



D-Sub

Product Presentation

Basics Portfolio



Agenda



1. Value Proposition
2. Product Overview
3. Product Specifications
4. Features & Benefits
5. Markets & Applications
6. Customization and Cable Assembly
7. Marcomm Collaterals

D-Sub

Value Proposition



The **comprehensive** FCI D-Sub solution includes **10 product categories** from the **standard density** to the **High performance** with high customization possibilities.

The wide range of D-Sub solutions **meet all the design** requirements including those in **harsh environment** and for **military** applications.

The D-Sub solution includes also a **full power and mixed power versions** which has been specifically developed for power applications in industrial and telecom market segment. PC board connectors are delivered with preloaded power contacts (10 - 40A). Cable crimp and solder power contacts are delivered with **colour code plastic clips** for an easy wire gauge identification.

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Product Family Overview



D-SUB STANDARD BOARD MOUNT CONNECTORS



D-SUB CABLE CONNECTORS



D-SUB HIGH DENSITY BOARD MOUNT CONNECTORS



D-SUB POWER BOARD MOUNT CONNECTORS



HIGH PERFORMANCE D-SUB POWER BOARD MOUNT



D-SUB ECONOMY RANGE BOARD MOUNT CONNECTORS



D-SUB MICROTCA CONNECTORS



D-SUB ACCESSORIES



D-SUB PIN IN PASTE CONNECTORS



D-SUB PRESSFIT CONNECTORS



FILTERED D-SUB

D-Sub

Applications Specifications

PCB Applications

- Signal standard density: 9 to 50 way connectors (up to 7.5 A)
- Signal high density solder: 15, 26, 44, 62 and 78 way connectors up to 2.5 A)
- Power and coax : Wide range of layouts from 2V2 to 36W4
- Power, up to 40 A including the new μ TCA high power IO
- Solder to board and press-fit terminations available Pin in Paste (Through Hole Reflow)
- New Dub Economy range (9 to 37 position) added to the product range



Cable Applications

- SIGNAL: 9 to 50 way connectors
- POWER: Wide range of layouts from 2V2 to 36W4
- TERMINATION: Solder bucket, Crimp and IDC
- ACCESSORY: Comprehensive associated accessories



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Product Specifications



Applications

- Networking
- Office Equipments
- Telecom Equipments
- Security Equipments
- Set Top Boxes
- Laptops
- POS (Point of Sales) Equipments
- Medical Equipments

Specifications

Mating Direction	Right Angle or Vertical
Speed	Cat.3 : up to 16MHz Cat 5 : up to 100MHz
Plating	Active area:Gold over Nickel Termination area Tin over Nickel
Max Current Rating per Contact	5A
Dielectric withstanding voltage (DWW)	1000 Vms
Rated Voltage	300 Vms
Installation Resistance	$\leq 10 \text{ M}\Omega$
Contact Resistance (straight version)	$\leq 10 \text{ m}\Omega$
Specifications	UL File no. E1182



D-Sub High Density

General Product Specifications



Applications	Specifications	
<ul style="list-style-type: none">■ Networking■ Office Equipments■ Telecom Equipments■ Security Equipments■ Set Top Boxes■ Laptops■ POS (Point of Sales) Equipments■ Medical Equipments	Mating Direction	Right Angle or Vertical
	Speed	Cat.3 : up to 16MHz Cat 5 : up to 100MHz
	Plating	Active area:Gold over Nickel Termination area Tin over Nicke
	Max Current Rating per Contact	5A
	Dielectric withstanding voltage (DWW)	1000 Vms
	Rated Voltage	300 Vms
	Installation Resistance	≤ 10 MΩ
	Contact Resistance (straight version)	≤ 10 mΩ
	Specifications	UL File no. E118235



D-Sub High Density

Product Specifications

Product Facts

- Sizes Available: 15, 26, 44, 62 & 78 Positions
- Termination - Straight (PCB mounting)

Specifications

- Mounting options
- X: UNC 4-40 Clinch nuts with Board lock
- L: M3 clinch nuts with Board lock
- V: UNC 4-40 Screw locks with Board lock
- Standard hole for solder bucket & Crimp
- Durability 200 / 500 mating cycles

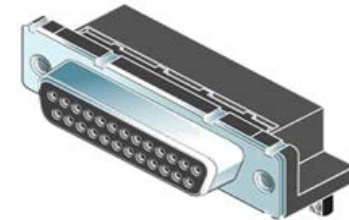


D-Sub Press-Fit Connectors

Product Specifications

Specifications

- Compatible with PCB thicknesses of 1.6, 2.4, 3.2 mm and more
- No soldering and easy to assemble
Maximum current rating per contact : 5 A
- Pin and socket: 9 to 50 ways
- Straight versions
 - 9 to 50 ways, two profiles : 6.00 and 5.60 mm heights
 - 9 to 25 ways, socket only : 6.30 mm profile for mezzanine applications
- Right angle versions :
 - 9 to 50 ways : Eurostyle (low profile) height: 3.70 mm
 - 9 to 37 ways : 7.20 mm height (Europe style)
 - 9 to 37 ways : 6.30 mm height (US style)

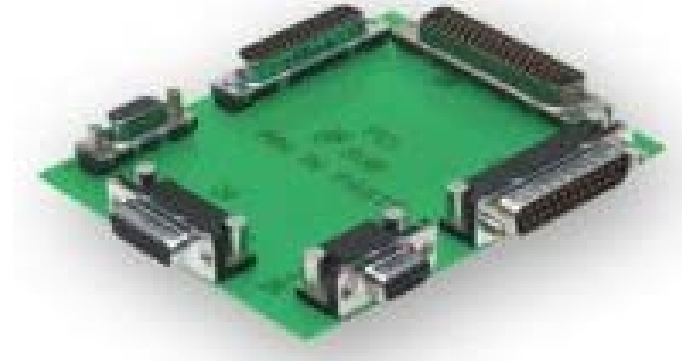


D-Sub Pin-In-Paste

Product Specifications

Advantages

- Time saving:
 - Pin In Paste connectors can be automatically positioned on the board using automatic pick and place processes (vacuum nozzle or gripper) whereas solder to board requires a manual placement
 - Compared with press-fit, PIP requires no manual additional operation
- Higher quality :
 - Pin In Paste is a more stabilized process when compared with solder to board
 - Less control time and less re-work time for repairing



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Features & Benefits – Part 1 of 2

Features	Benefits
A Basic I/O connector comes with five shell size and housing design	Most popular Rugged and sturdy I/O connector
Has a D-shaped shell design	Supports the need for polarisation
Meets DIN 41652 and MIL-C-24308 dimensional standards	Interchangeable and intermateable with other makes
Dsub connectors use machined as well as stamped contacts	Suitable for signal and high-end applications
High density Dsub connectors can accommodate more number of contacts in the basic shell sizes	Answer to the increasing need for higher density packaging
Power connectors both full and mixed layout available for PCB & Cable applications	Suitable for High current application
Pin In Paste Dsub connectors are derived from the solder to board design providing robustness and pre-existing true positioning	Applied cost is lower than SMT process
Pin In Paste use a through hole technology to solder connectors on boards by using a reflow process	Traditional Wave soldering can be avoided
A Basic I/O connector comes with five shell size and housing design	Most popular Rugged and sturdy I/O connector

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Features & Benefits – Part 2 of 2

Features	Benefits
Pin-in-Paste connectors comes in Tape & Reel packaging	Time saving as it can be automatically positioned on the board using pick and place processes
Pin-in-Paste connectors is a more stable process than wave soldering as it does not need constant adjust once set-up	Higher product quality ensured
No re-design of the board in Pin-in-Paste:	Same Pcb layouts with same hole dia can be used
PiP uses through hole pins and metal pegs	Higher robustness compared to SMT
Dsub press-fit connectors comes with eye of the needle termination combined with a special flat rock design	Allow easy press fit mounting and helps to replace wave soldering method
Economy range with lower durability cycles designed for less demanding applications	Robust and reliable connectors at competitive price
Various PCB and Panel mounting accessory options available	Wide variety of choices for secure connection
Hoods available in plastic, metalised and metallic form with locking screws	Supports cable connection; Prevents risks of pulling up and accidental unmating
Pin-in-Paste connectors comes in Tape & Reel packaging	Time saving as it can be automatically positioned on the board using pick and place processes

D-Sub

Main Market & Applications

- Industrial & Instrumentation



Programmable Controller



Test Equipment

- Consumer



Set Top Box



Smart Meter

- Data & Communication



Router



Serial Hub



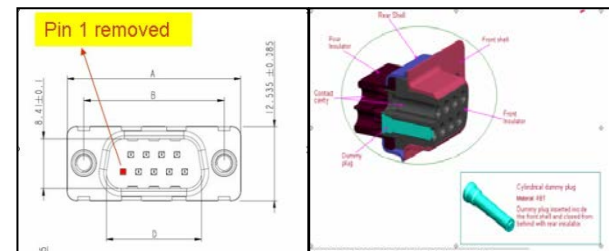
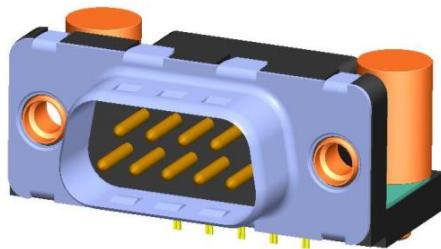
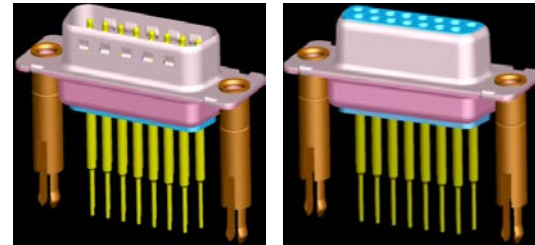
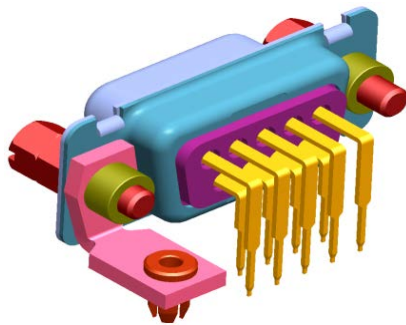
Serial Server

D-Sub Customization

Some Example



Some Example of the FCI capability to develop customized solutions



D-Sub Cable Assembly



Some Example

Some Example of the FCI capability to provide cable assembly based on customer requirements



D-Sub

Marcomm Collaterals

Available on FCI.com

- Technical Data Sheets



INPUT/ OUTPUT CONNECTORS



FILTERED D-SUB

OVERVIEW

In applications where connectors are used as an interface in shielded enclosures, the plastic isolating body of connectors provide no shielding against any interference signals that may be present. In such cases, high frequency interference signals can be passed in or out of the system without hindrance. Filtered connectors can help to maintain signal integrity and EMC protection in critical applications and thereby safeguard the function of electrical devices and systems.

The connector is constructed by combining standard D-Sub components with a filter element mounted between each contact and the ground shell. The end product has footprint dimensions similar to standard versions, making the changeover from a standard Non-Filtered connector in an existing Electronic system to a filter connector simple.

FCI's Filtered D-Sub is designed to provide a solution for EMI & RFI protection in a wide variety of applications in Telecommunication, Medical, Data, Consumer, Instrumentation and Military.



FEATURES

- Filter element mounted between each contact and the Ground Shell
- C Type Filter with Planar Array Filter is used
- Interchangeable with standard Non-Filtered D-Sub Connectors
- Accessories used in standard Non-Filtered version D-Sub Connectors can be used
- Filter integrated within the Connector
- Existing Non-Filtered Connector can be easily replaced with Filter Connector in existing application
- Both external EMI & EMI generated internally from the device will be re-directed to ground circuit via Metallic body of the Connector
- Filtered Power D-Sub can be developed in 2V2, 3V3, 5V5, 8V8

BENEFITS

- A unique solution for Power Line Filtering
- Cost effective and most popular
- Existing Cable Connector can be used
- Standardisation of accessories
- Enables PCB space saving and helps Connector fit into footprints of standard Non-Filtered version D-Sub Connectors.
- Can achieve improved EMC performance
- Can safeguard the function of electrical devices and systems
- Can be installed directly on the Backplane, Back Panel, Module or Power Supply Cable

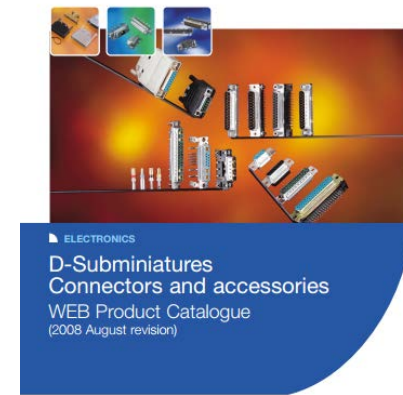
D-Sub

Marcomm Collaterals

Available on FCI.com

- Product Catalogue

- Part Numbers & Drawings



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Part Number	Image	Status	Product Name
CD26S13M6RV12LF		ACTIVE	Signal 26 way Socket RA Pin in Paste Europe Standard, Female screw UNC 4-40 +Metal pegs+ Electrical continuity, termination 3.18mm, High Temp. Insulator, Tape and Reel packaging for Gripper or Vacuum nozzle
D09P13A6RL09LF		ACTIVE	Signal 9 way Pin Right Angle Pin in Paste Europe Standard, Insert M3 +Metal pegs + Electrical continuity, High Temp. Insulator, Tray packaging
D09P13A6RL12LF		ACTIVE	Signal 9 way Pin Right Angle Pin in Paste Europe Standard, Insert M3 +Metal pegs + Electrical continuity, High Temp. Insulator, Tape and Reel packaging for Gripper or Vacuum nozzle
D09P13A6RV09LF		ACTIVE	Signal 9 way Pin Right Angle Pin in Paste Europe Standard, Female screw UNC 4-40 + Metal pegs +Electrical cont., High Temp. Insulator, Tray packaging
D09P13A6RV12LF		ACTIVE	Signal 9 way Pin RA Pin in Paste Europe Standard, Female screw UNC 4-40 + Metal pegs +Electrical cont., High Temp. Insulator, Tape and Reel packaging for Gripper or Vacuum nozzle



THANK YOU

