

| WIRE SIZE |                              |         | CONNECTOR DESCRIPTION |                           |                           |                           |                           |
|-----------|------------------------------|---------|-----------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| COND(AWG) | INSUL DIA                    | NO.CODE | TYPE                  | 9-POSITION                | 15-POSITION               | 25-POSITION               | 37-POSITION               |
| 30 - 26   | 1.52 mm<br>[.060 in.]<br>Max | 1       | Receptacle            | 1-745491-6                | 1-745493-6                | 1-745495-7                | 1-745497-6                |
|           |                              |         | Plug                  | 1-745492-7                | 1-745494-7                | 1-745496-9                | 1-745498-6                |
| 26 - 22   |                              | 2       | Receptacle            | 1-745491-7,<br>1-745491-8 | 1-745493-4,<br>1-745493-5 | 1-745495-8,<br>2-745495-0 | 1-745497-5,<br>1-745497-7 |
|           |                              |         | Plug                  | 1-745492-8,<br>2-745492-0 | 1-745494-5,<br>1-745494-6 | 1-745496-7,<br>1-745496-8 | 1-745498-5,<br>1-745498-7 |
| 22 - 20   |                              | 3       | Receptacle            | 1-745491-9                | --                        | 1-745495-9                | --                        |
|           |                              |         | Plug                  | 1-745492-9                | --                        | 2-745496-0                | --                        |

Figure 1

## 1. INTRODUCTION

This instruction sheet covers selection and assembly of the AMPLIMITE HDE-20 Insulation Displacement Metal Shell Connectors listed in Figure 1. Read these instructions thoroughly before starting assembly.

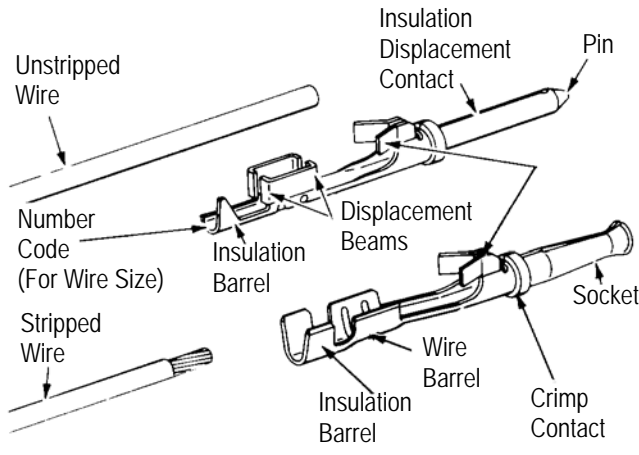
**NOTE**



*Dimensions in this instruction sheet are in metric units [with U.S. customary units in brackets]. Figures are not drawn to scale.*

## 2. DESCRIPTION

Plug and receptacle connectors are available in 9, 15, 25, and 37 circuit positions. They are designed to terminate discrete wire, jacketed cable, and pre-slit ribbon cable with an insulation thickness that **must not exceed .015 in. at any point**. The conductors can be solid or stranded (7 strands) ranging from 30 to 20 AWG. Each connector consists of a housing with preloaded, insulation displacement contacts.



CONTACT

| TYPE                    | WIRE SIZE | NUMBER CODE | PART NO. | STYLE  |
|-------------------------|-----------|-------------|----------|--------|
| Insulation Displacement | 30 - 26   | 1           | 745930   | Pin    |
|                         |           |             | 745931   | Socket |
|                         | 26 - 22   | 2           | 745888   | Pin    |
|                         |           |             | 745890   | Socket |
|                         | 22 - 20   | 3           | 745887   | Pin    |
|                         |           |             | 745889   | Socket |
| Crimp Type              | 26 - 22   | 4           | 745266   | Pin    |
|                         |           |             | 745269   | Socket |
|                         | 22 - 18   | 3           | 745267   | Pin    |
|                         |           |             | 745270   | Socket |

Figure 2

The housings feature easily accessible contacts, cavity barriers, and contact cavities which are numerically identified on the mating face, and have an internal design that accepts insulation displacement and crimp-type contacts. (Crimp contacts are recommended for two-wire circuits, drain wire termination, service, etc.)

Primary contacts are the insulation displacement type, which are pre-assembled in the connectors listed in Figure 1. They feature two locking lances, two insulation displacement beams, a single wraparound (strain relief) insulation barrel, and a number code inside the insulation barrel that indicates the wire size to be used in the contact. See Figure 2.

Secondary contacts are crimp type contacts designed for discrete wire applications where more than one wire is required per contact, or where the bare drain wire/braid needs to be terminated. Secondary contacts feature two locking lances, an F-crimp wire barrel, and a wraparound insulation barrel. See Figure 2.

Accessories for these connectors consist of various cable clamp assemblies and connector hardware and are supplied in kits.

The instructions for the selection and assembly of the various accessories are packaged with each kit. For additional information, consult your local TE Connectivity representative.

### 3. TERMINATING TOOLS (Figure 3)

Insulation displacement terminating tools hold the connector in place, insert wire into the insulation displacement beams, and form the insulation barrel around the insulation of the wire. The crimp terminating tools hold the contacts in position for wire insertion and termination, and form the wire and insulation barrel around the wire. There are manual and power assist tools for various types of wire and production requirements. Consult your local TE representative for assistance in selecting tooling to meet your specific needs.

### 4. TERMINATING PROCEDURE

Determine the size of the wire you are terminating and proceed as follows:

1. Select connector/contacts coded for your wire size. See Figure 1.
2. Select tooling with the aid of the chart in Figure 3.
3. Position the wire in the contact according to the instructions packaged with the tool.
4. Make the termination(s) and inspect to be sure all wires are properly inserted per Application Specification 114-40002 for insulation displacement contacts, and 114-40003 for crimp contacts.
5. If specified by your application requirements, attach cable clamp assembly and hardware according to the instructions packaged with the item.

### 5. EXTRACTION/INSERTION OF CONTACTS

Extraction/Insertion Tool 91232-1 is available to extract and insert contacts into the connectors. Refer to instruction sheet 408-6631 for procedures.

### 6. REVISION SUMMARY

Since the previous version of this document, the following changes were made:

- Updated document to corporate requirements
- Revised parts lists in Figures 1 and 3

| CONTACT TYPE            | WIRE SIZE (AWG) | APPLICATION TOOLING PART NO.  | DESCRIPTION                       | MAXIMUM TERMINATIONS PER CYCLE | USED WITH   |
|-------------------------|-----------------|---|-----------------------------------|--------------------------------|---|
| Insulation Displacement | 30 - 20         | 58063-2 (Head)<br>58074-1 (Handle)  | Manual Pistol Grip Tool           | 1                              | --  |
|                         |                 | 58063-2 (Head)<br>58075-1 (Handle)  | Pneumatic Pistol Grip Tool        |                                |   |
|                         |                 | 354786-4 with proper nest for connector type and size (see Catalog 82247) | CHAMPOMATOR* 2.5 Machine          | 2                              | Controller 852423-1 (U.S.A./120VAC) or 852423-3 (Europe/230VAC) |
|                         |                 | 543157-1 and 543426-1 <sup>†</sup>  | Mass Termination Tool (Manual)    | 19                             | Manual Unit 91085-2   |
|                         |                 | 543157-1 and 542426-2 <sup>‡</sup>  |                                   |                                |   |
|                         |                 | 543195-1 and 543426-1 <sup>†</sup>  | Mass Termination Tool (Pneumatic) | Pneumatic Unit 91112-3         |   |
| Crimp                   | 26 - 22         | 567179-2  | Mini Applicator                   | 1                              | --  |
|                         | 22 - 18         | 567180-2  |                                   |                                | AMP-O-ELECTRIC* Machine 565435-5                                |

<sup>†</sup> For wire diameter 1.04 - 1.52 mm [.041 - .060 in.]

<sup>‡</sup> For wire diameter no greater than 1.02 mm [.040 in.]

Figure 3