The Metri-Pack 280 Series unsealed electronic header is a versatile, and extremely rugged system designed to meet customer’s power circuit needs. This system offers the combination of excellent low energy electronic circuits and power circuit capability in a single connection.

The Metri-Pack 150 Series sealed electronic header is a rugged system designed for severe underhood environments. This system offers the combination of excellent low energy electronic circuits and power circuit capability in a single connection. Metri-Pack 150 Series sealed header systems are ideally suited for critical, low-energy electronic applications that require protection from environmental hazards.

Metri-Pack Header Features

- **Terminal Position Assurance (TPA)**
- 14 Amps continuous maximum current rating for 150 Metri-Pack Series
- 30 Amps continuous maximum current rating for 280 Metri-Pack Series
- Low energy, low voltage capability
- Small overall dimensions
- Bolt assist connector to connector lock
- -40°C to 125°C temperature range
Metri-Pack Series

150 HEADER

Cross Sectional View

Female Connector Assembly

Male Header Connector Assembly

150 PULL-TO-SEAT FEMALE TERMINALS SEALED

<table>
<thead>
<tr>
<th>Part #</th>
<th>Cable Range (mm²)</th>
<th>Material</th>
<th>Plating</th>
</tr>
</thead>
<tbody>
<tr>
<td>12089290</td>
<td>0.50-0.35</td>
<td>Silicon Bronze</td>
<td>Tin</td>
</tr>
<tr>
<td>12103881</td>
<td>1.0-0.80</td>
<td>Silicon Bronze</td>
<td>Tin</td>
</tr>
<tr>
<td>12110236</td>
<td>0.80</td>
<td>Beryllium Copper</td>
<td>Tin</td>
</tr>
</tbody>
</table>

150 METRI-PACK FEMALE CONNECTOR ASSEMBLIES SEALED*

<table>
<thead>
<tr>
<th># Cavities</th>
<th>Connector Assembly</th>
<th>Color</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>18way: 18</td>
<td>12040921</td>
<td>Black</td>
<td>PBT 30% GF</td>
</tr>
<tr>
<td>30way: 30</td>
<td>12048455</td>
<td>Dk. Gray</td>
<td>PET 30% GF</td>
</tr>
<tr>
<td>48way: 18</td>
<td>12040921</td>
<td>Black</td>
<td>PBT 30% GF</td>
</tr>
<tr>
<td>: 30</td>
<td>12034398</td>
<td>Black</td>
<td>PET 30% GF</td>
</tr>
<tr>
<td>60way: 30</td>
<td>12034398</td>
<td>Black</td>
<td>PET 30% GF</td>
</tr>
<tr>
<td>: 30</td>
<td>12034400</td>
<td>Black</td>
<td>PET 30% GF</td>
</tr>
</tbody>
</table>

*Multiple cable seal is included in connector assembly.

http://delphi.com/products/connect
Sealed System Application Information

**150 SERIES TERMINALS—Tin Plated**

*C*The test data are based on single circuits in free space and were generated using a “Lumped Resistance” model. This model does not account for all of the variables that would be present in an actual application. For actual product performance, contact your regional support representative at the number listed below.

**CABLE RANGE (mm²):** ....... 0.35-1.0  
**CURRENT RANGE (AMPS):** .......... 0-14  
**TEMP RANGE °C:** .......... -40 to 125  
**RESISTANCE:** .......... <10mΩ@20mV  
**VOLTAGE DROP:** .......... <10mV/amp  
**CENTERLINE SPACING (mm):** .......... Connector Dependent  
**BLADE WIDTH (mm):** ........... 1.5

**CABLE SEAL PLUGS**

<table>
<thead>
<tr>
<th>Part #</th>
<th>Cable Seal Hole Diameter (mm)</th>
<th>Material</th>
<th>Color</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>12065266</td>
<td>1.85-1.65</td>
<td>PA6</td>
<td>Md. Gray</td>
<td>Machine Insertion</td>
</tr>
<tr>
<td>12034413</td>
<td>1.85-1.10</td>
<td>PA66 HS IM</td>
<td>Black</td>
<td>Hand Insertion</td>
</tr>
</tbody>
</table>

**SECTION NOTES:**

- Contact your regional support representative at the number listed below.
- Due to rigid tolerances of connector cavities, it is critical to meet all crimp dimensions as specified.
- Overall mated length varies with bolt measurement.
- Inner connector seal included in Male Header Connector Assemblies where applicable.

---

**150 METRI-PACK MALE HEADER CONNECTOR ASSEMBLIES SEALED**

<table>
<thead>
<tr>
<th>Pins</th>
<th>Connector</th>
<th>Color</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>12040923</td>
<td>Black</td>
<td>PET 30% GF</td>
</tr>
<tr>
<td>30</td>
<td>12048453</td>
<td>Dk. Gray</td>
<td>PET 30% GF</td>
</tr>
<tr>
<td>48</td>
<td>12052130</td>
<td>Black</td>
<td>PET 30% GF</td>
</tr>
<tr>
<td>60</td>
<td>12034396</td>
<td>Black</td>
<td>PET 30% GF</td>
</tr>
</tbody>
</table>

Terminals Included in Male Header.
A PART NO: 12048455
DESCRIPTION: Connector Assembly 30F
SIZE: 26.1L x 25.1H x 59.8W
COLOR: Dk. Gray
MATERIAL: PET 30% GF
TERMINALS: See Page 154, 150 Pull-To-Seat Female
PLUGS: See Page 155, Cable Seal Plugs

B PART NO: 12048453
DESCRIPTION: Connector Assembly 30M
SIZE: 39.5L x 37.2H x 70.0W
COLOR: Dk. Gray
MATERIAL: PET 30% GF
NOTE: Shipping cover 12040542 included.

C PART NO: 12048456
DESCRIPTION: Flange Seal
COLOR: Green
MATERIAL: Silicone

D PART NO: 12040921
DESCRIPTION: Connector Assembly 18F
SIZE: 26.1L x 25.4H x 44.3W
COLOR: Black
MATERIAL: PBT 30% GF
TERMINALS: See Page 154, 150 Pull-To-Seat Female
PLUGS: See Page 155, Cable Seal Plugs

E PART NO: 12040923
DESCRIPTION: Connector Assembly 18M
SIZE: 39.5L x 37.2H x 54.0W
COLOR: Black
MATERIAL: PET 30% GF
NOTE: Shipping cover 12040940 included.

F PART NO: 12040938
DESCRIPTION: Flange Seal
COLOR: Green
MATERIAL: Silicone

http://delphi.com/products/connect
Metri-Pack Series

PART NO: 12034398
DESCRIPTION: Connector Assembly 30F
SIZE: 26.1L x 25.4H x 59.8W
COLOR: Black
MATERIAL: PET 30% GF
TERMINALS: See Page 154, 150 Pull-To-Seat Female
PLUGS: See Page 155, Cable Seal Plugs

PART NO: 12040921
DESCRIPTION: Connector Assembly 18F
SIZE: 26.1L x 25.4H x 44.3W
COLOR: Black
MATERIAL: PBT 30% GF
TERMINALS: See Page 154, 150 Pull-To-Seat Female
PLUGS: See Page 155, Cable Seal Plugs

PART NO: 12052130
DESCRIPTION: Connector Assembly 48M
SIZE: 39.5L x 37.2H x 114.0W
COLOR: Black
MATERIAL: PET 30% GF
NOTE: Shipping covers 12040940 and 12040542 included.

PART NO: 12052131
DESCRIPTION: Flange Seal
COLOR: Green
MATERIAL: Silicone

Total Mated Length: 57.8mm

http://delphi.com/products/connect
Metri-Pack Series

**150 HEADER**

A **PART NO:** 12034398  
**DESCRIPTION:** Connector Assembly 30F  
**SIZE:** 26.1L x 25.1H x 59.8W  
**COLOR:** Black  
**MATERIAL:** PET 30% GF  
**TERMINALS:** See Page 154, 150 Pull-To-Seat Female  
**PLUGS:** See Page 155, Cable Seal Plugs

B **PART NO:** 12034400  
**DESCRIPTION:** Connector Assembly 30F  
**SIZE:** 26.1L x 25.1H x 59.8W  
**COLOR:** Black  
**MATERIAL:** PET 30% GF  
**TERMINALS:** See Page 154, 150 Pull-To-Seat Female  
**PLUGS:** See Page 155, Cable Seal Plugs

C **PART NO:** 12034396  
**DESCRIPTION:** Connector Assembly 60M  
**SIZE:** 39.5L x 37.2H x 130.0W  
**COLOR:** Black  
**MATERIAL:** PET 30% GF  
**NOTE:** Shipping cover 12040542 (2 Req’d.) included

D **PART NO:** 12040780  
**DESCRIPTION:** Flange Seal  
**COLOR:** Green  
**MATERIAL:** Silicone

Total Mated Length: 57.8mm

http://delphi.com/products/connect
**PART NO:** 12065425  
**DESCRIPTION:** Connector Assembly 10F  
**SIZE:** 26.0L x 28.4H x 42.2W  
**COLOR:** Black  
**MATERIAL:** PA66 HS IM  
**TERMINALS:** See below, 150 Female Push to Seat  
**SEALS/PLUGS:** See below, 150 Metri-Pack

**PART NO:** 12124264  
**DESCRIPTION:** TPA  
**COLOR:** Gray  
**MATERIAL:** PA6

**PART NO:** 12160446  
**DESCRIPTION:** Connector Assembly 10M  
**SIZE:** 26.8L x 21.5H x 40.5W  
**COLOR:** Black  
**MATERIAL:** PBT 30% GF  
**NOTE:** Sealing Shroud and Locking Feature for Connector Assembly must be designed into mating device housing.

### 150 Female Terminals Sealed

<table>
<thead>
<tr>
<th>Part #</th>
<th>Cable Range (mm²)</th>
<th>Material</th>
<th>Plating</th>
</tr>
</thead>
<tbody>
<tr>
<td>12048074</td>
<td>1.0-0.80</td>
<td>Silicon Bronze</td>
<td>Tin</td>
</tr>
<tr>
<td>12084200</td>
<td>0.50-0.35</td>
<td>Silicon Bronze</td>
<td>Tin</td>
</tr>
<tr>
<td>12160223</td>
<td>1.0-0.80</td>
<td>Beryllium Copper</td>
<td>Silver/Nickel</td>
</tr>
<tr>
<td>12160222</td>
<td>0.50-0.35</td>
<td>Beryllium Copper</td>
<td>Silver/Nickel</td>
</tr>
</tbody>
</table>

### 150 Metri-Pack Cavity Plug*

<table>
<thead>
<tr>
<th>Part #</th>
<th>Cavity Inside Diameter</th>
<th>Material</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>12059168</td>
<td>5.2mm</td>
<td>Silicone</td>
<td>Dk. Red</td>
</tr>
</tbody>
</table>

*Cavity plugs seal unused female and male cavities.

### 150 Metri-Pack Cable Seals

<table>
<thead>
<tr>
<th>Reel Part #</th>
<th>Loose Part #</th>
<th>Cable Diameter</th>
<th>Material</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>12052924</td>
<td>12048086</td>
<td>2.85-2.03</td>
<td>Silicone</td>
<td>Dk. Red</td>
</tr>
<tr>
<td>12089442</td>
<td>12089678</td>
<td>2.15-1.60</td>
<td>Silicone</td>
<td>White</td>
</tr>
<tr>
<td>12052925</td>
<td>12048087</td>
<td>1.70-1.29</td>
<td>Silicone</td>
<td>Blue</td>
</tr>
<tr>
<td>12124669</td>
<td>12084193</td>
<td>1.009-0.995</td>
<td>Silicone</td>
<td>Tan</td>
</tr>
</tbody>
</table>

http://delphi.com/products/connect
## Metri-Pack Series

### 280 Header

**Cross Sectional View**

![Female Connector](image1.png) ![终端](image2.png)

**280 TANGLESS FEMALE TERMINALS UNSEALED**

<table>
<thead>
<tr>
<th>Part #</th>
<th>Cable Range (mm²)</th>
<th>Material</th>
<th>Plating</th>
</tr>
</thead>
<tbody>
<tr>
<td>12129425</td>
<td>5.0</td>
<td>Tin Brass</td>
<td>Tin</td>
</tr>
<tr>
<td>12129663</td>
<td>3.0</td>
<td>Tin Brass</td>
<td>Tin</td>
</tr>
<tr>
<td>12129424</td>
<td>2.0-1.0</td>
<td>Tin Brass</td>
<td>Tin</td>
</tr>
<tr>
<td>12110842*</td>
<td>3.0-2.0</td>
<td>Tin Brass</td>
<td>Tin</td>
</tr>
<tr>
<td>12110844*</td>
<td>1.0-0.80</td>
<td>Tin Brass</td>
<td>Tin</td>
</tr>
<tr>
<td>12110843*</td>
<td>0.50-0.35</td>
<td>Tin Brass</td>
<td>Tin</td>
</tr>
<tr>
<td>12129061*</td>
<td>0.35 (2 Req’d.)</td>
<td>Tin Brass</td>
<td>Tin</td>
</tr>
</tbody>
</table>

*Thin Stock*—Electrical current restrictions apply, contact your regional support representative at the number listed below.

**280 METRI-PACK FEMALE CONNECTOR UNSEALED**

<table>
<thead>
<tr>
<th>Part #</th>
<th>Cable Range (mm²)</th>
<th>Material</th>
<th>Plating</th>
</tr>
</thead>
<tbody>
<tr>
<td>12015858</td>
<td>5.0</td>
<td>Tin Brass</td>
<td>Tin</td>
</tr>
<tr>
<td>12129494</td>
<td>3.0-2.0</td>
<td>Tin Brass</td>
<td>Tin</td>
</tr>
<tr>
<td>12034046</td>
<td>1.0-0.80</td>
<td>Tin Brass</td>
<td>Tin</td>
</tr>
<tr>
<td>12052217</td>
<td>0.50-0.35</td>
<td>Tin Brass</td>
<td>Tin</td>
</tr>
<tr>
<td>12162597*</td>
<td>3.0-2.0</td>
<td>Tin Brass</td>
<td>Tin</td>
</tr>
<tr>
<td>12162595*</td>
<td>1.0-0.80</td>
<td>Tin Brass</td>
<td>Tin</td>
</tr>
<tr>
<td>12162596*</td>
<td>0.50-0.35</td>
<td>Tin Brass</td>
<td>Tin</td>
</tr>
</tbody>
</table>

*Thin Stock*—Electrical current restrictions apply, contact your regional support representative at the number listed below.

**280 METRI-PACK FLEXLOCK FEMALE CONNECTOR UNSEALED**

<table>
<thead>
<tr>
<th>Part #</th>
<th>Connector</th>
<th>Color</th>
<th>Material</th>
<th>Plating</th>
</tr>
</thead>
<tbody>
<tr>
<td>12052856</td>
<td>12052856</td>
<td>Black</td>
<td>PA66 HS IM</td>
<td>15324456</td>
</tr>
<tr>
<td>15357040</td>
<td>15357040</td>
<td>Lt. Gray</td>
<td>PA66 HS IM</td>
<td>15324332</td>
</tr>
</tbody>
</table>

*Thin Stock*—Electrical current restrictions apply, contact your regional support representative at the number listed below.

---

http://delphi.com/products/connect
Unsealed System Application Information

**280 SERIES TERMINALS – Tin Plated**

- Temperature Rise Above Ambient (25°C) vs Current:
  - 0.50°C
  - 0.80°C
  - 1.0°C
  - 2.0°C
  - 3.0°C
  - 5.0°C

- Temperature Derating Curves:
  - 5.0°C
  - 3.0°C
  - 2.0°C
  - 1.0°C
  - 0.80°C
  - 0.50°C

*C* The test data are based on single circuits in free space and were generated using a “Lumped Resistance” model. This model does not account for all of the variables that would be present in an actual application. For actual product performance, contact your regional support representative at the number listed below.

---

### 280 Metri-Pack Male Header Connector Assembly Unsealed

<table>
<thead>
<tr>
<th>Pins</th>
<th>Connector</th>
<th>Color</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>12110440</td>
<td>Black</td>
<td>PA66 HS IM</td>
</tr>
</tbody>
</table>

**SECTION NOTES:**

- Contact your regional support representative at the number listed below.
- Due to rigid tolerances of connector cavities, it is critical to meet all crimp dimensions as specified.

---

### 280 Metri-Pack Male Header Connector Assembly Unsealed

<table>
<thead>
<tr>
<th>Pins</th>
<th>Connector</th>
<th>Color</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>12146724</td>
<td>Gray</td>
<td>PBT 30% GF</td>
</tr>
</tbody>
</table>
Metri-Pack Series 280 Header

A PART NO: 12052856
DESCRIPTION: Connector 4F
SIZE: 24.0L x 14.0H x 23.3W
COLOR: Black
MATERIAL: PA66 HS IM
TERMINALS: See Page 160, 280 Female

B PART NO: 15324456
DESCRIPTION: TPA
COLOR: Lt. Gray
MATERIAL: PA6

C PART NO: 12110440
DESCRIPTION: Connector 4M
SIZE: 25.7L x 17.9H x 26.7W
COLOR: Black
MATERIAL: PA66 HS IM

D PART NO: 15357040 (Lt. Gray)
12129088 (Black)
DESCRIPTION: Connector 8F
SIZE: 23.7L x 24.7H x 34.4W
MATERIAL: PA66 HS IM
TERMINALS: See Page 160, 280 Tangless Female

E PART NO: 15324332
DESCRIPTION: TPA
NUMBER REQ: 2
COLOR: Natural
MATERIAL: PA66 HS IM

F PART NO: 12052834
DESCRIPTION: CPA
COLOR: Green
MATERIAL: PP

G PART NO: 12146724 (Gray)
12146735 (Black)
DESCRIPTION: Connector 8M
SIZE: 43.3L x 27.9H x 44.7W
MATERIAL: PBT 30% GF

Total Mated Length: 40.4mm

Total Mated Length: 50.8mm

http://delphi.com/products/connect