



# Digital Visual Interface (DVI) Connector System

## DVI



## Description

The new Digital Visual Interface (DVI) connector system from FCI provides high-performance digital-only and integrated digital/analog interface between a host device and display device in high-resolution video applications. The connectors are compliant with the DVI 1.0 Specification established by the Digital Display Working Group (DDWG<sup>\*</sup>). The purpose of this specification is to provide the industry specification for a digital interface between a computing device and a display device.

FCI's DVI connector series supports one or two digital channels driven by Transition Minimized Differential Signaling (TMDS<sup>™</sup>). TMDS provides the technical basis for the DVI 1.0 Specification. The DVI uses Silicon Image's TMDS for the base electrical interconnection, and the TMDS link is used to send graphics data to the monitor.

The product offering includes: digital only (DVI-D) right angle receptacles, vertical receptacles, and cable plugs with 24 positions; combined digital and analog (DVI-I) right angle receptacles, vertical receptacles, and cable plugs with 29 positions; DVI-D cable plugs with 18 positions; and mounting screws for receptacles. The DVI-I connector conserves PCB real estate and allows for digital and analog support in a single connector instead of two connections.

\* DDWG Promoters are Intel, Silicon Image, Compaq, Fujitsu, Hewlett-Packard, IBM, and NEC.  
TMDS is a trademark of Silicon Image, Inc.

<http://www.fciconnect.com>

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## Features & Benefits

- Fully compliant with the DDWG's DVI 1.0 Specification
- Interface provides "lossless" transmission of image data, improving image quality by means of digital signaling from the PC's graphic subsystem to the display
- 24-position, digital-only (DVI-D) right angle and vertical receptacles, and cable plugs
- 29-position, integrated digital/analog (DVI-I) right angle and vertical receptacles, and cable plugs
- 18-position DVI-D cable plug with single-link digital signaling
- 24-position DVI-D cable plug with dual-link digital signaling

### Receptacle

- Single-piece shell with integral board locks
- Tail guide in right angle receptacle prevents pin bending and ensures pin alignment
- Recessed pin tips provide Electrostatic Discharge (ESD) protection
- # 4 - 40 UNC mounting screws for receptacles are available

### Cable Plug

- Fully-shielded for excellent Electromagnetic Interference (EMI) and Radio Frequency Interference (RFI) performance
- Detents provide EMI protection
- Staggered pins facilitate the soldering process
- Solder cups on pins also enable easy soldering
- Tail guide ensures pin retention
- Optional First Mate Last Break (FMLB) for hot plugging

## Target Markets & Applications

### Computing

- Desktop PCs, notebook computers, workstations, servers, graphics cards

### PC Peripherals

- Digital and analog CRT monitors, LCD flat panel displays, projectors

### Consumer Electronics

- Set-top boxes, DVDs, digital TVs, digital display devices with DVI interface

### Industrial and Instrumentation

- POS terminals



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## Technical Features

### Materials

#### Receptacle

- Housing: Glass-filled thermoplastic, UL 94 V-0
- Contacts: Copper alloy
- Shell: Steel

#### Cable Plug

- Housing: Glass-filled thermoplastic, UL 94 V-0
- Contacts: Copper alloy
- Shell: Steel

### Mechanical Performance

- Mating force: 4.5 kg max. @ 25 mm/minute
- Unmating force: 1.0 kg min. and 4.0 kg max. @ 25 mm/minute
- Durability: 100 mating cycles

### Electrical Performance

- Insulation resistance: 1000 MΩ min.
- Dielectric withstanding voltage: 500V DC rms ±50V, 60 Hz
- Current rating: 1.5 A min.
- Shell resistance: 50 mΩ max. initial; 50 mΩ max. change from initial
- Contact resistance: 20 mΩ max. initial per contact mated pair; 10 mV max. change from initial per contact mated pair

### Environmental Properties

- Operating temperature range: -20°C to +85°C

### Packaging

- Trays: 50 pieces per tray; 13 trays per box

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## Specifications

- Product specification: GES-12-159
- Packaging specification: GES-14-530

## Ordering Information

### Right Angle Receptacle

5 2 5 2 0 - X X X X X X

#### Number of Contacts

- 24 – Digital only
- 29 – Combined digital and analog

#### Post

- 1 – With post

#### Housing Color

- 0 – Black
- 1 – Natural

#### Mounting Screws

- 0 – Without mounting screws
- 1 – With mounting screws (unassembled)

#### Plating

- 0 – Gold flash
- 1 – 15 μin. gold
- 2 – 30 μin. gold

### Cable Plug

5 2 5 6 9 - X X X X

#### Number of Contacts

- 18 – Digital only (single link)
- 24 – Digital only (dual link)
- 29 – Combined digital and analog

#### Housing Color

- 0 – Black
- 1 – Natural

#### Plating

- 0 – Gold flash
- 1 – 15 μin. gold
- 2 – 30 μin. gold

### Vertical Receptacle

5 2 5 2 7 - X X X X X X

#### Number of Contacts

- 24 – Digital only
- 29 – Combined digital and analog

#### Post

- 0 – Without post

#### Housing Color

- 0 – Black
- 1 – Natural

#### Mounting Screws

- 0 – Without mounting screws
- 1 – With mounting screws (unassembled)

#### Plating

- 0 – Gold flash
- 1 – 15 μin. gold
- 2 – 30 μin. gold

### Mounting Screws for Receptacles

Part Number 52554-001 # 4 - 40 UNC Mounting Screws