

## Delphi Heavy Duty 1.0mm Vane Connection System

**Description** – Delphi's Heavy Duty 1.0mm Vane Connection System (HD-V100) is designed specifically for the harsh underhood environments of commercial vehicles. The connection system is available in 50 way and 60 way configurations with both female harness connector and mating header. The connection system features a 1.0 mm Vane terminal (V100), which offers a unique one piece design with four contact points.

**Typical Applications** – Delphi's HD-V100 connection system is optimal for devices requiring large I/O in the harsh underhood environment. Typical applications include:

- Engine controllers
- ABS modules
- Transmission controllers

**Performance Advantages** – The V100 terminal is a unique one piece design, with four contact points supported and protected by an external shield can. The terminal is tin plated with selective gold plating at the contact interface. The terminal is capable of 7.5 Amps, at 125°C and can withstand the harsh vibration requirements of 29.5 g RMS required by the commercial vehicle industry.



The female connector uses a unique pre-stage feature which aids in ensuring the terminals are fully seated. The harness connector is initially plugged, in the pre-staged position, with the V100 terminals. The connector is closed with the harness build tooling. If a terminal were not fully seated, this secondary connector operation pushes a partially seated terminal into place, virtually eliminating unseated terminals in the vehicle assembly plant.

# DELPHI

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To help prevent the female terminals contact from being damaged in the build process, the harness connector has a built-in probing window. The harness ring-out pin will make contact with the outside of the terminal, keeping the probe away from the critical terminal contact area.

The vehicle assembly plant will virtually eliminate damage to costly controllers through an over-torque condition. The bolt in the female harness connector has been designed to break before damaging the controller.

The true position of the header is some of the tightest in the industry. At .225 mm true position, this will help ensure the controller manufacturer will have no difficulties with pin alignment to the circuit board.

**Application Guidelines –**

- Cable Range . . . . . 0.35 to 1.0 mm<sup>2</sup> core,  
1.47 to 2.42 O.D.
- Current Range . . . . . 0 - 7.5 Amps at 125°C
- Interface Temperature Range . -40°C to 125°C
- Resistance . . . . . < 10 mΩ @ 20mV
- Voltage Drop . . . . . < 10 mV/Amp
- Centerline Spacing . . . . . 4.42 x 4.42 mm
- Pin Diameter . . . . . 1.03 ± 0.02 mm
- Selective Gold Plating
  - Thickness . . . . . 50 micro inches
- Terminal Engage Force . . . . . 9 N avg./12 N max.
- Terminal Retention Force . . . . . 90 N
- Sealing Protection . . . . . IPX7
- Vibration Performance . . . . . 29.5 g RMS

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