SEALED CONNECTORS FOR MULTIPLE WIRES™

A HYDRA-LINK™ PRODUCT LINE • SEALED FOR CONDUCTIVITY
IN-LINE BUTT CONNECTORS
JOIN TWO WIRES TO ONE WIRE ...

Color dash on tubing indicates the wire gauge for the connector

Color stripes on the connector indicate which crimp die to use

Tubing has an active adhesive that seals between multiple wires

Butt connectors are used to join two wires to one wire. They consist of a tubing with an active adhesive that seals between multiple wires and a connector with color stripes indicating which crimp die to use.

<table>
<thead>
<tr>
<th>Part #</th>
<th>Wire Range</th>
<th>Tubing Color</th>
<th>Wire</th>
<th>Crimp Die (Insulated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HL57-20</td>
<td>24-22 AWG</td>
<td>Clear / White Dashes</td>
<td>One 24-22 AWG</td>
<td>White (24-22 AWG)</td>
</tr>
<tr>
<td>HL57-16</td>
<td>20-18 AWG</td>
<td>Clear / Red Dashes</td>
<td>Two 24-22 AWG</td>
<td>Red (20-18 AWG)</td>
</tr>
<tr>
<td>HL57-14</td>
<td>16-14 AWG</td>
<td>Clear / Blue Dashes</td>
<td>One 20-18 AWG</td>
<td>Red (20-18 AWG)</td>
</tr>
<tr>
<td>HL57-10</td>
<td>12-10 AWG</td>
<td>Clear / Yellow Dashes</td>
<td>Two 20-18 AWG</td>
<td>Blue (16-14 AWG)</td>
</tr>
</tbody>
</table>

CLOSED-END CONNECTORS
JOIN TWO TO FOUR WIRES ...

Closed-end connectors are crimped here. In environments where corrosion and/or vibration are a problem, the closed-end connector can be used to replace wire nuts.

Closed-end connectors have an active adhesive that seals multiple wires and eliminates wire pull-out.

<table>
<thead>
<tr>
<th>Part #</th>
<th>Connector</th>
<th>Wire Range</th>
<th>Tubing Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>HL8-22-14</td>
<td>Wire</td>
<td>22-14 AWG</td>
<td>Clear / Blue Dashes</td>
</tr>
<tr>
<td>HL8-18-10</td>
<td>Connect</td>
<td>18-10 AWG</td>
<td>Clear / Yellow Dashes</td>
</tr>
</tbody>
</table>

MINI ASSORTMENTS
NSPA-9216

STARTER ASSORTMENTS
NSPA-5216

TOOLS
T-R-15
Multi Purpose Crimp Tool

T-MT-4E
Self Igniting Butane Refillable Micro Torch

T-MT-51
Self-Igniting Butane Refillable Canister Torch

NNSSPPAA-99221166
NNSSPPAA-55221166

T-R-15
Multi Purpose Crimp Tool

T-MT-4E
Self Igniting Butane Refillable Micro Torch

T-MT-51
Self-Igniting Butane Refillable Canister Torch
THE COMPONENTS

THE MULTIPLE WIRE CONNECTOR

THE COMPETITOR’S VERSION

The outside diameter of the butt connector is the same on both ends and only the inside diameter is adjusted for the different wire gauge. This means that the side for the smaller wire has a much thicker wall than normal and is extremely difficult to crimp. **POTENTIAL FOR WIRE PULL-OUT!**

OUR VERSION

The inside AND the outside diameter of the connector is varied which means that both sides will make a sound mechanical crimp.

The barrel has two stripes - one on each end - to indicate which wire size to insert. Plus, the stripe matches the crimp die that needs to be used. For example, the blue stripe indicates the side where a 14 or 16 AWG wire is to be inserted, and it will be crimped in the blue crimp die.

**STRONG MECHANICAL TERMINATION!**

ADDITIONAL FEATURES OF THE CRIMP CONNECTOR

- Seamless butt connectors provide superior crimp performance
- Window in butt connectors allows for visual inspection to ensure all wires are fully inserted
- Butt connectors have indicators where the installation tool should be positioned to crimp connector
- Wire-stop in butt connector prevents over-insertion of the wires

THE HEAT SHRINK TUBING

- High adhesive-flow polyolefin to seal multiple wires
- Color-coded dash on tubing to indicate the wire gauge for the connector
- Clear tubing to allow for visual inspection

### PROBLEMS: EXISTING METHODS:

- QUICK-TAP
- 3-WAY CONNECTOR
- ADDING WIRE
- UNSEALED CONNECTOR

### SOLUTION:

- SEALED MULTIPLE WIRE CONNECTORS:
  - IN-LINE CONNECTOR

### PROBLEMS: EXISTING METHODS:

- WIRE NUT
- END-CAP

### SOLUTION:

- SEALED MULTIPLE WIRE CONNECTORS:
  - CLOSED-END CONNECTOR
PRODUCT CHARACTERISTICS

HEAT SHRINK TUBING

Material: Co-extruded, dual wall heat shrink tubing with a thermoplastic adhesive inner wall.

Characteristics: Semi-rigid; 4 to 1 shrink ratio; Excellent strain relief; Puncture resistant; Resistant to salt water, automotive fluids, corrosive chemicals; Functional over a wide temperature range

Applicable Specs: Chrysler MS-DB56 CPN 3686 Ford ES8-M99D56A1

Physical: Temperature Rating: -55° to 110°C Recovery Temperature: 121°C (250°F) Tensile Strength: 2450 PSI Longitudinal Change: 1%-10%

Electrical: Dielectric Strength (outer wall): 500 Volts/Mil Dielectric Withstand: 1000 Volts AC Current Leakage: < 0.250 Microamps

Functional over a wide temperature range

Applicable Specs: Chrysler MS-DB56 CPN 3686 Ford ES8-M99D56A1

Physical: Temperature Rating: -55° to 110°C Recovery Temperature: 121°C (250°F) Tensile Strength: 2450 PSI Longitudinal Change: 1%-10%

Electrical: Dielectric Strength (outer wall): 500 Volts/Mil Dielectric Withstand: 1000 Volts AC Current Leakage: < 0.250 Microamps

Chemical: Auto Fluid Compatibility: 8 Fluid Corrosion Resistance: Non-Corrosive

IN-LINE BUTT CONNECTOR INSTRUCTIONS:

1. For side of connector where two wires will be inserted, strip wires 3/8".
2. Select a connector that matches the wire gauge (see chart below) and insert the two wires into the larger side of the connector.
3. Make sure that the connector is properly seated and crimp the connector using an insulated connector crimping tool nest that matches the color stripe on the smaller side of the connector barrel.
4. For the side of the connector where one wire will be inserted, strip wire 5/16".
5. Insert the wire into the smaller side of the connector, make sure the wire is properly seated and crimp the connector using an insulated connector crimping tool nest that matches the color stripe on the smaller side of the connector barrel.
6. Apply heat evenly around the length of the tubing (including the crimp area) from the center out to the ends until the tubing fully recovers and the adhesive flows. During the heating process, separate the wire in the larger end of the connector to allow the adhesive to flow in between the wires.
7. Remove from the heat and let cool.

ONE WIRE TO TWO WIREs

<table>
<thead>
<tr>
<th>Part #</th>
<th>Wire Gauge/Color</th>
<th>Tubing Color</th>
<th>Wire Gauge 24-22 AWG</th>
<th>Wire Gauge 20-18 AWG</th>
<th>Wire Gauge 16-14 AWG</th>
<th>Wire Gauge 12-10 AWG</th>
<th>Wire Gauge 14-10 AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLS7-20</td>
<td>24-22 AWG Clear</td>
<td>White Dashes</td>
<td>Side 1: White</td>
<td>One 24-22 AWG</td>
<td>Red (20-18 AWG)</td>
<td>Yellow (12-10 AWG)</td>
<td></td>
</tr>
<tr>
<td>HLS7-16</td>
<td>20-18 AWG Clear</td>
<td>Red Dashes</td>
<td>Side 1: Red</td>
<td>One 20-18 AWG</td>
<td>Blue (16-14 AWG)</td>
<td>Yellow (12-10 AWG)</td>
<td></td>
</tr>
<tr>
<td>HLS7-14</td>
<td>16-14 AWG Clear</td>
<td>Blue Dashes</td>
<td>Side 1: Blue</td>
<td>One 16-14 AWG</td>
<td>Blue (16-14 AWG)</td>
<td>Yellow (12-10 AWG)</td>
<td></td>
</tr>
<tr>
<td>HLS7-10</td>
<td>12-10 AWG Clear</td>
<td>Yellow Dashes</td>
<td>Side 1: Yellow</td>
<td>One 12-10 AWG</td>
<td>Yellow (12-10 AWG)</td>
<td>Red (8 AWG)</td>
<td></td>
</tr>
</tbody>
</table>

CLOSED-END CONNECTOR INSTRUCTIONS:

1. Using the chart below, select the proper size of connector for the wires to be joined. A maximum of four wires may be connected.
2. Strip each wire 5/8".
3. Insert all wires into the connector, make sure that each wire is properly seated and crimp the connector using an insulated connector crimping tool nest that matches the color dash on the heat shrink tubing.
4. Apply heat evenly to the tubing until the tubing fully recovers and the adhesive flows. DO NOT heat the crimp area since this will burn the plastic portion of the connector. During the heating process, separate the wires to allow the adhesive to flow in between the wires.
5. Remove from the heat and let cool.

For best results, use a heat device of at least 400° F. When using an open flame, do not isolate the flame on one area of tubing. Distribute the heat evenly. Overheating the connector may cause damage to the tubing.

Rating: 105° C • 600V maximum building wire • 1000V maximum in signs and fixtures • To be sold only with installation instructions • Not for use with multiple power sources.

UP TO FOUR WIRES

<table>
<thead>
<tr>
<th>Connector</th>
<th>Wire Range</th>
<th>Tubing Color</th>
<th>Part #</th>
</tr>
</thead>
<tbody>
<tr>
<td>HL8-22-14</td>
<td>22-14 AWG</td>
<td>Clear Blue Dashes</td>
<td>HL8-22-14</td>
</tr>
<tr>
<td>HL8-18-10</td>
<td>18-10 AWG</td>
<td>Clear Yellow Dashes</td>
<td>HL8-18-10</td>
</tr>
</tbody>
</table>