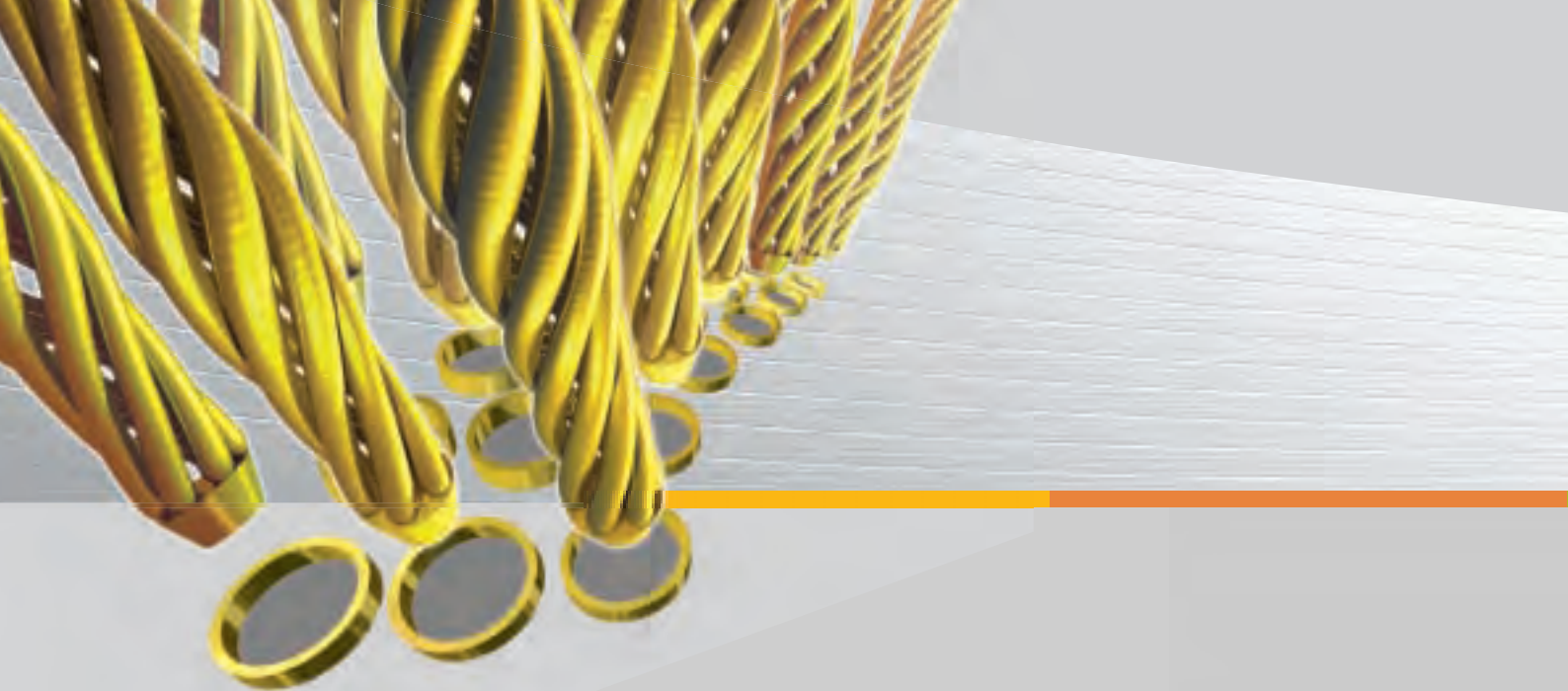


# Short Form Catalogue

SOLUTIONS THAT CONNECT

2010 EDITION





# GET CONNECTED

## Delivering innovative interconnect

Cinch Connectors is a multi-national manufacturer of a broad range of interconnect products. With over 90 years' experience Cinch satisfies the needs of customers across the globe with products proven in the most demanding applications.

We are a supplier of reliable, high quality standard products for use in a variety of industries and possess a range of enabling technologies and expertise with which to provide innovative bespoke solutions and products. Our highly sophisticated electrical interconnect products are used in automotive systems, telephony switches, transmitters, receivers, commercial aircraft fuel monitoring systems, and complex computer systems. We have successfully and continually met the needs and expectations of the markets we serve because we listen to our customers, and provide reliable state-of-the-art products and solutions.

Meeting our customers' expectations is no accident. The process begins with our rigorous product development process which adheres closely to the APQP process adapted for all Cinch products. The most critical features of this process are:

- Defining customer/marketplace needs and expectations
- Empowerment of multi-functional development teams
- Verification that designs and processes are capable
- On-time product launch
- Production follow-up

Cinch has initiated dock-to-stock programs with many major OEM's, is qualified to many customer-specific specifications, and over the years improved our quality systems from MIL-Q-9858, to ISO 9001, AS9100 and DI9000.



We point with pride to our history of continual improvement, and we constantly strive to improve even further our effectiveness in the market place by developing better methods with which to measure and provide customer satisfaction.

**Our mission is to always exceed our customers' expectations and to continually provide innovative solutions to the rapidly changing needs of the markets and customers we serve.**



*We believe our commitment to quality is evidenced by a century of customer satisfaction and look forward to the centuries to come.*



# ect solutions to a global market

Market applications include:

## MILITARY/AEROSPACE

### Airlines

- Fuel systems
- Engine Management
- Countermeasures
- Radar

### Missiles

- Guidance
- Seeker
- Umbilical
- Rocket motor

### Radar Equipment

### RF

### Power

### Unmanned Vehicles

- UAV
- UGV
- USV
- Counter Measure

## ELECTRONIC & COMMUNICATION SYSTEMS

### Computers/Servers

- Board to board
- High speed mezzanine
- Chip to board
- Flex to board
- ATCA/Micro TCA
- I/Os for AMC.0

### Data Com/ Networking

- InfiniBand
- CX4, 10Gigabit Ethernet
- SAS
- QSFP

### Industrial

- Controls
- Instrumentation
- Power supplies
- Vending/amusement machines

## TRANSPORTATION

### On/Off Highway, Agriculture, Construction, Marine, Hydraulics, Industrial Electronic Controls

### Powertrain

- Engine
- Emissions
- Transmission

### Chassis

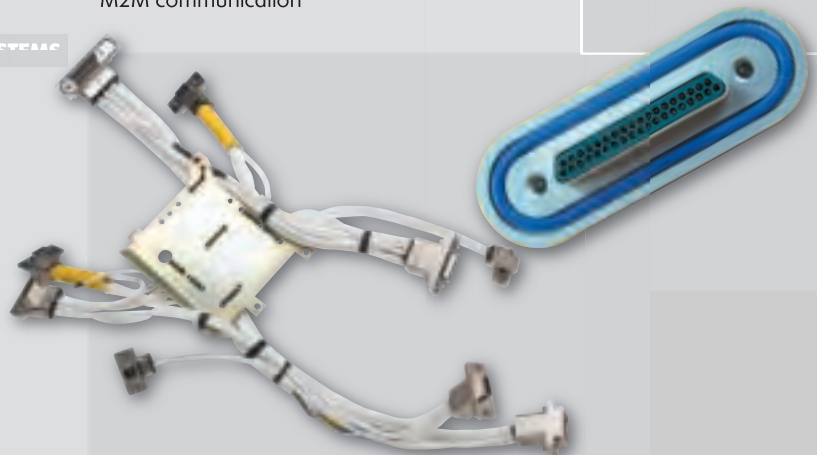
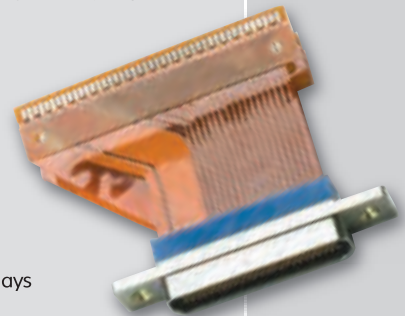
- Suspension
- Tyre pressure monitoring

### Vehicle Management

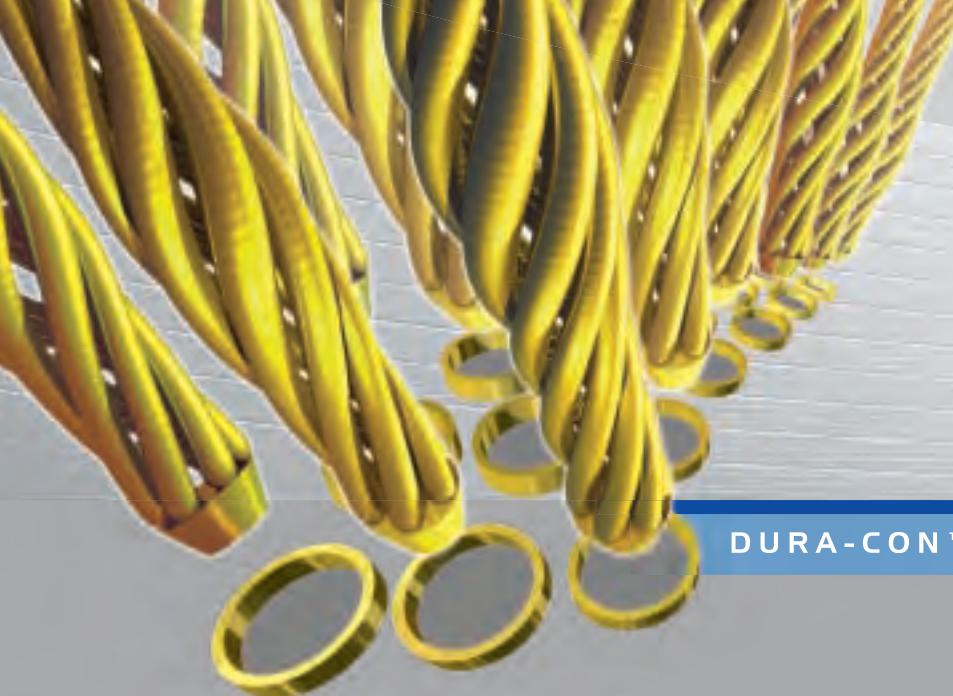
- Can Bus
- Instrumentation and displays

### Telematics

- Asset tracking
- Fleet management
- Remote vehicle monitoring and diagnostic
- M2M communication







**DURA-CON™ PRODUCTS**

# Dura-Con™

Cinch Dura-Con connectors are designed for applications that require a rugged, durable, and high-performance interconnect solution. The Dura-Con line of connectors, qualified (QPL) to MIL-DTL-83513, is one of the most widely used .050 inch (1.27mm) pitch connectors for military and high-end commercial applications. It is the ideal connector for applications where weight and space must be kept to a minimum while maintaining maximum reliability. The heart of the Dura-Con System is the unique wire form pin that provides seven points of contact when mated to the socket.

Applications include electronics in missiles, aircraft, launch vehicles, satellites and computers.

# Dura-Con™ Combi Connectors

**VARYING CONTACT ARRANGEMENTS FOR USE IN HARSH ENVIRONMENTS**

Dura-Con Combi connectors offer both plug and socket in a variety of contact arrangements to suit your specific needs. Available as solder pot connector, PC tail connector and flying leads, all connections offer resistance to shock and vibration and are the perfect choice for harsh environments. Our engineers will be delighted to come and talk to you about the combination best suited to you.

**Features:**

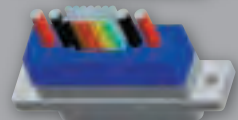
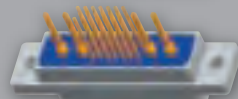
- Both plug and socket available in varying contact arrangements
- Rugged contacts offer resistance to shock and vibration
- Tested to Mil-DTL-83513
- Power contacts rated at 15 amps

**Technical:**

- Temperature range : -55°C to +135°C
- Current rating : 3A – signal contacts
- Current rating : 15A – power contacts
- DWV 600VAC @ sea level

**Contact Arrangement:**

Custom





# Dura-Con™ Hermetic Connectors

## STANDARD DURACON™ CONNECTORS WITH HIGH PERFORMANCE HERMETIC SEALS

DuraCon's hermetic compound potting process passes rigorous helium leakage requirements. This process is adaptable to many connector styles and can also be applied to feed through headers. These interconnects function reliably under extreme environmental conditions such as high pressure, temperature and exposure to propellants. Duracon hermetic solutions can be 50-70% cheaper than traditional fired glass or ceramic solutions.

**Features:**

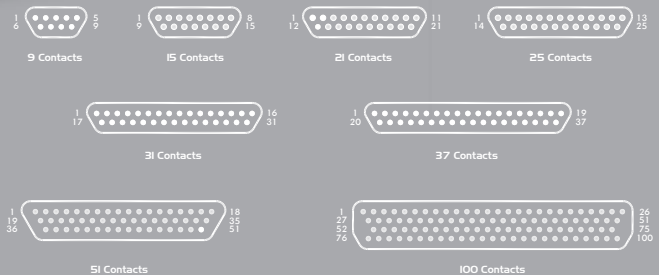
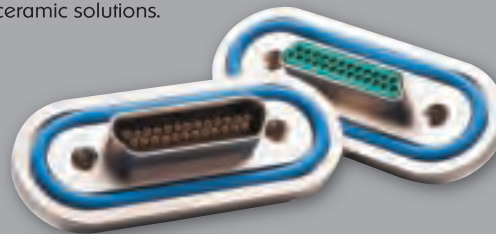
- Rugged design resistant to shock and vibration
- Seal achieved through Cinch hermetic compound
- 'O' Ring sealing to bulk head
- Tested to Mil-DTL-83513

**Technical:**

- Temperature range : -55°C to +135°C
- DWV 600VAC @ sea level
- Current rating : 3A
- Hermetic Seal 1 x 10-8cc/sec @ 1 atmosphere helium
- Fluoro Silicone 'O' ring seal

**Contact Arrangement:**

- 9, 15, 21, 25, 31, 37, 51



# Dura-Con™ Nano Connectors

## NANO-MINIATURE, DUAL ROW, 180° CONNECTOR WITH DUAL LOBE POLARISED SHELL

DuraCon's Nano connector provides the optimum miniaturisation in a range of contact arrangements to the Military standard Mil-DTL-32139. The contact technology provides enhanced electrical and mechanical performance in contact tail, solder cup terminations. A low compressive mating action is accompanied with a self-ejecting action on withdrawal.

**Features:**

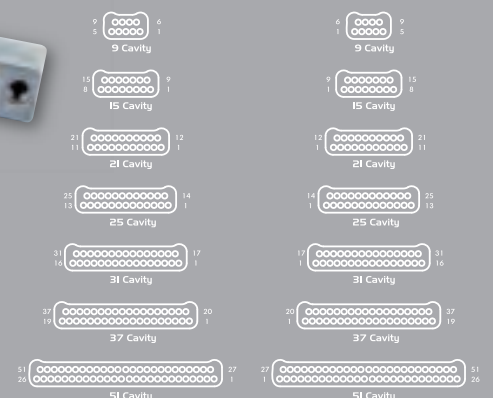
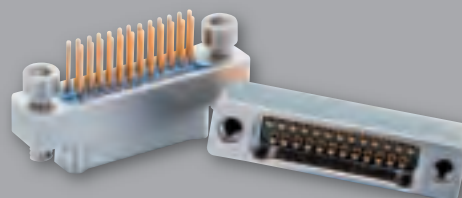
- 0.762mm pitch (0.030")
- Compression mating
- Low mating force
- Mechanical wipe contact action

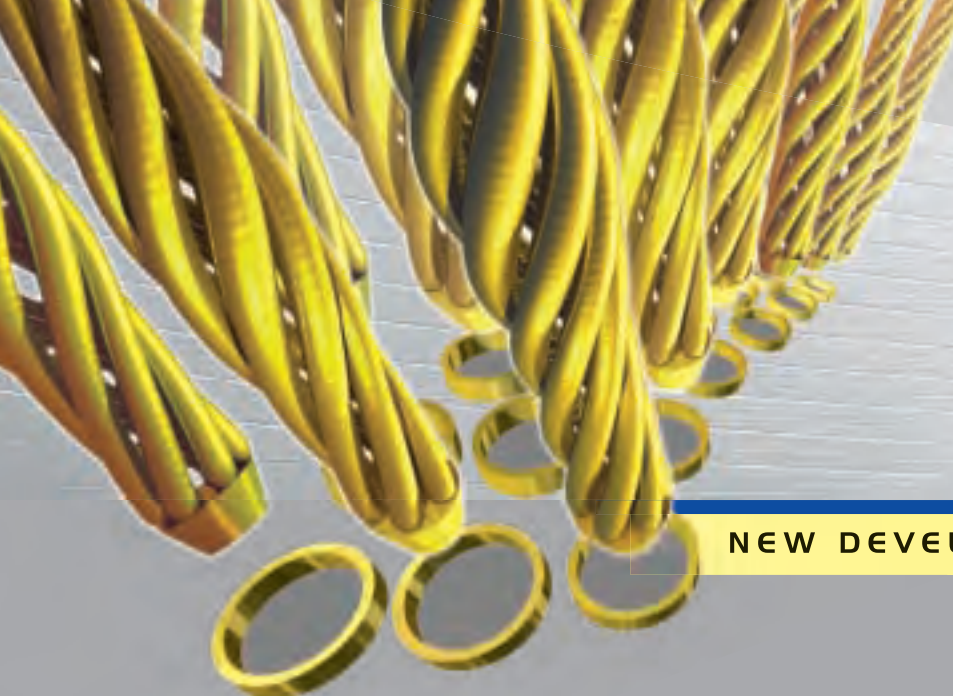
**Technical:**

- Temperature range : -55°C to +135°C
- Current rating : 3 amps max in isolation
- Current rating : 1.8 amps fully loaded @ 30 awg wire
- DWV 600VAC @ sea level
- Mil-DTL 83513 rated
- Mil-DTL-32139 style

**Contact Arrangement:**

- 9, 15, 21, 25, 31, 37, 51





## NEW DEVELOPMENTS FOR 2010

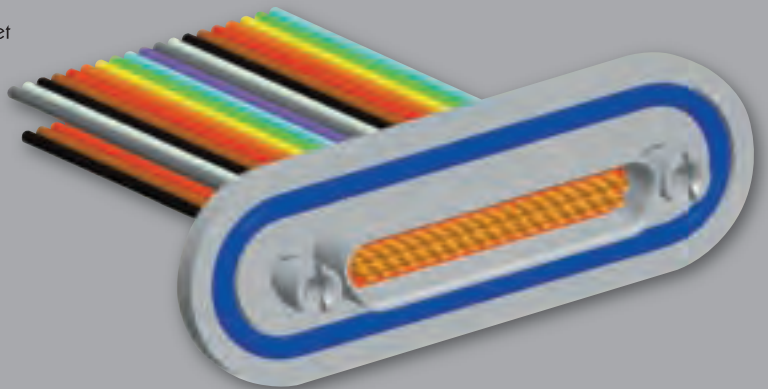
We deal in an industry that is dynamic, ever-evolving and product-led. So when we're asked by a customer to solve a problem we call upon our wealth of experience and knowledge to achieve that goal. This means that we're continually pushing the boundaries of design in order to attain the best possible solutions.

The new products featured in this catalogue are a direct result of this intuitive understanding of the technology and the demands of this industry. Our portfolio features products that have been developed to satisfy the needs of this ever-changing market and in doing so are well in advance of many customers' needs.

Our connectors have been developed to be smaller, lighter and faster than anything else in the marketplace because we're already well ahead of the game. Cinch - developing the future today.

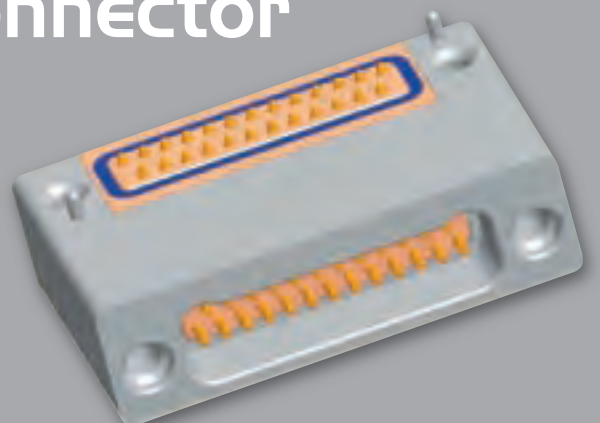
# Hermetic Flying Lead Connector

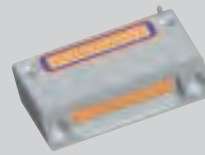
Standard Duracon pitch  
Low profile compound compared with the market  
Hermetic Seal to 1 x 10<sup>6</sup>°C



# Nano T'Block Connector

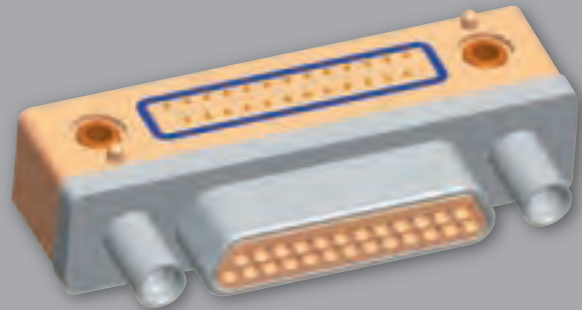
30 thou pitch  
Solderless SMT  
Compression Technology





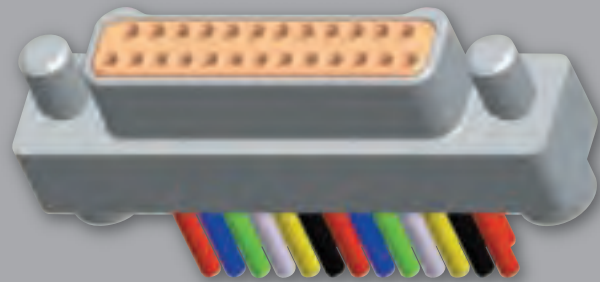
## MicroD' T'Block Connector

Standard Duracon pitch  
Solderless SMT  
Compression Technology



## Nano Flying Lead Connector

30 thou pitch  
30AWG wire  
Compression Technology



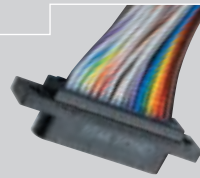
## Nano Circular Connector

30 thou pitch  
30AWG wire  
Compression Technology  
Product Launch 2011

## Nano Hermetic Connector

30 thou pitch  
30AWG wire  
Compression Technology  
Hermetic Seal to 1 x 10°C





# Sub Assemblies

## Custom Interconnects



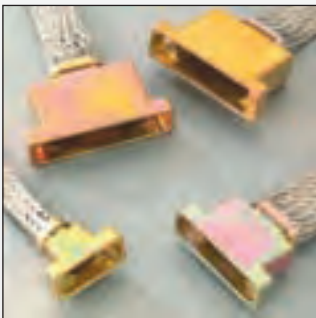
Cinch brings you years of experience and knowledge to your custom application. We pride ourselves in working with the customer to provide a custom solution and developing a prototype and modified assemblies to fit your unique needs. Whether it is simple change or a one of a kind connector, you can count on Cinch to work with you to solve your interconnect requirements.

## Harness Assemblies



Should your harness requirement simple point to point or complex with many branches, full 360° screening or filtered we can assist you in the design all the way through to production. Cinch has been building harnesses for military and commercial applications for over 20 years.

## Micro Miniature Backshells



**Features:**  
 EMC screened backshell  
 Various cable entry sizes  
 Available in Cadmium & Electroless Nickel finish  
 Pre-terminated braid attachment  
 Available with 45°, 180°, 90° & side cable entry  
 Hex head jackscrews & retaining clips supplied with each backshell  
 RoHS Compliant available

**Sizes Available:**  
 9, 15, 21, 25, 31, 37, 51, 100

## Micro Miniature Strip



**Features:**  
 Provides a dense, reliable interconnect device in minimum profile package  
 Available up to 60 contacts in length  
 Guide pin option is available for polarization  
 Light weight  
 High-reliability Dura-con twist pin contact system for extreme shock & vibration applications.  
 Solder Cup & Wire termination options available  
 RoHS Compliant available

**Technical:**  
 Temperature range: -55°C to +135°C  
 Housing: GF Polyester  
 Contact material: Copper Alloy  
 Current Rating: 3A  
 DWV 600VAC @ Sea level



# Dura-Con™ Connectors

## Metal Shell "D" Micro Miniature



**Features:**  
Lightweight  
High Contact density  
Rugged, reliable contacts  
Shock & vibration resistant  
Aluminium alloy shell  
Interfacial gasket seal  
RoHS Compliant available

**Technical:**  
Temperature range: -55°C to +135°C  
DWV 600VAC @ sea level  
Current rating: 3A  
Contact material: Copper Alloy  
Insulator material: DAP or GF Polyester

**Contact Arrangement:**  
9-15-21-25-31-37-51-100

## Metal Terminal Block



**Features:**  
3 styles: Straight termination, 90°  
Termination, 90° narrow termination  
Standard shell  
Use with flat cable, flex circuits, printed & multilayer boards  
Interfacial gasket seal  
RoHS Compliant available

**Technical:**  
Temperature range: -55°C to +135°C  
DWV 600VAC @ sea level  
Current rating: 3A  
Contact material: Copper Alloy  
Insulator material: DAP or GF Polyester

**Contact Arrangement:**  
9-15-21-25-31-37-51-100

## Plastic Shell "D" Micro Miniature



**Features:**  
Lightweight  
Corrosion resistant  
High Performance  
Approved to Mil-PRF-83513  
RoHS Compliant available

**Technical:**  
Temperature range: -55°C to +135°C  
DWV 600VAC @ sea level  
Current rating: 3A  
Contact material: Copper Alloy  
Insulator material: GF Polyester

**Contact Arrangement:**  
9-15-21-25-31-37-51-100

## Microedge



**Features:**  
High reliability  
Space / weight savers for aircraft, space, avionics  
Control systems  
High contact density  
aluminium alloy shell  
Meets applicable requirements of Mil-C-55302  
Available in surface mount, PCB & wired options  
Additional connector serials to be added & micro strip connector  
RoHS Compliant available

**Technical:**  
Temperature range: -55°C to +135°C  
DWV 900VAC @ sea level  
Current rating: 3A  
Contact material: Copper Alloy  
Insulator material: DAP

**Contact Arrangement:**  
128-152-184



# JackMate

## J-Microminiature



**Features:**

High reliability interconnect for board to board, cable to board applications  
 High performance Micro miniature twist pin contact  
 Termination style: gold plated solid wire and insulated stranded wire  
 Stainless steel central Jackscrew locking system  
 RoHS Compliant available

**Technical:**

Temperature range: -55°C to +125°C  
 Withstanding voltage: 600VAC RMS @ sea level  
 Current rating: 3A  
 Contact material: Copper Alloy  
 Insulator material: GF Polyester UL 94 VO rated

# Connector Savers



**Features:**

Available in metal & plastic shells  
 Reduces possible damage to the connector & test equipment  
 Connectors are wired point to point  
 Locking hardware is sold separately  
 RoHS Compliant available

**Technical:**

Temperature Range: -55°C to +135°C  
 DWV 600VAC RMS @ Sea level  
 Current rating 3A  
 Contact material: Copper Alloy  
 Insulator material: DAP or GF Polyester

**Contact Arrangement:**  
 9-15-21-25-31-37-51-100

# D Sub Connectors

## Standard



**Features:**

Solder bucket  
 Flow solder straight  
 Flow solder right angle  
 Wire wrap  
 RoHS Compliant

**Technical:**

Temperature range: -55°C to +125°C  
 Working voltage: 750V  
 Current rating: 5A  
 Contact material: Copper Alloy  
 Insulator material: GF Thermo-plastic UL 94 VO rated  
 Machined contacts

**Contact Arrangement:**  
 9-15-25-37-51

DIN41652-HE 501

# D Sub Connectors

## Crimp Contact - ECONO DA



**Features:**  
Crimp contact with insulation grip for wires from 20 to 28 AWG  
RoHS Compliant

**Technical:**  
Temperature range: -55°C to +125°C  
Withstand voltage: 1000V  
Current rating: 5A  
Contact material: Copper Alloy  
Insulator material: GF Thermo-plastic UL 94 VO rated  
Stamped (reels) or machined contacts

**Contact Arrangement:**  
9-15-25-37-50

## Crimp Contact - Density and Half D Sub



**Features:**  
Crimp & solder contacts for wires AWG 22-28  
Flow solder right angle  
RoHS Compliant

**Technical:**  
Temperature range: -55°C to +125°C  
Working Voltage: 350V  
Current rating: 5A  
Contact material: Copper Alloy  
Insulator material: GF Nylon UL 94 VO rated  
Stamped contacts (delivered on reels or strips)

**Contact Arrangement:**  
15-26-44-62-78

## IDC



**Features:**  
IDC for discrete wire (24-26 AWG)  
IDC for flat cable (26-28 AWG)  
RoHS Compliant

**Technical:**  
Temperature range: -55°C to +125°C  
Working voltage: 350V  
Current rating: 1 and 3A  
Contact material: Copper Alloy  
Insulator material: GF Thermo-plastic UL 94 VO rated

**Contact Arrangement:**  
9-15-25-37

## Filter



Capacitance 1000pF or 330pF (other values on request)

**Features:**  
Solder bucket  
Flow solder straight  
Flow solder right angle  
Adapters  
Custom filtering available  
RoHS Compliant

**Technical:**  
Temperature range: -25°C to +125°C  
Withstand voltage: 200V  
Current rating: 5A  
Contact material: Copper Alloy  
Insulator material: GF Thermo-plastic UL 94 VO rated  
Machined contacts

**Contact Arrangement:**  
9-15-25-37-50





# D Sub Connectors

## High Density Filter



Capacitance 1000pF or 330pF

- Features:**
- Flow solder straight
  - Adapters
  - Custom filtering available
  - RoHS Compliant

**Technical:**

- Temperature range: -25°C to +125°C
- Withstand voltage: 200V
- Current rating: 5A
- Contact material: Copper Alloy
- Insulator material: GF Thermo-plastic UL 94 VO rated
- Machined contacts

**Contact Arrangement:**

15-26-44-62

## Military - MIL-DTL-24308-HE508-Pattern IIO



- Features:**
- Solder bucket
  - Flow solder straight
  - Flow solder right angle (pitch 2.54mm or 2.84mm)
  - Commercial variant available (RoHS Compliant)

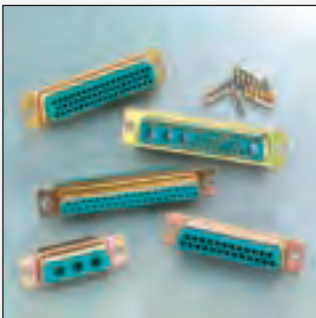
**Technical:**

- Temperature range: -55°C to +155°C
- Working voltage: 750V
- Current rating: 5A
- Contact material: Copper Alloy
- Insulator material: DAP
- Meets dimensional requirements of MIL-DTL-24308 / BS9523 F0013

**Contact Arrangement:**

9-15-25-37-50

## Military - MIL-DTL-24308-HE507



- Features:**
- Series 3 Awg 20-28
  - Solder braid coax contacts
  - Crimp braid coax contacts
  - High power solder contacts (10A, 20A & 40A)
  - Various mixed layout options

**Technical:**

- Temperature range: -55°C to +125°C
- Working voltage: 750V
- Current rating: 5A (signals contacts)
- Contact material: Copper Alloy
- Insulator material: DAP
- Meets dimensional requirements of MIL-DTL-24308

**Contact Arrangement:**

9-15-25-37-50

## Accessories



- Features:**
- Plastic hoods straight or right angle
  - Metalized plastic hoods
  - Metal hoods straight outlet
  - Metal hoods right angle outlet
  - Overmouldable shielding kit
  - Screw locks & retainers
  - Dust caps
  - RoHS Compliant

**Sizes available:**

- 9, 15, 25, 37, 100
- Application tooling available on request

# Industrial Products

## "J" Type Multipole Connectors

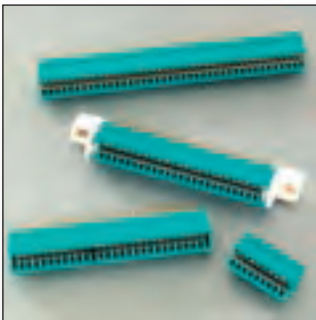


**Features:**  
Multipoint contacts  
Low contact resistance  
High working voltage  
Backshell with cable clamp  
Polarised  
RoHS Compliant

**Technical:**  
Temperature range: -40°C to +100°C  
Working voltage: 700V DC  
Current rating: 5A  
Contact material: Copper Alloy,  
Tin Plated  
Insulator material: GF Polyester

**Contact Arrangement:**  
4-8-12-20

## Printed Circuit Board Edge Connectors



**Features:**  
Multipoint contacts  
Low contact resistance  
High working voltage  
Backshell with cable clamp  
Polarised  
RoHS Compliant

**Technical:**  
Temperature range: -40°C to +100°C  
Working voltage: 700V DC  
Current rating: 5A  
Contact material: Copper Alloy, Tin Plated  
Insulator material: GF DAP

**Contact Arrangement:**  
4-8-12-20

## Mini D Cables



**Features:**  
Plug pre-assembled with standard cable lengths  
Moulded in stain relief  
Shielding meets FCC EMI/RFI requirements  
UL Recognised  
Components available for third party  
Termination  
RoHS Compliant

**Technical:**  
Temperature range: -40°C to +70°C  
Voltage rating: 500V RMS  
Current rating: 2A  
Contact material: Copper Alloy  
Insulator material: Nylon UL 94 VO rated  
Overmould material: PVC

**Contact Arrangement:**  
3-4-5-6-7-8



# Transportation Products

## Electronic Control Module Header



**Features:**  
 Epoxy Sealed Terminal  
 Post plated PCB contact tail  
 Silicon interface seal & Panel Mounting Gasket  
 Varying polarisation & key configurations  
 Centre Thread, mating bushings  
 Ferrite Filter option available  
 Rated to IP65, IP66, IP67 & IP69k  
 Resists to most fluids used in industrial applications  
 RoHS Compliant Available

**Technical:**  
 Operating Temperature -40°C to +125°C  
 Temperature Life 1008 Hrs @ 125°C  
 Temperature Humidity Cycling 320 Hrs  
 Current Cycling 500 Hrs @ 10 Amps  
 Contact resistance <10mΩ  
 Insulation Resistance >1000MΩ  
 Salt Spray 96 Hrs  
 Shock 50g's - 20 pulses  
**Contact Arrangement:**  
 18, 30, 48 & 60 I/O

## 5mm Mating Harness Connectors



**Features:**  
 Push to Seat terminal  
 Terminal secondary lock  
 Integral grommet wire seal  
 Protective Backplate  
 Centre threaded jack screw mating  
 Multiple keyed configurations  
 Tangleless terminals  
 Rated to IP65, IP66, IP67 & IP69k  
 Resists to most fluids used in industrial applications  
 RoHS Compliant

**Technical:**  
 Operating Temperature -40°C to +125°C  
 Temperature Life 1008 Hrs @ 125°C  
 Temperature Humidity Cycling 320 Hrs  
 Current Cycling 500 Hrs @ 10 Amps  
 Contact resistance <10mΩ  
 Insulation Resistance >1000MΩ  
 Salt Spray 96 Hrs  
 Shock 50g's - 20 pulses  
**Contacts Arrangements:**  
 18 & 30 position

## Modular Integrated Circuit Enclosures



**Features:**  
 Rugged Enclosure System  
 Enclosure / Header Modularity  
 Simple Assembly  
 Heat Sink & Ferrite Filtering Options available  
 Customisation options include  
     Customer Logo  
     LED Windows  
     Breather system  
 Rated to IP65, IP66, IP67 & IP69k  
 Resists to most fluids used in industrial applications  
 RoHS Compliant

**Technical:**  
 Operating Temperature -40°C to +85°C  
 Temperature Life 1008 Hrs @ 125°C  
 Temperature Humidity Cycling 320 Hrs  
 Current Cycling 500 Hrs @ 10 Amps  
 Contact resistance <10mΩ  
 Insulation Resistance >1000MΩ  
 Salt Spray 96 Hrs  
 Shock 50g's - 20 pulses  
**Contact Arrangement:**  
 18, 30, 48 & 60 I/O



# Engineer's Check List

## SECTOR

- Sea
- Aerospace
- Sub-Terrain
- Ground Support
- Armoured Vehicle
- Rail
- Space
- Radar
- Avionics
- Munitions / Missile

## CONNECTOR STYLE

- Rectangular
- Circular
- Z Axis Compression
- Power & Signal
- Hermetic
- IPC Rated
- Filtered
- Edge Connector
- Multipole
- High Speed
- Rugged Enclosure

## WIRE TYPE

- Stranded
- Solid
- Twisted pairs
- Co-Axial
- Colour Code Single / Multi
- Multi Core
- Shielded
- Wire AWG
- Custom Cable

## ENVIRONMENT

- Dust
- Moisture Resistant
- Full Water Immersion
- Chemical Compatibility
- RoHS
- Low Smoke / Zero Halogen
- Extreme Temperature Tolerance
- Flame Retardant

## MARKET SEGMENT

- Oil Petroleum Gas (OPG).
- Renewable Energy
- Military & Defence
- Commercial
- Computer
- Industrial
- Telecommunications
- Medical

## CONSTRUCTION

- Male  Female
- Crimp
- Solder
- PC Tail  90°  180°
- RF Signals
- Number Contact Points
- Contact Pitch
- Housing Material
- Plastic  Metal

## CUSTOM INTERCONNECT

- Single Ended
- Double Ended
- Multi Limb Cable Assembly
- Strain Relief Backshell
- Environmental Backshell / Boot
- 3600 Screened Backshell
- Moulded Strain Relief
- Woven
- Flexible Circuit

## SPECIFICATION

- Operating Temperature Range
- Mating Cycles
- Electrical
- Voltage Rating
- Current Rating
- Filtration Rating
- Materials / Finish
- Contact Plating
- Housing Plating

**At Cinch our philosophy is that anything is possible.**

With over 70 years' experience as a global supplier we offer simple, effective solutions to our customers' interconnect and integration needs. From basic interconnect to complex integration requiring bespoke design, we focus primarily on quality, ingenuity and reliability, meeting the high performance demands of industries such as Defence, Aerospace, Space, Telecom, High Speed Data Servers and Industrial Transportation.

**TOGETHER  
WE STIMULATE,  
WE INNOVATE,  
WE CREATE.**



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1700 Finley Road  
Lombard  
IL 60148 USA

Tel: 1.630.705.6000  
1.800.323.9612  
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Email: info@cinch.com

**CINCH CONNECTORS LTD.**  
Shireoaks Road  
Worksop  
Nottinghamshire  
S80 3HA

Tel: +44 (0) 1909 474131  
Fax: +44 (0) 1909 478321  
Email: info@cinch.com

**www.cinch.com**

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