contact size: #8 AWG wire

### Applications

Naval Vessels  
Transportation  
Oceanography  
Battlefield Cables

### Standards

MIL-C-38999 Series III  
CECC 75 201.002

## Watertight Connectors



- M Series
- Screw coupling shells
- Tested to depths of 2000 meters
- Corrosion resistant shells
- Current rating: 115 Amps max.
- Contact size: #2 AWG wire, 7mm dia.

### Applications

Submarines  
Sonar  
Underwater Instrumentation  
ROVs  
Oil Drilling Platforms

## Underwater Mateable Connectors



- 8810 Series
- Can be mated underwater
- Tested to depths of 3000 meters
- Connector faces can withstand 300 bars unmated pressure
- 500 mating cycles
- Current rating: 400 Amps max.
- Contact size: #1 AWG wire, 18mm dia.

### Application

Underwater Mateable Equipment



# Plastic Underwater Mateable Connectors




- 8819 Series
- Can be mated underwater
- Tested to depths of 30 meters (IP 68)
- Connector faces can withstand 3 bars unmated pressure
- 500 mating cycles
- Current rating: 43 Amps max.
- Contact size: #8-#12

Application  
Underwater Mateable Equipment

Notes





FCI is the Source for  
Power Connector Systems,  
dedicated to providing optimal  
technology and service.

**To explore the full story,  
visit us on-line at:  
[www.fciconnect.com](http://www.fciconnect.com)**

