

**tyco**

*Electronics*

**Machine Applied Terminations,  
Open Barrel Terminals**  
(Rings, Spades, Pins, Receptacles, Splices, Tabs)  
Catalog 82227 Revised 8-04

**AMP**



## Table of Contents

|                                                                                    |        |                                                      |        |
|------------------------------------------------------------------------------------|--------|------------------------------------------------------|--------|
| <b>Introduction</b> . . . . .                                                      | 3      | <b>AMPLIVAR Splices</b>                              |        |
| Crimp Configuration . . . . .                                                      | 4      | Introduction . . . . .                               | 43-45  |
| Terminal Stud Hole Size . . . . .                                                  | 5, 6   | 9 Serrations . . . . .                               | 46     |
| Description of UL 468A Test Procedures<br>and Requirements for Terminals . . . . . | 7      | 7 Serrations . . . . .                               | 46, 47 |
| <b>Ring Tongue Terminals</b>                                                       |        | 5 Serrations . . . . .                               | 47, 48 |
| Introduction . . . . .                                                             | 8      | Miniature Splice . . . . .                           | 48     |
| Insulation Support . . . . .                                                       | 9-15   | Subminiature Splice . . . . .                        | 48     |
| Non-Insulation Support . . . . .                                                   | 16-18  | AMPLIVAR Tooling . . . . .                           | 49, 50 |
| Insulation Piercing . . . . .                                                      | 19     |                                                      |        |
| Flag . . . . .                                                                     | 20     | <b>Pins, Receptacles, Tab and Taper Tab</b>          |        |
| AMPLIVAR . . . . .                                                                 | 21     | <b>Receptacles Terminals</b>                         |        |
| <b>Spade Tongue Terminals</b>                                                      |        | Introduction . . . . .                               | 51     |
| Insulation Support . . . . .                                                       | 22, 23 | <b>Pin Terminals</b> . . . . .                       | 52     |
| Non-Insulation Support . . . . .                                                   | 24     | <b>Receptacle Terminals</b> . . . . .                | 53-55  |
| Hook . . . . .                                                                     | 24     | <b>SHUR-PLUG Terminals</b>                           |        |
| Insulation Piercing . . . . .                                                      | 25     | .156 Diameter . . . . .                              | 56     |
| Spring Spade . . . . .                                                             | 25     | .180 Diameter . . . . .                              | 56     |
| Flag . . . . .                                                                     | 25     | <b>SHUR-PLUG Receptacle Terminals</b>                |        |
| <b>Splices</b>                                                                     |        | .156 Diameter . . . . .                              | 57     |
| Introduction . . . . .                                                             | 26     | .180 Diameter . . . . .                              | 57     |
| Non-Insulation Support — Side Feed . . . . .                                       | 27     | <b>Tab Receptacle Terminals</b> . . . . .            | 58     |
| Non-Insulation Support — End Feed . . . . .                                        | 28     | <b>Taper Tab Receptacle Terminals</b>                |        |
| Insulation Support . . . . .                                                       | 29     | 78 Series Insulation Support . . . . .               | 59     |
| Insulation Piercing — End Feed . . . . .                                           | 29     | 78 Series Insulation Piercing . . . . .              | 59     |
| Identification Bands . . . . .                                                     | 30     | 98 Series Insulation Support . . . . .               | 59     |
| <b>RTM Crimpband Splices</b>                                                       |        | <b>Contact and Welding Tab Terminals</b>             |        |
| Introduction . . . . .                                                             | 31, 32 | Introduction . . . . .                               | 60     |
| 20 Ridges . . . . .                                                                | 33     | Miscellaneous Contacts and Weld Tabs . . . . .       | 61     |
| 14 Ridges . . . . .                                                                | 33     | Brush Contacts . . . . .                             | 62     |
| 10 Ridges . . . . .                                                                | 33     | Button Contacts . . . . .                            | 63     |
| 9 Ridges . . . . .                                                                 | 34     | Grounding Clips . . . . .                            | 63     |
| 8 Ridges . . . . .                                                                 | 34     | <b>Miscellaneous Terminals</b>                       |        |
| 7 Ridges . . . . .                                                                 | 34-36  | Tab Receptacles — Special . . . . .                  | 64     |
| 6 Ridges . . . . .                                                                 | 37     | Plug Blade . . . . .                                 | 64     |
| 3 Ridges . . . . .                                                                 | 38     | Fuse Receptacles . . . . .                           | 64     |
| <b>MTM Crimpband Splices</b>                                                       |        | Wire Strain Relief Clamps . . . . .                  | 65     |
| Introduction . . . . .                                                             | 39, 40 | Spark Plug Receptacle . . . . .                      | 65     |
| 11 Serrations . . . . .                                                            | 41     | Thermal Protector Crimp Pin . . . . .                | 65     |
| 9 Serrations . . . . .                                                             | 41     | Wire Pins . . . . .                                  | 66, 67 |
| 7 Serrations . . . . .                                                             | 42     | AMPLIVAR Wire Pins with Insulation Support . . . . . | 68     |
|                                                                                    |        | <b>Application Tooling</b> . . . . .                 | 69-71  |
|                                                                                    |        | <b>Part Number Index</b> . . . . .                   | 72-74  |

## Introduction

### Operating Temperatures of Materials and Finishes

Brass, phosphor bronze and steel are the normal materials for Tyco Electronics terminals. Various finishes are available.

#### Brass

##### Plain

Allowable Connection Temperature: 110°C.

Plain brass is used frequently, where applications have optional environmental conditions.

##### Tin Plated

Allowable Connection Temperature: 110°C.

Tin plating of receptacle and tab creates satisfactory operation at higher temperatures, and in addition protects the connection against corrosion.

##### Silver Plated

Allowable Connection Temperature: 130°C

Silver plated connections allow the highest operating temperature for brass and a higher current carrying capacity than plain and tin plated brass.

#### Phosphor Bronze

##### Plain

Allowable Connection Temperature: 110°C

Phosphor bronze is used in applications where brass would normally be corroded, for example the various freezing mixtures and ammonias.

#### Tin Plated

Allowable Connection Temperature: 110°C

Tin plated phosphor bronze for higher temperatures; additional corrosion protection over plain phosphor bronze.

#### Silver Plated

Allowable Connection Temperature: 130°C

Silver plated connections allow the highest operating temperature for phosphor bronze and higher current carrying capacity than plain and tin plated phosphor bronze.

#### Steel

##### Nickel plated

Allowable Connection Temperature: 250°C

This combination allows a reliable connection at high temperatures, for example in stoves, cooking appliances, etc. To assure optimum performance, these nickel-plated receptacles are used with compatible lead wires and wires and tabs that can be welded to heating units.

Many part numbers are recognized under the Component Program of Underwriters Laboratories, Inc., File No. E13288 and File No. LR 7189. Certified by Canadian Standards Association. Contact Tyco Electronics customer service for a specific part number inquiry.



### Need more information?

Call Technical Support at the numbers listed below.

Technical Support is staffed with specialists well versed in all Tyco Electronics products. They can provide you with:

- Technical support
- Catalogs
- Technical Documents
- Product Samples
- Tyco Electronics Authorized Distributor Locations

### Instant Information by the Tyco Electronics FAX Service 24 hours a day...

Call Technical Support and choose the Tyco Electronics FAX service option at the voice prompt. The information you request will be faxed to you within a few minutes. From the Tyco Electronics FAX service you get:

- Drawings (the drawing number in this case is the part number)
- Instruction Sheets
- Product Specifications
- Latest Revisions of Catalog Pages. (You will be prompted to enter any part number on the old catalog page. The Tyco Electronics FAX service will then fax you the latest catalog page(s) covering this part.
- The list of your closest distributors
- Instructions on how to use the Tyco Electronics FAX service

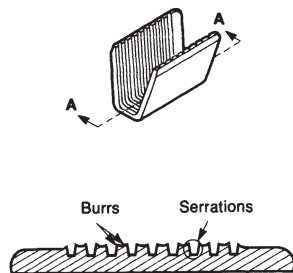
© Copyright 1989, 1995 and 2004 by Tyco Electronics Corporation. All International Rights Reserved.

AMP, AMPLIVAR, AMP-O-LECTRIC, AMPOMATOR, SHUR-PLUG, and TYCO are trademarks.

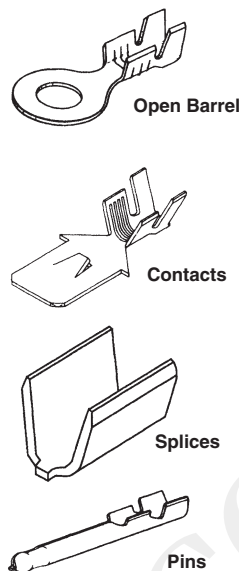
Specifications subject to change. Consult Tyco Electronics for latest design applications.

## Crimp Configuration Specifications

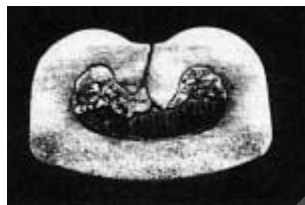
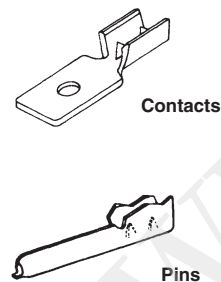
### AMPLIVAR



### Standard "F"

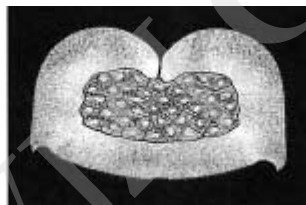


### Insulation Piercing



The basic design of the AMPLIVAR Terminals encompasses two main areas, the burrs at the top of the serrations and the serrations themselves. During the crimping operation the burrs pierce the insulation of the magnet wire and extrude the bare conductors into the serrations—creating intimate metal contact.

In a one-step operation the magnet wire is automatically multiple ring stripped of its insulation as it is forced into the serrations during the precisely controlled crimp. The resulting termination produces a high tensile strength, air sealed connection that is as resistant to corrosion as the insulated conductor.



In the standard "F" crimp design, the open barrel consists of two wings that are wrapped around the conductor strands and butted together in a tight seam. Applied with Match-Mated tooling, the "F" Crimp offers the optimum combination of mechanical strength and electrical conductivity. This method of termination also assures maximum resistance to vibration and corrosion.

The insulation support feature was developed by Tyco Electronics for applications where vibration tends to be excessive. This design offers the same fine quality characteristics found in the standard line plus firm, fully circumferential support to the wire insulation.



The insulation piercing line enjoys a durable popularity with electrical circuitry manufacturers because of the simplicity of attachment. The barrel contains two perpendicular lances that drive through the wire insulation to make contact with the conductor within.

Tensile characteristics vary, depending on the type of wire insulation. Because the barrel wraps around the insulation, it deters insulation fraying. The insulation piercing line is a low cost, high speed attachment suitable for many requirements.

In general, insulation piercing terminals can be used where high currents, intensive vibration and mechanical loads are not critical factors on both stranded and tinsel wire.

## Terminal Stud Hole Size

### Use to Select Proper Size Terminal

The chart shows sizes and dimensions of various studs and the corresponding terminal stud hole sizes used with Tyco Electronics devices.

For example, with stud #5 (.125 Diameter), use Tyco Electronics device listed for #5 stud (.129 Hole Diameter).

Terminal stud hole sizes may easily be checked by fitting sample terminal to black circle.

| Stud Size  |        | Stud Dia. | Minimum Terminal Hole Diameter |      |
|------------|--------|-----------|--------------------------------|------|
| U.S. Cust. | Metric |           |                                |      |
| #0         |        | .060      | ●                              | .064 |
| #1         |        | .073      | ●                              | .077 |
| #2         | M2     | .086      | ●                              | .090 |
| #3         |        | .099      | ●                              | .103 |
| #4         |        | .112      | ●                              | .116 |
| #5         | M3     | .125      | ●                              | .129 |
| #6         | M3.5   | .138      | ●                              | .142 |
| #8         | M4     | .164      | ●                              | .168 |
| #10        |        | .190      | ●                              | .194 |
| #12        |        | .216      | ●                              | .220 |
| #14        |        | .242      | ●                              | .247 |
| 1/4"       | M6     | .250      | ●                              | .260 |
| 5/16"      | M8     | .312      | ●                              | .323 |
| 3/8"       |        | .375      | ●                              | .385 |
| 7/16"      |        | .437      | ●                              | .448 |
| 1/2"       | M12    | .500      | ●                              | .510 |

**Terminal Stud Hole Size** (Continued)

| Stud Size  |        | Stud Dia. | Minimum Terminal Hole Diameter |
|------------|--------|-----------|--------------------------------|
| U.S. Cust. | Metric |           |                                |
| 5/8"       | M16    | .625      | .651                           |
| 3/4"       |        | .750      | .776                           |
| 7/8"       | M22    | .875      | .901                           |
| 1"         |        | 1.000     | 1.026                          |
| 1-1/8"     |        | 1.125     | 1.151                          |
| 1-1/4"     |        | 1.250     | 1.276                          |

## Description of UL 486A Test Procedures and Requirements for Terminals

### Wire Size Range

AWG 22 to 2

### Test Sequences

#### Test Group 1

#### Mechanical Sequence

1. Secureness
2. Pullout

#### Test Group 2

#### Mechanical Sequence

1. Secureness
2. Static Heat
3. Pullout

### Pullout Test Requirements

Terminal must not be separate from wire when subjected to the listed load for one minute.

| Wire Size<br>AWG | Pullout<br>Force (lbs.) |
|------------------|-------------------------|
| 22               | 8                       |
| 20               | 13                      |
| 18               | 20                      |
| 16               | 30                      |
| 14               | 50                      |
| 12               | 70                      |
| 10               | 80                      |
| 8                | 90                      |
| 6                | 100                     |
| 4                | 140                     |
| 2                | 180                     |

**Note:** Testing conducted on non-plated copper wire with UL approved insulation.

### Static Heat Test Requirements

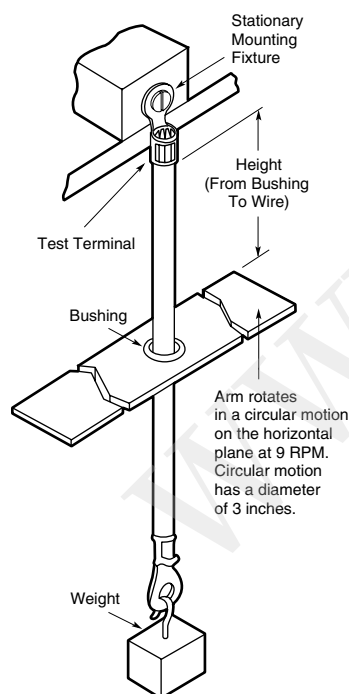
| Wire Size<br>AWG | Test Current<br>(Amperes) |
|------------------|---------------------------|
| 22               | 9                         |
| 20               | 12                        |
| 18               | 17                        |
| 16               | 18                        |
| 14               | 30                        |
| 12               | 35                        |
| 10               | 50                        |
| 8                | 70                        |
| 6                | 95                        |
| 4                | 125                       |
| 2                | 170                       |

#### Requirement:

Connector temperatures must not exceed the ambient temperature plus 50°C [90°F] after stability is attained.

#### Stability:

A test sample is considered to have attained a stable temperature when three readings taken at not less than 10 minute intervals show no more than a 2°C [3.6°F] variation between any two readings.



### Secureness Test Requirements

| Wire Size<br>AWG | Bushing<br>Dia. | Height | Weight<br>(lbs.) |
|------------------|-----------------|--------|------------------|
| 18-16            | 1/4             | 10 1/4 | 2                |
| 14               | 3/8             | 11     | 3                |
| 12-10            | 3/8             | 11     | 5                |
| 8                | 3/8             | 11     | 8                |
| 6                | 1/2             | 11 3/4 | 18               |
| 4                | 1/2             | 11 3/4 | 30               |
| 2                | 9/16            | 12 1/2 | 30               |

**Note:** Test Duration = 30 Minutes



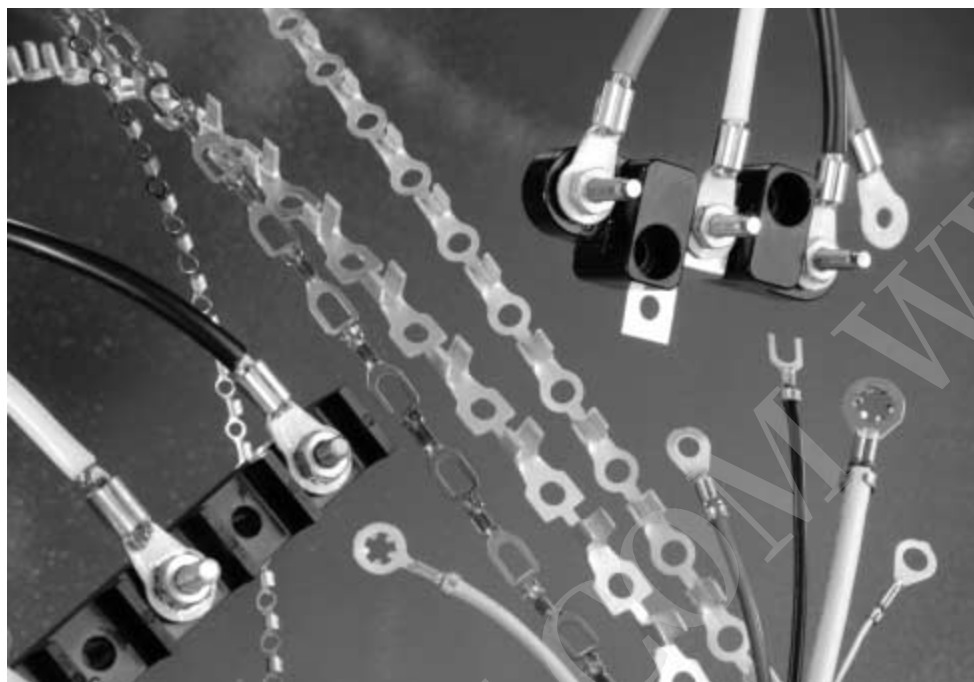
## Introduction

### Product Facts

- Reproducible crimping results
- High quality
- Reduced manufacturing costs
- No soldering required
- Proven crimp technology
- Large range of product configurations
- Excellent mechanical and electrical performance
- Recognized under the Component Recognition Program of Underwriters Laboratories Inc., File No. E13288, unless otherwise specified 
- Certified by Canadian Standards Association, File No. LR 7189, unless otherwise specified 

### Applications

- Appliances
- Machine tools
- Automotive



Tyco Electronics open barrel rings and spades are manufactured in strip form and supplied on reels for Automachine termination. In the standard "F" crimp configuration, the open barrel consists of two "U" shaped wings that are crimped around the conductor strands and butted together into a tight seam. The crimping action of the Tyco Electronics application equipment is a precise operation that creates the proper crimp with each cycle of the machine. This ensures uniformity of all the crimp terminations.

The insulation support was a Tyco Electronics developed feature for applications where vibration tends to be excessive. The insulation support consists of two additional "U" shaped wings which are wrapped around the wire insulation. This prevents harmful flexing of the wire at the termination point where the wire is rigidly crimped to the wire barrel and deters fraying of the insulation. Because it increases the already signif-

icant tensile strength of the conductor crimp, the vibration resistance is great enough for more severe applications.

Tyco Electronics Open Barrel Rings and Spades are designed for wire sizes ranging from 28 AWG to 6 AWG. They come in a variety of stud sizes. These terminals are made from a variety of base materials and platings depending on your application (i.e. ambient temperature, humidity, and chemical exposure).

To help you choose the Tyco Electronics product best suited to your requirements, the following information about each terminal is shown in tabular form: wire size range, insulation diameter, stud size, stock thickness, type of base material, plating and physical dimensions.

Tyco Electronics has standardized the product listed in this catalog section. If you do not see a terminal to fit your application, please contact your Tyco Electronics Sales Engineer.

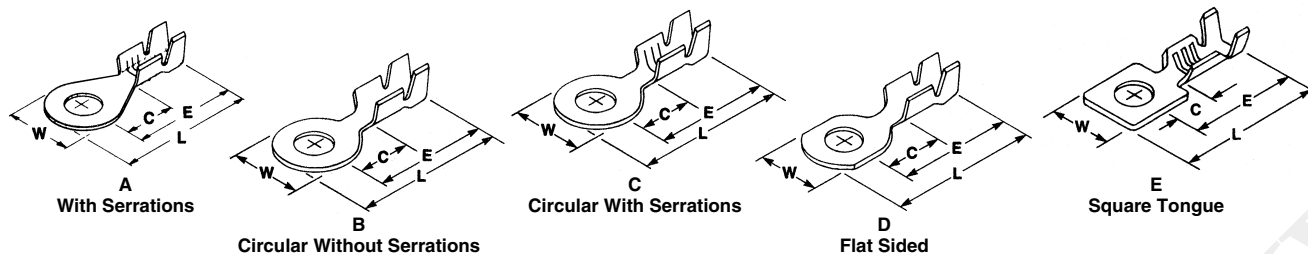
### Open Barrel Insulation Piercing Terminals

The insulation piercing line of terminals enjoys popularity because of the simplicity of termination. The barrel contains two perpendicular lances that are driven through the wire insulation to make contact with the conductor. Consequently, wire stripping is eliminated and a one step circuitry termination is accomplished.

Tensile characteristics vary, depending on the type of wire insulation. Since the barrel wraps around the insulation, it deters insulation fraying. The insulation piercing line is a low-cost, high-speed termination, suitable for many applications.

In general, insulation piercing terminals can be used on both stranded and tinsel wire, where high currents, intense vibration and mechanical loads are not critical factors.

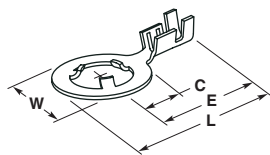
## Ring Tongue Terminals, Insulation Support



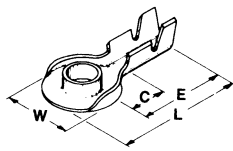
| Type | Wire Range |                 | Insul. Size            | Stud Size/ Dia.        | Stock Thk.   | Material and Finish | Dimensions    |               |               |               | Part Number |
|------|------------|-----------------|------------------------|------------------------|--------------|---------------------|---------------|---------------|---------------|---------------|-------------|
|      | AWG        | mm <sup>2</sup> |                        |                        |              |                     | W             | L             | E             | C             |             |
| E    | 26-24      | 0.12-0.6        | .035-.065<br>0.89-1.65 | .065<br>1.65           | .012<br>0.31 | Brass               | .156<br>3.96  | .375<br>9.53  | .295<br>7.49  | .109<br>2.77  | 61652-1     |
|      |            |                 |                        | .094<br>2.39           | .012<br>0.31 | Brass               | .156<br>3.96  | .375<br>9.53  | .295<br>7.49  | .109<br>2.77  | 61653-1     |
| B    | 26-22      | 0.12-0.4        | .040-.060<br>1.02-1.52 | .100<br>2.54           | .014<br>0.36 | Tin Plated Brass    | .190<br>4.83  | .425<br>10.80 | .330<br>8.38  | .130<br>3.30  | 60007-2     |
|      |            |                 |                        | 4                      | .014<br>0.36 | Tin Plated Brass    | .190<br>4.83  | .425<br>10.80 | .330<br>8.38  | .130<br>3.30  | 42547-2     |
|      |            |                 | .070-.110<br>1.78-2.79 | .100<br>2.54           | .016<br>0.41 | Brass               | .190<br>4.83  | .455<br>11.56 | .365<br>9.27  | .130<br>3.30  | 61312-1     |
|      |            |                 |                        | .100<br>2.54           | .016<br>0.41 | Nickel Plated Brass | .190<br>4.83  | .456<br>11.58 | .365<br>9.27  | .130<br>3.30  | 61312-2     |
| D    | 26-20      | 0.12-0.6        | .048-.078<br>1.22-1.98 | .142<br>3.61           | .020<br>0.51 | Tin Plated Brass    | .250<br>6.35  | .565<br>14.35 | .444<br>11.28 | .237<br>6.02  | 60123-2     |
|      |            |                 |                        | 4                      | .020<br>0.51 | Tin Plated Brass    | .290<br>7.37  | .630<br>16.00 | .485<br>12.32 | .250<br>6.35  | 41579       |
|      |            |                 | .080-.100<br>2.03-2.54 | 6                      | .020<br>0.51 | Tin Plated Brass    | .290<br>7.37  | .630<br>16.00 | .485<br>12.32 | .250<br>6.35  | 41580       |
|      |            |                 |                        | 8                      | .020<br>0.51 | Tin Plated Brass    | .290<br>7.37  | .630<br>16.00 | .485<br>12.32 | .250<br>6.35  | 41581       |
|      |            |                 |                        | 10                     | .020<br>0.51 | Tin Plated Brass    | .290<br>7.37  | .630<br>16.00 | .485<br>12.32 | .250<br>6.35  | 41582       |
|      |            |                 |                        | 6                      | .014<br>0.36 | Tin Plated Brass    | .250<br>6.35  | .590<br>14.99 | .440<br>11.18 | .220<br>5.59  | 60553-1     |
|      |            |                 | .048-.078<br>1.22-1.98 | 10                     | .014<br>0.36 | Tin Plated Brass    | .300<br>7.62  | .590<br>14.99 | .440<br>11.18 | .220<br>5.59  | 60555-1     |
|      |            |                 |                        | 8                      | .020<br>0.51 | Tin Plated Brass    | .312<br>7.93  | .770<br>19.56 | .615<br>15.62 | .405<br>10.29 | 42508-2     |
| B    | 22-20      | 0.3-0.6         | .070-.120<br>1.78-3.05 | .126<br>3.20           | .020<br>0.51 | Tin Plated Brass    | .210<br>5.33  | .460<br>11.68 | .355<br>9.02  | .135<br>3.43  | 62638-1     |
|      |            |                 |                        | .120<br>3.05           | .020<br>0.51 | Brass               | .210<br>5.33  | .532<br>13.51 | .427<br>10.85 | .135<br>3.43  | 109453-1    |
|      |            |                 | .050-.110<br>1.27-2.79 | 6                      | .020<br>0.51 | Brass               | .210<br>5.33  | .532<br>13.51 | .427<br>10.85 | .135<br>3.43  | 109453-3    |
|      |            |                 |                        | .100-.150<br>2.54-3.81 | .120<br>3.05 | Brass               | .210<br>5.33  | .532<br>13.51 | .427<br>10.85 | .135<br>3.43  | 109454-1    |
|      |            |                 | .060-.110<br>1.52-2.79 | 6                      | .020<br>0.51 | Tin Plated Brass    | .296<br>7.52  | .642<br>16.31 | .494<br>12.55 | .234<br>5.94  | 40697       |
|      |            |                 |                        | 8                      | .020<br>0.51 | Tin Plated Brass    | .296<br>7.52  | .642<br>16.31 | .494<br>12.55 | .234<br>5.94  | 40698       |
|      |            |                 | .070-.100<br>1.78-2.54 | 5/16"                  | .030<br>0.76 | Tin Plated Brass    | .468<br>11.89 | .982<br>24.94 | .748<br>19.00 | .437<br>11.10 | 41013       |
|      |            |                 |                        | 1/4"                   | .030<br>0.76 | Tin Plated Brass    | .468<br>11.89 | .982<br>24.94 | .748<br>19.00 | .437<br>11.10 | 41711       |
| A    | 22-18      | 0.3-0.9         | .060-.110<br>1.52-2.79 | 4                      | .020<br>0.51 | Tin Plated Brass    | .296<br>7.52  | .662<br>16.81 | .514<br>13.06 | .234<br>5.04  | 63797-1     |
|      |            |                 |                        | 6                      | .020<br>0.51 | Tin Plated Brass    | .296<br>7.52  | .662<br>16.81 | .514<br>13.06 | .234<br>5.04  | 42037       |
|      |            |                 | .080-.110<br>2.03-2.79 | 8                      | .020<br>0.51 | Brass               | .296<br>7.52  | .662<br>16.81 | .514<br>13.06 | .234<br>5.04  | 42036-1     |
|      |            |                 |                        | 8                      | .020<br>0.51 | Tin Plated Brass    | .296<br>7.52  | .662<br>16.81 | .514<br>13.06 | .234<br>5.04  | 42037-1     |
|      |            |                 | .120-.170<br>3.05-4.32 | 10                     | .020<br>0.51 | Brass               | .296<br>7.52  | .662<br>16.81 | .514<br>13.06 | .234<br>5.04  | 42036-2     |
|      |            |                 |                        | 10                     | .020<br>0.51 | Tin Plated Brass    | .296<br>7.52  | .662<br>16.81 | .514<br>13.06 | .234<br>5.04  | 42037-2     |
|      |            |                 |                        | 8                      | .020<br>0.51 | Nickel Plated Steel | .296<br>7.52  | .637<br>16.18 | .494<br>12.55 | .234<br>5.04  | 485003-1    |

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

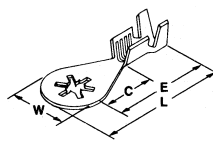
**Ring Tongue Terminals, Insulation Support (Continued)**



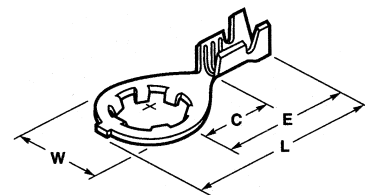
**D**  
Stud Retaining



**E**  
Extruded



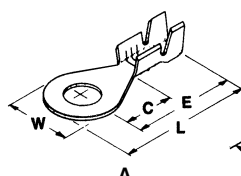
**F**  
Anti-Rotational



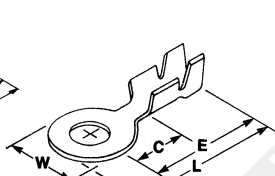
**G**  
Stud Retaining

| Type | Wire Range |                 | Insul. Size            | Stud Size/ Dia. | Stock Thk.   | Material and Finish | Dimensions    |               |               |              | Part Number |
|------|------------|-----------------|------------------------|-----------------|--------------|---------------------|---------------|---------------|---------------|--------------|-------------|
|      | AWG        | mm <sup>2</sup> |                        |                 |              |                     | W             | L             | E             | C            |             |
| D    | 24-20      | 0.2-0.6         | .045-.080<br>1.14-2.03 | 10              | .014<br>0.36 | Tin Plated Brass    | .375<br>9.53  | .634<br>16.11 | .447<br>11.35 | .250<br>6.35 | 61705-1     |
| E    | 20-18      | 0.5-0.9         | .075-.110<br>1.91-2.79 | 10              | .020<br>0.51 | Tin Plated Brass    | .335<br>8.51  | .650<br>16.51 | .468<br>11.89 | .205<br>5.21 | 40894       |
| F    | 22-18      | 0.3-0.9         | .080-.120<br>2.03-3.05 | 8               | .025<br>0.69 | Tin Plated Steel    | .370<br>9.40  | .772<br>19.61 | .587<br>14.91 | .282<br>7.16 | 640204-1    |
|      |            |                 |                        | 8               | .025<br>0.69 | Nickel Plated Steel | .370<br>9.40  | .772<br>19.61 | .587<br>14.91 | .282<br>7.16 | 640204-2    |
|      |            |                 |                        | 10              | .025<br>0.69 | Tin Plated Steel    | .370<br>9.40  | .772<br>19.61 | .587<br>14.91 | .282<br>7.16 | 640271-1    |
|      |            |                 |                        | 6               | .025<br>0.64 | Tin Plated Brass    | .370<br>9.40  | .772<br>19.61 | .587<br>14.91 | .282<br>7.16 | 61588-1     |
| G    | 22-16      | 0.3-1.4         | .100-.140<br>2.54-3.56 | 4.50            | .025<br>0.64 | Brass               | .370<br>9.40  | .772<br>19.61 | .587<br>14.91 | .282<br>7.16 | 61436-1     |
|      |            |                 |                        |                 | .177<br>4.50 | Tin Plated Brass    | .370<br>9.40  | .772<br>19.61 | .587<br>14.91 | .282<br>7.16 | 61436-2     |
|      |            |                 |                        |                 | .177<br>4.50 | Tin Plated Steel    | .370<br>9.40  | .772<br>19.61 | .587<br>14.91 | .282<br>7.16 | 61556-1     |
|      |            |                 | .105<br>2.67 Max.      | 4.50            | .025<br>0.64 | Tin Plated Brass    | .455<br>11.56 | .805<br>20.45 | .587<br>14.91 | .282<br>7.16 | 61283-1     |
|      |            |                 |                        |                 | .177<br>4.50 | Brass               | .370<br>9.40  | .772<br>19.61 | .587<br>14.91 | .282<br>7.16 | 350509-1    |
|      |            |                 |                        |                 | .177<br>4.50 | Tin Plated Steel    | .370<br>9.40  | .772<br>19.61 | .587<br>14.91 | .282<br>7.16 |             |

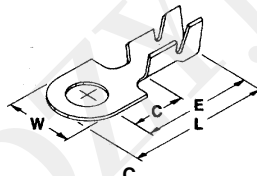
**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.



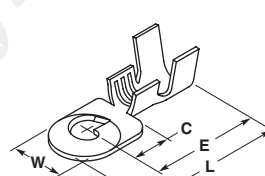
**A**  
With Serrations



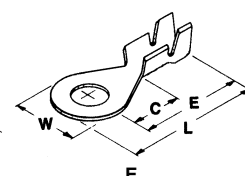
**B**  
Circular Without Serrations



**C**  
"D" Shape



**D**  
Grounding

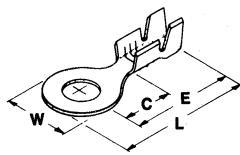


**E**  
Without Serrations

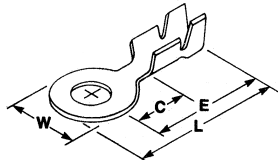
| Type | Wire Range |                 | Insul. Size            | Stud Size/ Dia. | Stock Thk.   | Material and Finish | Dimensions   |               |               |              | Part Number |
|------|------------|-----------------|------------------------|-----------------|--------------|---------------------|--------------|---------------|---------------|--------------|-------------|
|      | AWG        | mm <sup>2</sup> |                        |                 |              |                     | W            | L             | E             | C            |             |
| D    | 20-16      | 0.5-1.4         | .075-.120<br>1.91-3.05 | 6 x 20<br>Screw | .020<br>0.51 | Stainless Steel     | .270<br>6.86 | .590<br>14.99 | .468<br>11.89 | .218<br>5.54 | 61904-1     |
| C    | 20-16      | 0.5-1.4         | .075-.120<br>1.91-3.05 | 8               | .020<br>0.51 | Tin Plated Brass    | .270<br>6.86 | .603<br>15.32 | .468<br>11.89 | .218<br>5.54 | 40888       |
| A    | 20-16      | 0.5-1.4         | .100-.140<br>2.54-3.56 | 10              | .030<br>0.76 | Tin Plated Brass    | .342<br>8.67 | .784<br>19.91 | .613<br>15.57 | .312<br>7.93 | 40955       |
| B    | 20-16      | 0.5-1.4         | .075-.110<br>1.91-2.79 | 2.52            | .099<br>0.64 | Brass               | .246<br>6.25 | .460<br>11.68 | .352<br>8.94  | .165<br>4.19 | 41406       |
| A    | 20-16      | 0.5-1.4         | .100-.140<br>2.54-3.56 | 8               | .025<br>0.64 | Tin Plated Brass    | .342<br>8.69 | .784<br>19.91 | .613<br>15.57 | .312<br>7.93 | 41456       |
| E    | 20-16      | 0.5-1.4         | .080-.120<br>2.03-3.05 | 10              | .025<br>0.64 | Tin Plated Brass    | .342<br>8.69 | .784<br>19.91 | .613<br>15.57 | .312<br>7.93 | 160102-2    |
|      |            |                 | .080-.120<br>2.03-3.05 | 12              | .025<br>0.64 | Tin Plated Brass    | .342<br>8.69 | .784<br>19.91 | .613<br>15.57 | .312<br>7.93 | 160108-2    |
| B    | 20-16      | 0.5-1.4         | .090-.120<br>2.29-3.05 | 6               | .025<br>0.64 | Brass               | .230<br>5.59 | .460<br>11.68 | .352<br>8.94  | .165<br>4.19 | 61764-1     |
|      |            |                 | .100-.135<br>2.54-3.43 | 4               | .025<br>0.64 | Tin Plated Brass    | .230<br>5.59 | .460<br>11.68 | .352<br>8.94  | .165<br>4.19 | 61386-1     |
|      |            |                 | .100-.135<br>2.54-3.43 |                 | .156<br>3.96 | Brass               | .246<br>6.25 | .467<br>11.86 | .352<br>8.94  | .165<br>4.19 | 41471       |
|      |            |                 | .100-.135<br>2.54-3.43 |                 | .156<br>3.96 | Tin Plated Brass    | .246<br>6.25 | .467<br>11.86 | .352<br>8.94  | .165<br>4.19 | 41472       |

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

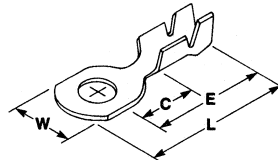
## Ring Tongue Terminals, Insulation Support (Continued)



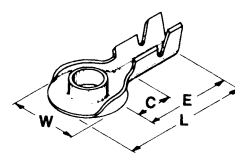
**A**  
With Serrations



**B**  
Circular Without Serrations



**C**  
Flat Sided



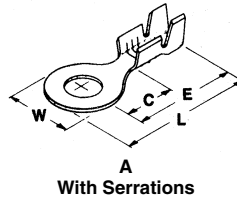
**D**  
Extruded

| Type | Wire Range |                 | Insul. Size            | Stud Size/ Dia. | Stock Thk.   | Material and Finish  | Dimensions    |               |               |               | Part Number |
|------|------------|-----------------|------------------------|-----------------|--------------|----------------------|---------------|---------------|---------------|---------------|-------------|
|      | AWG        | mm <sup>2</sup> |                        |                 |              |                      | W             | L             | E             | C             |             |
| C    | 20-16      | 0.5-1.4         | .075-.110<br>1.91-2.79 | .099<br>2.52    | .025<br>0.64 | Brass                | .204<br>5.18  | .460<br>11.68 | .352<br>8.94  | .165<br>4.19  | 42065       |
| B    | 20-16      | 0.5-1.4         | .075-.110<br>1.91-2.79 | .132<br>3.35    | .025<br>0.64 | Brass                | .246<br>6.25  | .460<br>11.68 | .352<br>8.94  | .165<br>4.19  | 42721-1     |
| C    | 20-16      | 0.5-1.4         | .075-.110<br>1.91-2.79 | .099<br>2.52    | .025<br>0.64 | Tin Plated Brass     | .185<br>4.70  | .460<br>11.68 | .352<br>8.94  | .165<br>4.19  | 63514-1     |
| A    | 20-16      | 0.5-1.4         | .100-.140<br>2.54-3.56 | 10              | .030<br>0.76 | Br. Tin Plated Brass | .342<br>8.69  | .784<br>19.91 | .612<br>15.54 | .312<br>7.92  | 640008-1    |
| C    | 20-16      | 0.5-1.4         | .080-.120<br>2.03-3.05 | 2               | .020<br>0.51 | Nickel Plated Steel  | .256<br>6.50  | .935<br>23.75 | .748<br>19.00 | .437<br>11.10 | 640082-1    |
| A    | 20-16      | 0.5-1.4         | .080-.120<br>2.03-3.05 | 1/4"            | .020<br>0.51 | Brass                | .468<br>11.89 | .982<br>24.94 | .748<br>19.00 | .437<br>11.10 | 60700-3     |
|      |            |                 | .080-.120<br>2.03-3.05 | 1/4"            | .020<br>0.51 | Tin Plated Brass     | .468<br>11.89 | .982<br>24.94 | .748<br>19.00 | .437<br>11.10 | 60700-2     |
|      |            |                 | .100-.140<br>2.54-3.56 | 10              | .020<br>0.51 | Brass                | .342<br>8.69  | .764<br>19.41 | .593<br>15.06 | .305<br>7.75  | 60394-1     |
|      |            |                 | .110-.140<br>2.79-3.56 | 6               | .030<br>0.76 | Tin Plated Brass     | .342<br>8.69  | .764<br>19.41 | .593<br>15.06 | .305<br>7.75  | 42933-2     |
| A    | 18-14      | 0.8-2.0         | .100-.140<br>2.54-3.56 | 6               | .030<br>0.76 | Tin Plated Brass     | .342<br>8.69  | .784<br>19.91 | .613<br>15.57 | .305<br>7.75  | 40723       |
|      |            |                 | .100-.140<br>2.54-3.56 | 8               | .030<br>0.76 | Brass                | .342<br>8.69  | .784<br>19.91 | .613<br>15.57 | .305<br>7.75  | 40660       |
| B    | 18-14      | 0.8-2.0         | .100-.140<br>2.54-3.56 | 8               | .030<br>0.76 | Tin Plated Brass     | .342<br>8.69  | .784<br>19.91 | .613<br>15.57 | .305<br>7.75  | 40724       |
|      |            |                 | .100-.140<br>2.54-3.56 | 12              | .030<br>0.76 | Tin Plated Brass     | .342<br>8.69  | .784<br>19.91 | .613<br>15.57 | .305<br>7.75  | 63872-1     |
| A    | 18-14      | 0.8-2.0         | .100-.140<br>2.54-3.56 | 10              | .030<br>0.76 | Brass                | .342<br>8.69  | .784<br>19.91 | .613<br>15.57 | .305<br>7.75  | 40661       |
|      |            |                 | .100-.140<br>2.54-3.56 | 10              | .030<br>0.76 | Tin Plated Brass     | .342<br>8.69  | .784<br>19.91 | .613<br>15.57 | .305<br>7.75  | 40725       |
|      |            |                 | .120-.170<br>3.05-4.32 | 6               | .020<br>0.51 | Brass                | .296<br>7.52  | .640<br>16.26 | .494<br>12.55 | .234<br>5.94  | 41558*      |
|      |            |                 | .120-.170<br>3.05-4.32 | 6               | .020<br>0.51 | Pre-Ni Plated Steel  | .296<br>7.52  | .640<br>16.26 | .494<br>12.55 | .234<br>5.94  | 41558-1*    |
| D    | 18-14      | 0.8-2.0         | .120-.170<br>3.05-4.32 | .194<br>4.93    | .020<br>0.51 | Brass                | .335<br>8.51  | .650<br>16.51 | .468<br>11.89 | .205<br>5.21  | 60546-1     |

\*Not recommended for 2 wires.

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

## Ring Tongue Terminals, Insulation Support (Continued)



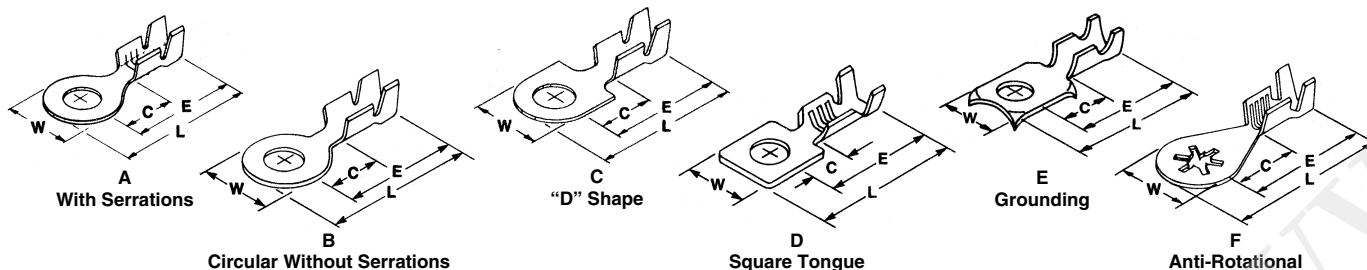
| Type | Wire Range |                 | Insul. Size            | Stud Size/ Dia. | Stock Thk.   | Material and Finish   | Dimensions    |                |               |               | Part Number |
|------|------------|-----------------|------------------------|-----------------|--------------|-----------------------|---------------|----------------|---------------|---------------|-------------|
|      | AWG        | mm <sup>2</sup> |                        |                 |              |                       | W             | L              | E             | C             |             |
| A    | 18-14      | 0.8-2.0         | .105-.170<br>2.67-4.32 | 6               | .020<br>0.51 | Brass                 | .296<br>7.52  | .677<br>17.20  | .529<br>13.44 | .234<br>5.94  | 109452-1    |
|      |            |                 |                        | 6               | .020<br>0.51 | Pre-Tin Plated Brass  | .296<br>7.52  | .677<br>17.20  | .529<br>13.44 | .234<br>5.94  | 109452-2    |
|      |            |                 |                        | 8               | .020<br>0.51 | Brass                 | .296<br>7.52  | .677<br>17.20  | .529<br>13.44 | .234<br>5.94  | 109452-3    |
|      |            |                 |                        | 8               | .020<br>0.51 | Pre-Tin Plated Brass  | .296<br>7.52  | .677<br>17.20  | .529<br>13.44 | .234<br>5.94  | 109452-4    |
|      |            |                 |                        | 10              | .020<br>0.51 | Brass                 | .296<br>7.52  | .677<br>17.20  | .529<br>13.44 | .234<br>5.94  | 109452-5    |
|      |            |                 |                        | 10              | .020<br>0.51 | Pre-Tin Plated Brass  | .296<br>7.52  | .677<br>17.20  | .529<br>13.44 | .234<br>5.94  | 109452-6    |
|      |            |                 | .120-.170<br>3.05-4.32 | 2               | .020<br>0.51 | Tin Plated Brass      | .296<br>7.52  | .640<br>16.26  | .494<br>12.55 | .234<br>5.94  | 63750-1     |
|      |            |                 |                        | 6               | .020<br>0.51 | Tin Plated Brass      | .296<br>7.52  | .640<br>16.26  | .494<br>12.55 | .234<br>5.94  | 41330*      |
|      |            |                 |                        | 8               | .020<br>0.51 | Brass                 | .296<br>7.52  | .640<br>16.26  | .494<br>12.55 | .234<br>5.94  | 41559*      |
|      |            |                 |                        | 8               | .020<br>0.51 | Tin Plated Brass      | .296<br>7.52  | .640<br>16.26  | .494<br>12.55 | .234<br>5.94  | 63678-2 †   |
|      |            |                 |                        | 8               | .020<br>0.51 | Tin Plated Brass      | .296<br>7.52  | .640<br>16.26  | .494<br>12.55 | .234<br>5.94  | 41332*      |
|      |            |                 |                        | 8               | .020<br>0.51 | Tin Plated Phos. Brz. | .296<br>7.52  | .640<br>16.26  | .494<br>12.55 | .234<br>5.94  | 1217160-1   |
|      |            |                 |                        | 10              | .020<br>0.51 | Brass                 | .296<br>7.52  | .640<br>16.26  | .494<br>12.55 | .234<br>5.94  | 41560*      |
|      |            |                 |                        | 10              | .020<br>0.51 | Pre-Tin Plated Brass  | .296<br>7.52  | .640<br>16.26  | .494<br>12.55 | .234<br>5.94  | 63628-1 †   |
|      |            |                 |                        | 10              | .020<br>0.51 | Tin Plated Brass      | .296<br>7.52  | .640<br>16.26  | .494<br>12.55 | .234<br>5.94  | 41333*      |
|      |            |                 |                        | 1/4"            | .025<br>0.51 | Tin Plated Brass      | .473<br>12.01 | 1.016<br>25.81 | .780<br>19.81 | .469<br>11.91 | 626034-2    |
|      |            |                 |                        | 8               | .025<br>0.64 | Tin Plated Brass      | .342<br>8.69  | .782<br>19.89  | .612<br>15.55 | .305<br>7.75  | 60024-2     |
|      |            |                 | .100-.140<br>2.54-3.56 | 10              | .025<br>0.64 | Tin Plated Brass      | .342<br>8.69  | .783<br>19.89  | .612<br>15.55 | .305<br>7.75  | 60433-2     |
|      |            |                 |                        | 1/4"            | .025<br>0.64 | Tin Plated Brass      | .342<br>8.69  | .783<br>19.89  | .612<br>15.55 | .305<br>7.75  | 60625-1     |
|      |            |                 | .120-.160<br>3.05-4.07 | 10              | .025<br>0.64 | Brass                 | .342<br>8.69  | .789<br>20.04  | .618<br>15.70 | .305<br>7.75  | 60744-1     |
|      |            |                 |                        | 10              | .025<br>0.64 | Tin Plated Brass      | .342<br>8.69  | .789<br>20.04  | .618<br>15.70 | .305<br>7.75  | 60744-2     |
|      |            |                 | .100-.140<br>2.54-3.56 | 6               | .018<br>0.46 | Brass                 | .295<br>7.49  | .734<br>18.64  | .586<br>14.88 | .282<br>7.16  | 60770-1     |
|      |            |                 |                        | 6               | .018<br>0.46 | Tin Plated Brass      | .295<br>7.49  | .734<br>18.64  | .586<br>14.88 | .282<br>7.16  | 60770-2     |
|      |            |                 |                        | 8               | .018<br>0.46 | Brass                 | .295<br>7.49  | .734<br>18.64  | .586<br>14.88 | .282<br>7.16  | 60771-1     |
|      |            |                 |                        | 8               | .018<br>0.46 | Tin Plated Brass      | .295<br>7.49  | .734<br>18.64  | .586<br>14.88 | .282<br>7.16  | 60771-2     |
|      |            |                 |                        | 10              | .018<br>0.46 | Brass                 | .295<br>7.49  | .734<br>18.64  | .586<br>14.88 | .282<br>7.16  | 60772-1     |
|      |            |                 |                        | 10              | .018<br>0.46 | Tin Plated Brass      | .295<br>7.49  | .734<br>18.64  | .586<br>14.88 | .282<br>7.16  | 60772-2     |

\* Not recommended for 2 wire applications.

† Not recommended for 2 wire applications.

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

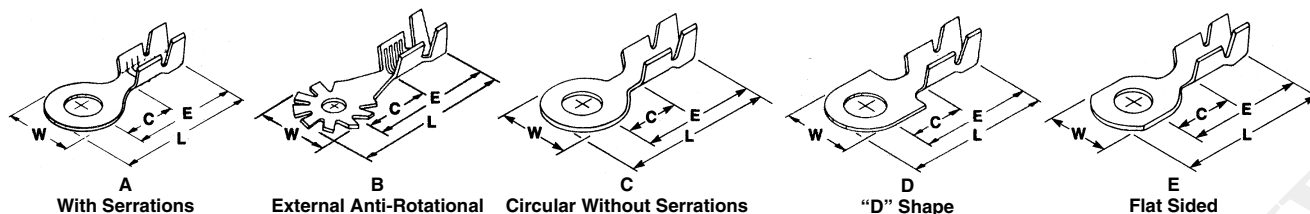
## Ring Tongue Terminals, Insulation Support (Continued)



| Type | Wire Range |                 | Insul. Size                                   | Stud Size/ Dia. | Stock Thk.   | Material and Finish   | Dimensions    |                |                |               | Part Number |
|------|------------|-----------------|-----------------------------------------------|-----------------|--------------|-----------------------|---------------|----------------|----------------|---------------|-------------|
|      | AWG        | mm <sup>2</sup> |                                               |                 |              |                       | W             | L              | E              | C             |             |
| A    | 18-14      | 0.8–2.0         | .100–.140<br>2.54–3.56                        | 10              | .018<br>0.46 | Tin Plated Brass      | .295<br>7.49  | .734<br>18.64  | .586<br>14.88  | .282<br>7.16  | 60772-3     |
|      |            |                 | .090–.145<br>2.29–3.68                        | 1/2"            | .025<br>0.64 | Pre-Tin Plated Steel  | .687<br>17.45 | 1.245<br>31.62 | .908<br>23.06  | .500<br>12.70 | 61777-1     |
|      |            |                 | .140–.190<br>3.56–4.83                        | 10              | .030<br>0.76 | Tin Plated Brass      | .342<br>8.69  | .784<br>19.91  | .608<br>15.44  | .305<br>7.75  | 61397-1     |
|      |            |                 | .080–.150<br>2.03–3.81                        | 1/4"            | .030<br>0.76 | Tin Plated Brass      | .490<br>12.45 | 1.050<br>26.68 | .810<br>20.57  | .460<br>11.68 | 61867-2     |
| E    | 18-14      | 0.8–2.0         | .090–.140<br>2.29–3.56                        | 5/16"           | .030<br>0.76 | Tin Plated Steel      | .592<br>15.04 | 1.150<br>29.21 | .930<br>23.62  | .615<br>15.62 | 61359-1     |
| F    | 18-14      | 0.8–2.0         |                                               | 8               | .024<br>0.61 | Stainless Steel       | .370<br>9.40  | .772<br>19.61  | .587<br>14.91  | .282<br>7.16  | 640051-1*   |
|      |            |                 |                                               | 5               | .025<br>0.64 | Tin Plated Steel      | .370<br>9.40  | .772<br>19.61  | .587<br>14.91  | .282<br>7.16  | 63640-1     |
|      |            |                 |                                               | 6               | .025<br>0.64 | Tin Plated Steel      | .370<br>9.40  | .772<br>19.61  | .587<br>14.91  | .282<br>7.16  | 61793-1     |
|      |            |                 |                                               | 8               | .025<br>0.64 | Tin Plated Steel      | .370<br>9.40  | .772<br>19.61  | .587<br>14.91  | .282<br>7.16  | 61794-1     |
|      |            |                 |                                               | 8               | .025<br>0.64 | Brass                 | .370<br>9.40  | .772<br>19.61  | .587<br>14.91  | .282<br>7.16  | 61794-4     |
|      |            |                 | .105–.145<br>2.67–3.68 or<br>(2) .110<br>2.79 | 10              | .025<br>0.64 | Tin Plated Steel      | .445<br>11.30 | .772<br>19.61  | .587<br>14.91  | .282<br>7.16  | 63482-1     |
|      |            |                 |                                               | 10              | .024<br>0.61 | Stainless Steel       | .370<br>9.40  | .772<br>19.61  | .587<br>14.91  | .282<br>7.16  | 640052-1*   |
|      |            |                 | .105–.145<br>2.67–3.68                        | 10              | .025<br>0.64 | Tin Plated Steel      | .370<br>9.40  | .772<br>19.61  | .587<br>14.91  | .282<br>7.16  | 350436-2    |
|      |            |                 |                                               | 10              | .025<br>0.64 | Tin Plated Steel      | .445<br>11.30 | .772<br>19.61  | .587<br>14.91  | .282<br>7.16  | 61795-1     |
|      |            |                 |                                               | 10              | .025<br>0.64 | Tin Plated Brass      | .445<br>11.30 | .772<br>19.61  | .587<br>14.91  | .282<br>7.16  | 61795-3     |
|      |            |                 |                                               | 12              | .025<br>0.64 | Tin Plated Brass      | .687<br>17.45 | 1.245<br>31.62 | .980<br>24.89  | .495<br>12.57 | 63997-1     |
|      |            |                 |                                               | 1/4"            | .025<br>0.64 | Stainless Steel       | .687<br>17.45 | 1.245<br>31.62 | .908<br>23.06  | .495<br>12.57 | 63602-1*    |
| A    | 18-14      | 0.8–2.0         | .090–.145<br>2.29–3.68                        | 1/2"            | .025<br>0.64 | Stainless Steel       | .687<br>17.45 | 1.245<br>31.62 | .908<br>23.06  | .495<br>12.57 | 62786-1*    |
|      |            |                 | .100–.180<br>2.54–4.57                        | 10              | .030<br>0.76 | Brass                 | .340<br>8.64  | 1.170<br>29.72 | 1.010<br>25.65 | .660<br>16.76 | 62700-1     |
|      |            |                 | .080–.150<br>2.03–3.81                        | 1/2"            | .030<br>0.76 | Tin Plated Brass      | .850<br>21.59 | 1.450<br>36.83 | 1.030<br>26.16 | .680<br>17.27 | 61863-2     |
| B    | 18-14      | 0.8–2.0         | .090–.145<br>2.29–3.68                        | 5/16"           | .025<br>0.64 | Stainless Steel       | .687<br>17.45 | 1.245<br>31.62 | .908<br>23.06  | .495<br>12.57 | 62787-1*    |
| D    | 18-14      | 0.8–2.0         | .085–.140<br>2.16–3.56                        | 8               | .025<br>0.64 | Tin Plated Phos. Brz. | .370<br>9.40  | .835<br>21.21  | .615<br>15.62  | .250<br>6.35  | 62975-1     |
| C    | 18-14      | 0.8–2.0         | .085–.140<br>2.16–3.56                        | 1/4"            | .025<br>0.64 | Tin Plated Brass      | .470<br>11.94 | .930<br>23.62  | .705<br>17.91  | .340<br>8.64  | 485029-1    |
|      |            |                 | .085–.140<br>2.16–3.56                        | 5/16"           | .025<br>0.64 | Tin Plated Brass      | .470<br>11.94 | .930<br>23.62  | .705<br>17.91  | .340<br>8.64  | 485030-1    |

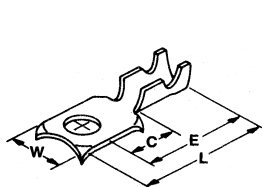
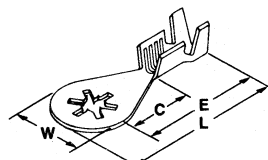
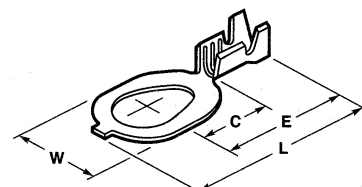
\* Stainless steel wire connectors cannot be certified under the current CSA standard.

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

**Ring Tongue Terminals, Insulation Support** (Continued)


| Type | Wire Range |                 | Insul. Size            | Stud Size/ Dia. | Stock Thk.             | Material and Finish  | Dimensions              |                      |                |                | Part Number   |              |
|------|------------|-----------------|------------------------|-----------------|------------------------|----------------------|-------------------------|----------------------|----------------|----------------|---------------|--------------|
|      | AWG        | mm <sup>2</sup> |                        |                 |                        |                      | W                       | L                    | E              | C              |               |              |
| E    | 18-14      | 0.8–2.0         | .100–.140<br>2.54–3.56 | 5               | .020<br>0.51           | Tin Plated Brass     | .240<br>6.10            | .833<br>21.16        | .662<br>16.82  | .312<br>7.93   | 63518-1       |              |
| B    | 18-14      | 0.8–2.0         | .085–.140<br>2.16–3.56 | 10              | .025<br>0.64           | Tin Plated Steel     | .470<br>11.94           | .940<br>23.88        | .705<br>17.91  | .340<br>8.64   | 350080-1      |              |
|      |            |                 |                        | 10              | .025<br>0.64           | Brass                | .470<br>11.94           | .940<br>23.88        | .705<br>17.91  | .340<br>8.64   | 63707-1       |              |
| A    | 18-14      | 0.8–2.0         | .120–.175<br>3.05–4.45 | 10              | .020<br>0.51           | Pre-Ni Plated Steel  | .342<br>8.69            | .783<br>19.89        | .612<br>15.55  | .305<br>7.75   | 350199-1      |              |
| H    | 18-14      | 0.8–2.0         | .120–.170<br>3.05–4.32 | 6–10            | .016<br>0.41           | Pre-Tin Plated Brass | .300<br>7.62            | .755<br>19.18        | .595<br>15.11  | .280<br>7.11   | 350981-2      |              |
| A    | 18-14      | 0.8–2.0         | .140–.190<br>3.56–4.83 | 8               | .030<br>0.76           | Tin Plated Brass     | .342<br>8.69            | .784<br>19.91        | .608<br>15.44  | .305<br>7.75   | 640102-1      |              |
|      |            |                 |                        | 10              | .030<br>0.76           | Pre-Tin Plated Brass | .296<br>7.52            | .676<br>17.17        | .528<br>13.41  | .234<br>5.94   | 109451-6      |              |
|      |            |                 | .120–.170<br>3.05–4.32 | 10              | .257<br>6.53           | .030<br>0.76         | Brass                   | .470<br>11.94        | 1.046<br>26.57 | .811<br>20.60  | .384<br>9.75  | 42751-1      |
|      |            |                 |                        |                 | .257<br>6.53           | .030<br>0.76         | Tin Plated Brass        | .470<br>11.94        | 1.046<br>26.57 | .811<br>20.60  | .384<br>9.75  | 42751-2      |
|      |            |                 |                        |                 | .257<br>6.53           | .030<br>0.76         | Phos. Bronze            | .470<br>11.94        | 1.046<br>26.57 | .811<br>20.60  | .384<br>9.75  | 42751-3      |
|      |            |                 |                        |                 | .281<br>7.14           | .030<br>0.76         | Tin Plated Brass        | .470<br>11.94        | 1.046<br>26.57 | .811<br>20.60  | .384<br>9.75  | 42938-2      |
|      |            |                 |                        |                 | .323<br>8.20           | .030<br>0.76         | Tin Plated Brass        | .470<br>11.94        | 1.046<br>26.57 | .811<br>20.60  | .384<br>9.75  | 42752-2      |
|      |            |                 |                        |                 | 3/8"                   | .040<br>1.02         | Tin Plated Brass        | .687<br>17.45        | 1.245<br>31.62 | .908<br>23.06  | .495<br>12.57 | 61336-1      |
|      |            |                 |                        |                 | .390<br>9.91           | .032<br>0.81         | Tin Plated Brass        | .687<br>17.45        | 1.245<br>31.62 | .902<br>22.91  | .495<br>12.57 | 1217330-1    |
|      |            |                 |                        |                 | 10                     | .020<br>0.51         | Brass                   | .375<br>9.53         | .873<br>22.17  | .686<br>17.42  | .312<br>7.93  | 41294        |
|      |            |                 |                        |                 |                        | .030<br>0.76         | Br. Tin Plated Brass    | .375<br>9.53         | .873<br>22.17  | .686<br>17.42  | .312<br>7.93  | 640007-1     |
|      |            |                 |                        |                 |                        | .257<br>6.53         | .030<br>0.76            | Br. Tin Plated Brass | .470<br>11.94  | 1.046<br>26.57 | .811<br>20.60 | .384<br>9.75 |
| F    | 16-12      | 1.25–3.0        | 8                      | .025<br>0.64    |                        | Brass                | .370<br>9.40            | .772<br>19.61        | .587<br>14.91  | .282<br>7.16   | 61624-1       |              |
|      |            |                 |                        |                 | G                      |                      |                         |                      |                |                |               | 16-12        |
| A    | 16-12      | 1.25–3.0        | (2) .125<br>3.18       | 10              |                        | .018<br>0.46         | Tin Plated Brass        | .342<br>8.69         | .784<br>19.91  | .608<br>15.44  | .305<br>7.75  |              |
|      |            |                 |                        |                 | 10                     |                      |                         |                      |                |                |               | .030<br>0.76 |
|      |            |                 | .130–.180<br>3.30–4.57 | 6               |                        | .040<br>1.02         | Tin Plated Brass        | .425<br>10.80        | .972<br>24.69  | .750<br>19.05  | .344<br>8.74  |              |
|      |            |                 |                        |                 | .130–.180<br>3.30–4.57 |                      |                         |                      |                |                |               | 8            |
|      |            |                 | .130–.180<br>3.30–4.57 | 10              |                        | .040<br>1.02         | Tin Plated Brass        | .425<br>10.80        | .972<br>24.69  | .750<br>19.05  | .344<br>8.74  |              |
|      |            |                 |                        |                 | .170–.210<br>4.32–5.33 |                      |                         |                      |                |                |               | 10           |
|      |            |                 | .170–.210<br>4.32–5.33 | 1/4"            |                        | .040<br>1.02         | Brass                   | .425<br>10.80        | .972<br>24.69  | .750<br>19.05  | .344<br>8.74  |              |
|      |            |                 |                        |                 | .130–.180<br>3.30–4.57 |                      |                         |                      |                |                |               | 1/4"         |
|      |            |                 | .130–.180<br>3.30–4.57 | 1/4"            |                        | .040<br>1.02         | Tin Plated Phos. Bronze | .425<br>10.80        | .950<br>24.13  | .728<br>18.49  | .344<br>8.74  |              |

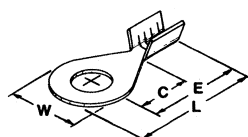
**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

**Ring Tongue Terminals, Insulation Support (Continued)**

**F**  
Grounding

**G**  
Anti-Rotational

**H**  
Multiple Stud Sizes

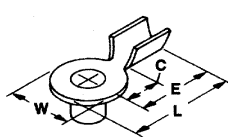
| Type | Wire Range |                 | Insul. Size            | Stud Size/ Dia. | Stock Thk.    | Material and Finish  | Dimensions    |                |               |               | Part Number |
|------|------------|-----------------|------------------------|-----------------|---------------|----------------------|---------------|----------------|---------------|---------------|-------------|
|      | AWG        | mm <sup>2</sup> |                        |                 |               |                      | W             | L              | E             | C             |             |
| C    | 12-10      | 3.0-6.0         | .170-.210<br>4.32-5.33 | 6               | .040<br>1.02  | Tin Plated Brass     | .343<br>8.71  | .921<br>23.39  | .750<br>19.05 | .344<br>8.74  | 61424-1     |
| A    | 12-10      | 3.0-6.0         | .150-.210<br>3.81-5.33 | 1/4"            | .040<br>1.02  | Tin Plated Copper    | .535<br>13.59 | 1.045<br>26.54 | .780<br>19.81 | .406<br>10.31 | 61844-1     |
| G    | 12-10      | 3.0-6.0         | .125-.220<br>3.18-5.59 | 8               | .024<br>0.61  | Stainless Steel      | .470<br>11.94 | .995<br>25.27  | .770<br>19.56 | .340<br>8.64  | 62612-1     |
|      |            |                 |                        | 8               | .025<br>0.64  | Tin Plated Steel     | .470<br>11.94 | .995<br>25.27  | .770<br>19.56 | .340<br>8.64  | 62612-2     |
|      |            |                 |                        | 10              | .024<br>0.61  | Tin Plated Copper    | .470<br>11.94 | .995<br>25.27  | .770<br>19.56 | .340<br>8.64  | 62613-3     |
|      |            |                 |                        | 10              | .025<br>0.64  | Tin Plated Steel     | .470<br>11.94 | .995<br>25.27  | .770<br>19.56 | .340<br>8.64  | 62613-2     |
|      |            |                 |                        | 10              | .030<br>0.76  | Br. Tin Plated Brass | .470<br>11.94 | 1.072<br>27.23 | .839<br>21.31 | .406<br>10.31 | 640009-1    |
| A    | 12-10      | 3.0-6.0         | .150-2.10<br>3.81-5.33 | 10              | .030<br>0.76  | Tin Plated Brass     | .470<br>11.94 | 1.072<br>27.23 | .839<br>21.31 | .406<br>10.31 | 41124       |
|      |            |                 |                        |                 | .257<br>6.53  | Br. Tin Plated Brass | .470<br>11.94 | 1.072<br>27.23 | .839<br>21.31 | .406<br>10.31 | 640216-1    |
|      |            |                 |                        |                 | .257<br>6.53  | Tin Plated Brass     | .470<br>11.94 | 1.072<br>27.23 | .839<br>21.31 | .406<br>10.31 | 41125       |
|      |            |                 |                        |                 | .323<br>8.20  | Tin Plated Brass     | .470<br>11.94 | 1.072<br>27.23 | .839<br>21.31 | .406<br>10.31 | 41126       |
| C    | 12-10      | 3.0-6.0         | .150-.210<br>3.81-5.33 | 10              | .030<br>0.76  | Brass                | .470<br>11.94 | 1.072<br>27.23 | .839<br>21.31 | .406<br>10.31 | 42722-1     |
|      |            |                 |                        | 8               | .040<br>1.02  | Tin Plated Brass     | .343<br>8.71  | .921<br>23.39  | .750<br>19.05 | .344<br>8.74  | 42863-2     |
|      |            |                 |                        | 10              | .040<br>1.02  | Brass                | .343<br>8.71  | .921<br>23.39  | .750<br>19.05 | .344<br>8.74  | 42864-1     |
|      |            |                 |                        | 10              | .040<br>1.02  | Tin Plated Brass     | .343<br>8.71  | .921<br>23.39  | .750<br>19.05 | .344<br>8.74  | 42864-2     |
|      |            |                 |                        | 1/4"            | .030<br>0.76  | Tin Plated Brass     | .470<br>11.94 | 1.072<br>27.23 | .839<br>21.31 | .406<br>10.31 | 62691-2     |
| A    | 12-8       | 3.0-8.0         | .150-.220<br>3.81-5.59 |                 | .344<br>8.74  | Tin Plated Brass     | .687<br>17.45 | 1.245<br>31.62 | .906<br>23.01 | .495<br>12.57 | 42946-2     |
|      |            |                 |                        |                 | .344<br>8.74  | Br. Tin Plated Brass | .687<br>17.45 | 1.245<br>31.62 | .906<br>23.01 | .495<br>12.57 | 640012-1    |
|      |            |                 |                        | 3/8"            | .040<br>1.02  | Tin Plated Brass     | .687<br>17.45 | 1.245<br>31.62 | .908<br>23.06 | .495<br>12.57 | 61289-1     |
|      |            |                 |                        |                 | .405<br>10.29 | Br. Tin Plated Brass | .687<br>17.45 | 1.245<br>31.62 | .906<br>23.01 | .495<br>12.57 | 42947-3     |
| D    | 10-8       | 5.0-8.0         | .220-.315<br>5.59-8.00 | 10              | .050<br>1.27  | Tin Plated Copper    | .550<br>13.97 | 1.105<br>28.07 | .830<br>21.08 | .350<br>8.89  | 41808       |
|      |            |                 |                        | 1/4"            | .050<br>1.27  | Tin Plated Copper    | .550<br>13.97 | 1.105<br>28.07 | .830<br>21.08 | .350<br>8.89  | 41809       |
|      |            |                 |                        | 10              | .040<br>1.02  | Br. Tin Plated Brass | .425<br>10.80 | .962<br>24.43  | .750<br>19.05 | .344<br>8.74  | 640249-1    |
| D    | 10-6       | 5.0-15.0        | .220-.315<br>5.59-8.00 | 10              | .040<br>1.02  | Tin Plated Brass     | .550<br>13.97 | 1.105<br>28.07 | .830<br>21.08 | .350<br>8.89  | 61352-1     |
|      |            |                 |                        | 1/4"            | .040<br>1.02  | Tin Plated Brass     | .550<br>13.97 | 1.105<br>28.07 | .830<br>21.08 | .350<br>8.89  | 42899-2     |
|      |            |                 |                        | 5/16"           | .040<br>1.02  | Tin Plated Brass     | .550<br>13.97 | 1.105<br>28.07 | .830<br>21.08 | .350<br>8.89  | 42913-2     |
| A    | 10-6       | 5.0-15.0        | .145-.290<br>3.68-7.37 | 10              | .040<br>1.02  | Tin Plated Brass     | .375<br>9.53  | .992<br>25.20  | .810<br>20.57 | .400<br>10.16 | 61866-1     |
|      |            |                 |                        | 1/4"            | .040<br>1.02  | Tin Plated Brass     | .490<br>12.45 | 1.110<br>28.19 | .870<br>22.10 | .460<br>11.68 | 61868-1     |
|      |            |                 |                        | 1/4"            | .040<br>1.02  | Br. Tin Plated Brass | .490<br>12.45 | 1.110<br>28.19 | .870<br>22.10 | .460<br>11.68 | 61868-2     |

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

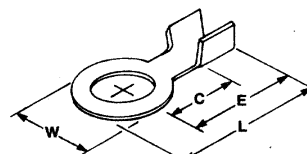
## Ring Tongue Terminals, Non-Insulation Support



**A**  
With Serrations



**B**  
Extruded

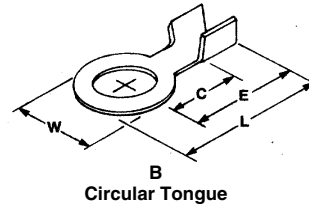
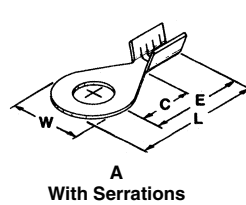


**C**  
Circular Tongue

| Type | Wire Range |                 | Stud Size/<br>Dia. | Stock<br>Thk. | Material<br>and Finish | Dimensions   |               |               |              | Part<br>Number |
|------|------------|-----------------|--------------------|---------------|------------------------|--------------|---------------|---------------|--------------|----------------|
|      | AWG        | mm <sup>2</sup> |                    |               |                        | W            | L             | E             | C            |                |
| B    | 24-20      | 0.6-0.5         | 2                  | .012<br>0.30  | Brass                  | .200<br>5.08 | .350<br>8.89  | .245<br>6.22  | .130<br>3.30 | 61463-1        |
| A    | 22-18      | 0.3-0.9         | 6                  | .020<br>0.51  | Tin Plated Brass       | .300<br>7.62 | .485<br>12.32 | .335<br>8.51  | .230<br>5.84 | 62686-2        |
| C    | 22-16      | 0.3-1.4         | .125<br>3.18       | .020<br>0.51  | Tin Plated Brass       | .250<br>6.35 | .531<br>13.49 | .406<br>10.31 | .250<br>6.35 | 42185-2        |
| A    | 20-16      | 0.5-1.4         | 2                  | .020<br>0.51  | Brass                  | .175<br>4.45 | .360<br>9.14  | .270<br>6.86  | .125<br>3.18 | 40668          |
|      |            |                 |                    | .096<br>2.44  | Tin Plated Brass       | .175<br>4.45 | .360<br>9.14  | .270<br>6.86  | .125<br>3.18 | 40816          |
|      |            |                 |                    | .096<br>2.44  | Nickel Plated Steel    | .175<br>4.45 | .338<br>8.58  | .250<br>6.35  | .125<br>3.18 | 42204-1        |
|      |            |                 |                    | .096<br>2.44  | Tin Plated Brass       | .234<br>5.94 | .331<br>8.41  | .234<br>5.94  | .129<br>3.28 | 63457-1        |
|      |            |                 | 4                  | .020<br>0.51  | Nickel Plated Steel    | .175<br>4.45 | .338<br>8.58  | .250<br>6.35  | .125<br>3.18 | 63676-1        |
|      |            |                 | 4                  | .020<br>0.51  | Brass                  | .175<br>4.45 | .360<br>9.14  | .270<br>6.86  | .125<br>3.18 | 40777          |
|      |            |                 | 4                  | .020<br>0.51  | Tin Plated Brass       | .260<br>6.60 | .400<br>10.16 | .270<br>6.86  | .145<br>3.63 | 40810          |
|      |            |                 | 5                  | .020<br>0.51  | Brass                  | .234<br>5.94 | .331<br>8.41  | .234<br>5.94  | .129<br>3.28 | 34578          |
|      |            |                 |                    | .130<br>3.30  | Tin Plated Brass       | .234<br>5.94 | .331<br>8.41  | .234<br>5.94  | .129<br>3.28 | 40884          |
|      |            |                 |                    | .131<br>3.33  | Tin Plated Brass       | .260<br>6.60 | .400<br>10.16 | .270<br>6.86  | .145<br>3.63 | 63243-1        |
|      |            |                 | 6                  | .020<br>0.51  | Tin Plated Brass       | .260<br>6.60 | .400<br>10.16 | .270<br>6.86  | .145<br>3.63 | 40811          |
|      |            |                 | 6                  | .020<br>0.51  | Tin Plated Steel       | .260<br>6.60 | .400<br>10.16 | .270<br>6.86  | .145<br>3.63 | 40811-1        |
|      |            |                 | 8                  | .020<br>0.51  | Brass                  | .260<br>6.60 | .400<br>10.16 | .270<br>6.86  | .145<br>3.63 | 40749          |
|      |            |                 | 8                  | .020<br>0.51  | Tin Plated Brass       | .260<br>6.60 | .400<br>10.16 | .270<br>6.86  | .145<br>3.63 | 40812          |
|      |            |                 | 6                  | .030<br>0.76  | Tin Plated Brass       | .218<br>5.54 | .432<br>10.97 | .330<br>8.38  | .167<br>4.24 | 40976          |
| A    | 20-14      | 0.5-2.0         | 6                  | .020<br>0.51  | Brass                  | .250<br>6.35 | .395<br>10.03 | .285<br>7.24  | .160<br>4.07 | 40702          |
| A    | 18-14      | 0.8-2.0         |                    | .096<br>2.44  | Brass                  | .175<br>4.45 | .360<br>9.14  | .255<br>6.48  | .125<br>3.18 | 41006          |
|      |            |                 |                    | .096<br>2.44  | Tin Plated Brass       | .175<br>4.45 | .360<br>9.14  | .255<br>6.48  | .125<br>3.18 | 41499          |
|      |            |                 | 6                  | .020<br>0.51  | Brass                  | .300<br>7.62 | .535<br>13.59 | .380<br>9.65  | .230<br>5.84 | 34848          |
|      |            |                 | 6                  | .020<br>0.51  | Tin Plated Brass       | .300<br>7.62 | .535<br>13.59 | .380<br>9.65  | .230<br>5.84 | 40593          |
|      |            |                 | 6                  | .020<br>0.51  | Pre-Ni Plated Steel    | .300<br>7.62 | .535<br>13.59 | .385<br>9.78  | .230<br>5.84 | 40979          |
|      |            |                 | 8                  | .020<br>0.51  | Brass                  | .300<br>7.62 | .535<br>13.59 | .380<br>9.65  | .230<br>5.84 | 34812          |
|      |            |                 | 8                  | .020<br>0.51  | Tin Plated Brass       | .300<br>7.62 | .535<br>13.59 | .380<br>9.65  | .230<br>5.84 | 40594          |
|      |            |                 | 8                  | .020<br>0.51  | Pre-Ni Plated Steel    | .300<br>7.62 | .535<br>13.59 | .385<br>9.78  | .230<br>5.84 | 41346          |
|      |            |                 | 10                 | .020<br>0.51  | Brass                  | .300<br>7.62 | .535<br>13.59 | .380<br>9.65  | .230<br>5.84 | 34839          |
|      |            |                 | 10                 | .020<br>0.51  | Tin Plated Brass       | .300<br>7.62 | .535<br>13.59 | .380<br>9.65  | .230<br>5.84 | 40595          |
|      |            |                 | 8                  | .030<br>0.76  | Tin Plated Brass       | .343<br>8.71 | .611<br>15.52 | .435<br>11.05 | .275<br>6.99 | 40517          |

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

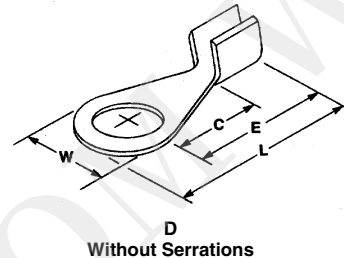
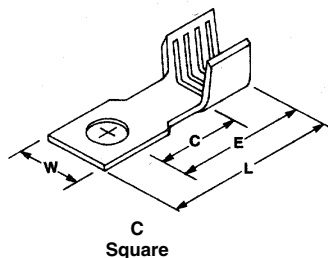
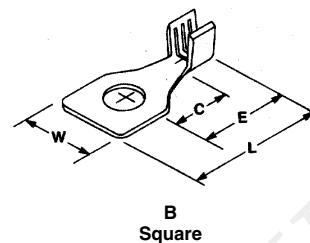
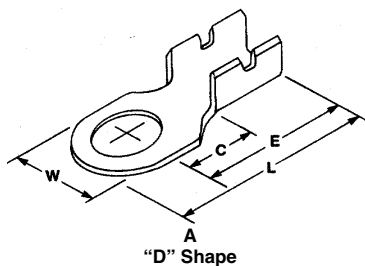
**Ring Tongue Terminals, Non-Insulation Support** (Continued)



| Type | Wire Range |                 | Stud Size/<br>Dia. | Stock<br>Thk. | Material<br>and Finish | Dimensions    |               |               |              | Part<br>Number |
|------|------------|-----------------|--------------------|---------------|------------------------|---------------|---------------|---------------|--------------|----------------|
|      | AWG        | mm <sup>2</sup> |                    |               |                        | W             | L             | E             | C            |                |
| B    | 18-14      | 0.8-2.0         | 5                  | .020<br>0.51  | Tin Plated Brass       | .234<br>5.94  | .331<br>8.41  | .234<br>5.94  | .129<br>3.28 | 60250-2        |
|      |            |                 | 4                  | .025<br>0.64  | Tin Plated Brass       | .250<br>6.35  | .460<br>11.68 | .349<br>8.86  | .160<br>4.07 | 42054-2        |
| A    | 18-14      | 0.8-2.0         | 6                  | .025<br>0.64  | Brass                  | .300<br>7.62  | .570<br>14.48 | .420<br>10.67 | .230<br>5.84 | 42110-1        |
|      |            |                 | 6                  | .025<br>0.64  | Tin Plated Brass       | .300<br>7.62  | .570<br>14.48 | .420<br>10.67 | .230<br>5.84 | 42111-1        |
|      |            |                 | 8                  | .025<br>0.64  | Tin Plated Brass       | .300<br>7.62  | .570<br>14.48 | .420<br>10.67 | .230<br>5.84 | 42111-2        |
|      |            |                 | 10                 | .025<br>0.64  | Brass                  | .300<br>7.62  | .570<br>14.48 | .420<br>10.67 | .230<br>5.84 | 42110-3        |
|      |            |                 | 10                 | .025<br>0.64  | Tin Plated Brass       | .300<br>7.62  | .570<br>14.48 | .420<br>10.67 | .230<br>5.84 | 42111-3        |
|      |            |                 | 10                 | .025<br>0.64  | Stainless Steel        | .300<br>7.62  | .535<br>13.59 | .385<br>9.78  | .230<br>5.84 | 42716-2        |
|      |            |                 | 5                  | .030<br>0.76  | Tin Plated Brass       | .343<br>8.71  | .611<br>15.52 | .435<br>11.05 | .275<br>6.99 | 60505-1        |
|      |            |                 | 10                 | .030<br>0.76  | Brass                  | .343<br>8.71  | .611<br>15.52 | .435<br>11.05 | .275<br>6.99 | 40796          |
|      |            |                 | 10                 | .030<br>0.76  | Tin Plated Brass       | .343<br>8.71  | .611<br>15.52 | .435<br>11.05 | .275<br>6.99 | 40977          |
|      |            |                 | 6                  | .020<br>0.51  | Tin Plated Brass       | .281<br>7.14  | .455<br>11.56 | .335<br>8.51  | .210<br>5.33 | 61142-2        |
| B    | 18-14      | 0.8-2.0         | 8                  | .020<br>0.51  | Brass                  | .281<br>7.14  | .455<br>11.56 | .335<br>8.51  | .210<br>5.33 | 40951          |
|      |            |                 | 10                 | .030<br>0.76  | Tin Plated Brass       | .343<br>8.71  | .677<br>17.20 | .501<br>12.73 | .281<br>7.14 | 40696          |
|      |            |                 | 8                  | .040<br>1.02  | Brass                  | .343<br>8.71  | .677<br>17.20 | .501<br>12.73 | .281<br>7.14 | 42425-1        |
|      |            |                 | 8                  | .040<br>1.02  | Tin Plated Brass       | .343<br>8.71  | .677<br>17.20 | .501<br>12.73 | .281<br>7.14 | 40523          |
|      |            |                 | 10                 | .040<br>1.02  | Brass                  | .343<br>8.71  | .677<br>17.20 | .501<br>12.73 | .281<br>7.14 | 41911          |
|      |            |                 | 10                 | .040<br>1.02  | Tin Plated Brass       | .343<br>8.71  | .677<br>17.20 | .501<br>12.73 | .281<br>7.14 | 40524          |
|      |            |                 | 10                 | .040<br>1.02  | Tin Plated Copper      | .343<br>8.71  | .670<br>17.02 | .500<br>12.70 | .281<br>7.14 | 41090          |
|      |            |                 | 10                 | .040<br>1.02  | Tin Plated Copper      | .500<br>12.70 | .820<br>20.83 | .582<br>14.78 | .338<br>8.58 | 42555-1        |
|      |            |                 | 1/4"               | .040<br>1.02  | Tin Plated Copper      | .500<br>12.70 | .820<br>20.83 | .582<br>14.78 | .338<br>8.58 | 41341          |
|      |            |                 | 1/4"               | .040<br>1.02  | Tin Plated Brass       | .500<br>12.70 | .820<br>20.83 | .582<br>14.78 | .338<br>8.58 | 41356          |
| A    | 12-10      | 3.0-6.0         | 5/16"              | .040<br>1.02  | Tin Plated Copper      | .500<br>12.70 | .820<br>20.83 | .582<br>14.78 | .338<br>8.58 | 42890-1        |

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

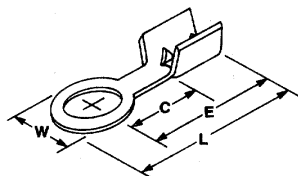
**Ring Tongue Terminals, Non-Insulation Support** (Continued)



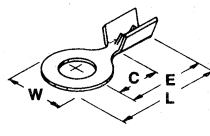
| Type | Wire Range |                 | Stud Size/<br>Dia. | Stock<br>Thk. | Material<br>and Finish | Dimensions    |                |               |               | Part<br>Number |
|------|------------|-----------------|--------------------|---------------|------------------------|---------------|----------------|---------------|---------------|----------------|
|      | AWG        | mm <sup>2</sup> |                    |               |                        | W             | L              | E             | C             |                |
| C    | 12-10      | 3.0-6.0         | 6                  | .030<br>0.76  | Tin Plated Brass       | .240<br>6.10  | .659<br>16.74  | .500<br>12.70 | .281<br>7.14  | 640257-1       |
| B    | 10-8       | 5.0-8.0         | 10                 | .040<br>1.02  | Tin Plated Brass       | .385<br>9.78  | .717<br>18.21  | .547<br>13.89 | .340<br>8.64  | 42673-2        |
| D    | 10-6       | 5.0-15.0        | 10                 | .050<br>1.27  | Brass                  | .550<br>13.97 | 1.105<br>28.07 | .830<br>21.08 | .500<br>12.70 | 485015-2       |
|      |            |                 | 10                 | .050<br>1.27  | Tin Plated Brass       | .550<br>13.97 | 1.105<br>28.07 | .830<br>21.08 | .500<br>12.70 | 485015-1       |
|      |            |                 | 5/16"              | .050<br>1.27  | Tin Plated Brass       | .550<br>13.97 | 1.105<br>28.07 | .830<br>21.08 | .500<br>12.70 | 61546-1        |
|      |            |                 | 1/4"               | .040<br>1.02  | Brass                  | .428<br>10.87 | .955<br>24.26  | .743<br>18.87 | .335<br>8.51  | 40797          |

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

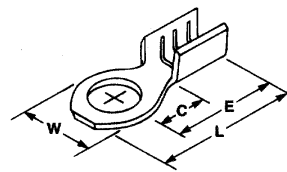
## Ring Tongue Terminals, Insulation Piercing



**A**  
Insulation Piercing



**B**  
Insulation Piercing



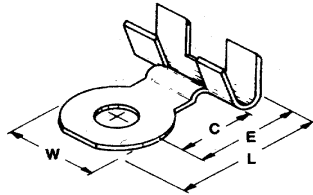
**C**  
Insulation Penetrating

| Type | Wire Range  |                 | Insul. Size            | Stud Size/ Dia. | Stock Thk.   | Material and Finish  | Dimensions   |               |               |              | Part Number           |
|------|-------------|-----------------|------------------------|-----------------|--------------|----------------------|--------------|---------------|---------------|--------------|-----------------------|
|      | AWG         | mm <sup>2</sup> |                        |                 |              |                      | W            | L             | E             | C            |                       |
| B    | 22-20       | 0.3-0.6         | .050-.065<br>1.27-1.65 | 2               | .013<br>0.33 | Nickel Plated Brass  | .165<br>4.19 | .417<br>10.59 | .300<br>7.62  | .125<br>3.18 | 60422-3               |
|      |             |                 |                        |                 | .013<br>0.33 | Pre-Tin Plated Brass | .165<br>4.19 | .417<br>10.59 | .330<br>8.38  | .125<br>3.18 | 41376                 |
|      |             |                 |                        | 5               | .013<br>0.33 | Tin Plated Brass     | .186<br>4.72 | .423<br>10.74 | .335<br>8.51  | .125<br>3.18 | 41409                 |
|      | 20-16       | 0.3-1.4         | .105-.120<br>2.67-3.05 | 6               | .020<br>0.51 | Brass                | .300<br>7.62 | .655<br>16.64 | .505<br>12.83 | .240<br>6.10 | 42023                 |
| C    | Tinsel Wire |                 | .030-.035<br>0.76-0.89 | 5               | .014<br>0.36 | Gold Plated Brass    | .186<br>4.72 | .440<br>11.18 | .350<br>8.89  | .130<br>3.30 | 61505-1 <sup>1</sup>  |
|      |             |                 |                        | 5               | .014<br>0.36 | Tin Plated Brass     | .186<br>4.72 | .440<br>11.18 | .350<br>8.89  | .130<br>3.30 | 61505-2 <sup>1</sup>  |
|      |             |                 |                        | 5               | .014<br>0.36 | Tin Plated Brass     | .186<br>4.72 | .440<br>11.18 | .350<br>8.89  | .130<br>3.30 | 640189-1 <sup>1</sup> |
| A    | 18-16       | 0.8-1.4         | .110-.130<br>2.79-3.30 | 10              | .016<br>0.41 | Brass                | .281<br>7.13 | .800<br>20.32 | .660<br>16.76 | .350<br>8.89 | 61853-1               |

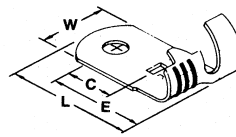
<sup>1</sup> Insulation penetrating.

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

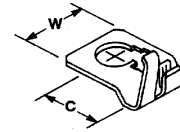
## Ring Tongue Terminals, Flag



**A**  
Reversible



**B**  
Tab-Lok

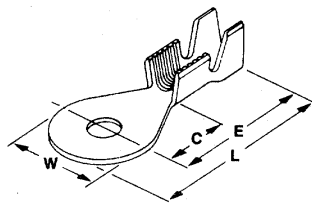


**C**  
"F" Crimp

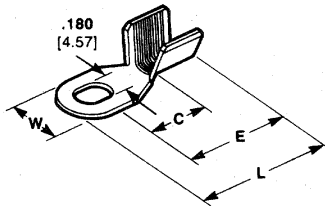
| Type | Wire Range |                 | Insul. Size            | Stud Size/ Dia. | Stock Thk.   | Material and Finish | Dimensions   |               |               |              | Part Number |
|------|------------|-----------------|------------------------|-----------------|--------------|---------------------|--------------|---------------|---------------|--------------|-------------|
|      | AWG        | mm <sup>2</sup> |                        |                 |              |                     | W            | L             | E             | C            |             |
| A    | 18-16      | 0.8-1.4         | —                      | 6               | .020<br>0.51 | Tin Plated Brass    | .280<br>7.11 | .496<br>12.60 | .342<br>8.69  | .220<br>5.59 | 41443       |
| C    | 18-14      | 0.8-2.0         | .100-.140<br>2.54-3.56 | .176<br>4.47    | .020<br>0.51 | Tin Plated Brass    | .380<br>9.65 | —             | —             | .270<br>6.86 | 61443-1     |
| B    | 18-12      | 0.8-3.0         | .110-.210<br>2.79-5.33 | .146<br>3.71    | .018<br>0.46 | Tin Plated Brass    | .376<br>9.55 | .720<br>18.29 | .532<br>13.51 | .263<br>6.68 | 42189-1     |
|      |            |                 |                        | .172<br>4.37    | .018<br>0.46 | Tin Plated Brass    | .376<br>9.55 | .720<br>18.29 | .532<br>13.51 | .263<br>6.68 | 42190-1     |
|      |            |                 |                        | .203<br>5.16    | .018<br>0.46 | Tin Plated Brass    | .376<br>9.55 | .720<br>18.29 | .532<br>13.51 | .263<br>6.68 | 42191-1     |

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

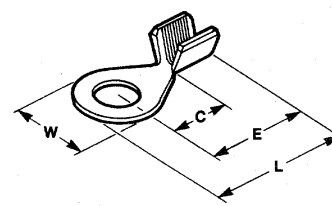
## AMPLIVAR Ring Tongue Terminals



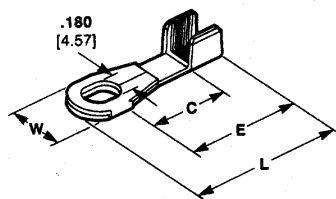
**A**  
Insulation Support



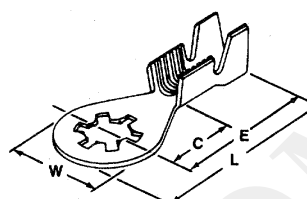
**B**  
Oval Hole



**C**  
Non-Insulation Support



**D**  
Heavy Duty Oval Hole



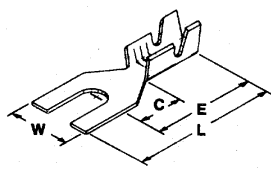
**E**  
Anti-Rotational

| Type | Wire Range          |                    | Insul. Size            | Hole Dia.    | Stud Size/ Dia. | Stock Thk.   | Material and Finish | Dimensions    |               |               |              | Part Number           |
|------|---------------------|--------------------|------------------------|--------------|-----------------|--------------|---------------------|---------------|---------------|---------------|--------------|-----------------------|
|      | AWG                 | mm <sup>2</sup>    |                        |              |                 |              |                     | W             | L             | E             | C            |                       |
| A    | 29-22               | 0.284-0.643        | .040-.060<br>1.02-1.52 | .197<br>5.00 | 10              | .020<br>0.51 | Tin Plated Brass    | .342<br>8.69  | .833<br>21.16 | .662<br>16.81 | .312<br>7.92 | 63399-1               |
|      |                     |                    | .100-.140<br>2.54-3.56 | .171<br>4.34 | 8               | .020<br>0.51 | Tin Plated Brass    | .342<br>8.69  | .833<br>21.16 | .662<br>16.81 | .312<br>7.92 | 60321-2               |
| A    | 23-19               | 0.574-0.912        | .125-.165<br>3.18-4.19 | .171<br>4.34 | 8               | .020<br>0.51 | Tin Plated Brass    | .300<br>7.62  | .700<br>17.73 | .550<br>13.97 | .230<br>5.84 | 60323-2               |
|      |                     |                    | .100-.140<br>2.54-3.56 | .197<br>5.00 | 10              | .020<br>0.51 | Tin Plated Brass    | .342<br>8.69  | .833<br>21.16 | .662<br>16.81 | .312<br>7.92 | 60319-2               |
| A    | 22-18               | 0.643-1.024        | .125-.165<br>3.18-4.19 | .265<br>6.73 | 1/4"            | .025<br>0.64 | Tin Plated Brass    | .420<br>10.67 | .872<br>22.15 | .662<br>16.81 | .312<br>7.92 | 63612-1               |
|      |                     |                    |                        |              | 6               | .025<br>0.64 | Tin Plated Brass    | .290<br>7.37  | .500<br>12.70 | .355<br>9.02  | .195<br>4.95 | 63649-1               |
|      |                     |                    |                        |              | 8               | .025<br>0.64 | Brass               | .290<br>7.37  | .500<br>12.70 | .355<br>9.02  | .195<br>4.95 | 63446-1               |
| C    | 22-18               | 0.643-1.024        | —                      | —            | 8               | .025<br>0.64 | Tin Plated Brass    | .290<br>7.37  | .500<br>12.70 | .355<br>9.02  | .195<br>4.95 | 63446-2               |
|      |                     |                    |                        |              | 1/4"            | .025<br>0.64 | Tin Plated Brass    | .420<br>10.67 | .702<br>17.83 | .492<br>12.50 | .312<br>7.92 | 62835-1               |
| A    | 20-16               | 0.183-1.29         | .125-.165<br>3.18-4.19 | .171<br>4.34 | 8               | .020<br>0.51 | Tin Plated Brass    | .300<br>7.62  | .695<br>17.65 | .545<br>13.84 | .230<br>5.84 | 60322-2               |
| A    | 18-14               | 1.024-1.628        | .100-.140<br>2.54-3.56 | .171<br>4.34 | 8               | .020<br>0.51 | Brass               | .342<br>8.69  | .833<br>21.16 | .662<br>16.81 | .312<br>7.92 | 60320-1               |
|      |                     |                    |                        |              | 8               | .028<br>0.71 | Tin Plated Brass    | .342<br>8.69  | .833<br>21.16 | .662<br>16.81 | .312<br>7.92 | 60320-2               |
| E    | 18-14               | 1.024-1.628        | .080-.120<br>2.03-3.05 | .173<br>4.39 | 8               | .028<br>0.71 | Lu-Bronze           | .370<br>9.40  | .915<br>23.24 | .730<br>18.54 | .380<br>9.65 | 485079-1 <sup>1</sup> |
|      |                     |                    |                        |              | 8               | .028<br>0.71 | Lu-Bronze           | .365<br>9.27  | .882<br>22.40 | .700<br>17.78 | .380<br>9.65 | 485044-1 <sup>1</sup> |
| D    | 14-12               | 1.628-2.05         | —                      | .180<br>4.57 | 8               | .025<br>0.64 | Brass               | .342<br>8.69  | .833<br>21.16 | .657<br>16.69 | .312<br>7.92 | 62755-1               |
| A    | 13-11               | 1.83-2.3           | .085-.150<br>2.16-3.81 | .180<br>4.57 | 8               | .025<br>0.64 | Brass               | .342<br>8.69  | .833<br>21.16 | .657<br>16.69 | .312<br>7.92 | 61710-1               |
| C    | 13-11               | 1.83-2.3           | —                      | .180<br>4.57 | 8               | .025<br>0.64 | Tin Plated Brass    | .342<br>8.69  | .665<br>16.89 | .495<br>12.57 | .312<br>7.92 | 350571-1              |
|      |                     |                    |                        | .197<br>5.00 | 10              | .025<br>0.64 | Tin Plated Brass    | .342<br>8.69  | .665<br>16.89 | .495<br>12.57 | .312<br>7.92 | 640212-1              |
| A    | (2) 17<br>(2) 15 or | 1.15 or<br>1.45 or | .150-.190<br>3.68-4.83 | .171<br>4.34 | 8               | .025<br>0.64 | Tin Plated Brass    | .342<br>8.69  | .827<br>21.01 | .656<br>16.66 | .312<br>7.92 | 60752-2               |
| B    | 17-13 1/2           | 1.51-1.78          | —                      | .180<br>4.57 | 8               | .020<br>0.51 | Brass               | .310<br>7.87  | .692<br>17.58 | .492<br>12.50 | .312<br>7.92 | 63147-1               |

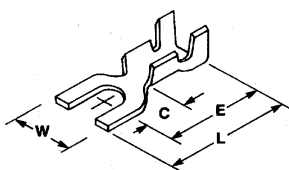
<sup>1</sup>High conductivity copper-tin-zinc alloy.

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

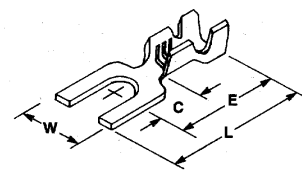
## Spade Tongue Terminals, Insulation Support



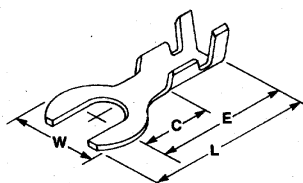
**A**  
With Serrations



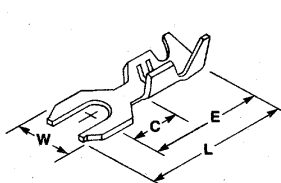
**B**  
Without Serrations



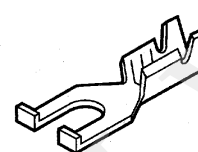
**C**  
With Serrations



**D**  
Round Tongue



**E**  
Wrap Around Ins. Support



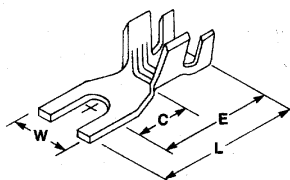
Flanged †

| Type | Wire Range |                 | Insul. Size            | Stud Size/ Dia. | Stock Thk.   | Material and Finish | Dimensions   |               |               |              | Part Number |
|------|------------|-----------------|------------------------|-----------------|--------------|---------------------|--------------|---------------|---------------|--------------|-------------|
|      | AWG        | mm <sup>2</sup> |                        |                 |              |                     | W            | L             | E             | C            |             |
| E    | 28-22      | 0.08-0.4        | .035-.045<br>0.89-1.14 | 5               | .016<br>0.41 | Tin Plated Brass    | .240<br>6.10 | .545<br>13.84 | .435<br>11.05 | .215<br>5.46 | 350502-1    |
|      |            |                 | .035-.045<br>0.89-1.14 | 5               | .016<br>0.41 | Brass               | .240<br>6.10 | .545<br>13.84 | .435<br>11.05 | .215<br>5.46 | 350502-2    |
| A    | 26-20      | 0.12-0.6        | .048-.078<br>1.22-1.98 | 6               | .020<br>0.51 | Tin Plated Brass    | .250<br>6.35 | .563<br>14.30 | .422<br>10.72 | .215<br>5.46 | 60124-2     |
|      |            |                 | .048-.078<br>1.22-1.98 | .185<br>4.70    | .020<br>0.51 | Tin Plated Brass    | .295<br>7.49 | .585<br>14.60 | .443<br>11.25 | .236<br>5.99 | 63374-1     |
| A    | 24-20      | 0.2-0.6         | .048-.078<br>1.22-1.98 | 6               | .014<br>0.36 | Tin Plated Brass    | .250<br>6.35 | .590<br>14.99 | .442<br>11.23 | .215<br>5.46 | 60445-2     |
|      |            |                 | .048-.078<br>1.22-1.98 | 10              | .014<br>0.36 | Tin Plated Brass    | .300<br>7.62 | .590<br>14.99 | .442<br>11.23 | .215<br>5.46 | 60501-1     |
|      |            |                 | .048-.078<br>1.22-1.98 | .115<br>2.92    | .020<br>0.51 | Brass               | .187<br>4.75 | .517<br>13.13 | .392<br>9.96  | .185<br>4.70 | 42160-1     |
|      |            |                 | .048-.078<br>1.22-1.98 | .115<br>2.92    | .020<br>0.51 | Tin Plated Brass    | .187<br>4.75 | .517<br>13.13 | .392<br>9.96  | .185<br>4.70 | 42160-2     |
|      |            |                 | .080-.100<br>2.03-2.54 | 8               | .020<br>0.51 | Tin Plated Brass    | .290<br>7.37 | .621<br>15.77 | .470<br>11.94 | .220<br>5.59 | 41589       |
|      |            |                 | .080-.100<br>2.03-2.54 | 10              | .020<br>0.51 | Tin Plated Brass    | .290<br>7.37 | .621<br>15.77 | .470<br>11.94 | .220<br>5.59 | 41590       |
| D    | 24-20      | 0.2-0.6         | .075-.100<br>1.91-2.54 | 4               | .020<br>0.51 | Tin Plated Brass    | .250<br>6.35 | .535<br>13.59 | .442<br>11.23 | .218<br>5.54 | 61238-1     |
| A    | 20-16      | 0.5-1.4         | .090-.130<br>2.29-3.30 | 6               | .020<br>0.51 | Tin Plated Brass    | .275<br>6.98 | .657<br>16.69 | .465<br>11.81 | .175<br>4.44 | 40763       |
|      |            |                 | .090-.130<br>2.29-3.30 | 8               | .020<br>0.51 | Tin Plated Brass    | .275<br>6.98 | .657<br>16.69 | .465<br>11.81 | .175<br>4.44 | 41343       |
| C    | 20-16      | 0.5-1.4         | .100-.140<br>2.54-3.56 | 6               | .020<br>0.51 | Brass               | .280<br>7.11 | .755<br>19.18 | .525<br>13.33 | .225<br>5.71 | 60389-1     |
|      |            |                 | .100-.140<br>2.54-3.56 | 8               | .020<br>0.51 | Brass               | .280<br>7.11 | .755<br>19.18 | .525<br>13.33 | .225<br>5.71 | 60390-1     |
| B    | 18-14      | 0.8-2.0         | .130-.180<br>3.30-4.57 | 8               | .025<br>0.64 | Tin Plated Brass    | .312<br>7.92 | .645<br>16.38 | .520<br>13.21 | .209<br>5.31 | 60251-2     |
|      |            |                 | .100-.140<br>2.54-3.56 | 10              | .030<br>0.76 | Tin Plated Brass    | .343<br>8.71 | .752<br>19.10 | .612<br>15.54 | .312<br>7.92 | 40808       |
| A    | 18-14      | 0.8-2.0         | .130-.180<br>3.30-4.57 | 6               | .020<br>0.51 | Tin Plated Brass    | .275<br>6.98 | .657<br>16.69 | .463<br>11.76 | .175<br>4.44 | 60725-1     |
|      |            |                 | .130-.180<br>3.30-4.57 | 6               | .018<br>0.46 | Tin Plated Brass    | .296<br>7.52 | .750<br>19.05 | .540<br>13.72 | .235<br>5.97 | 60773-2     |
|      |            |                 | .100-.140<br>2.54-3.56 | 8               | .018<br>0.46 | Brass               | .296<br>7.52 | .750<br>19.05 | .540<br>13.72 | .235<br>5.97 | 60774-1     |
|      |            |                 | .100-.140<br>2.54-3.56 | 8               | .018<br>0.46 | Tin Plated Brass    | .296<br>7.52 | .750<br>19.05 | .540<br>13.72 | .235<br>5.97 | 60774-2     |
|      |            |                 | .100-.140<br>2.54-3.56 | 10              | .018<br>0.46 | Brass               | .296<br>7.52 | .750<br>19.05 | .540<br>13.72 | .235<br>5.97 | 60775-1     |
|      |            |                 | .100-.140<br>2.54-3.56 | 10              | .018<br>0.46 | Brass               | .296<br>7.52 | .750<br>19.05 | .540<br>13.72 | .235<br>5.97 | 60775-1     |

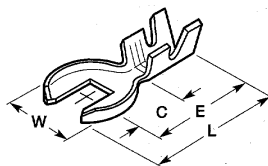
† Terminals flangable by designated applicator.

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

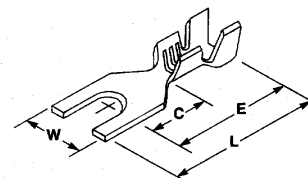
## Spade Tongue Terminals, Insulation Support (Continued)



**A**  
Insulation Support



**B**  
Heavy Duty



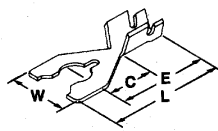
**C**  
Insulation Support

| Type | Wire Range |                 | Insul. Size            | Stud Size/ Dia.            | Stock Thk.   | Material and Finish | Dimensions    |                |               |               | Part Number |
|------|------------|-----------------|------------------------|----------------------------|--------------|---------------------|---------------|----------------|---------------|---------------|-------------|
|      | AWG        | mm <sup>2</sup> |                        |                            |              |                     | W             | L              | E             | C             |             |
| B    | 18-14      | 0.8-2.0         | .120-.180<br>3.05-4.57 | .205 × .291<br>5.21 × 7.39 | .030<br>0.76 | Tin Plated Copper   | .490<br>12.45 | .800<br>20.32  | .613<br>15.57 | .333<br>8.46  | 60998-1     |
|      |            |                 |                        | .255 × .291<br>6.48 × 7.39 | .030<br>0.76 | Tin Plated Copper   | .490<br>12.45 | .710<br>18.03  | .523<br>13.28 | .333<br>8.46  | 60999-11    |
| C    | 18-14      | 0.8-2.0         | .080-.150<br>2.03-3.81 | 10                         | .025<br>0.64 | Tin Plated Brass    | .375<br>9.53  | .930<br>23.62  | .750<br>19.05 | .400<br>10.16 | 61857-2     |
| A    | 10-6       | 5.0-15.0        | .145-.290<br>3.68-7.37 | 10                         | .040<br>1.02 | Tin Plated Brass    | .375<br>9.52  | 1.015<br>25.78 | .810<br>20.57 | .400<br>10.16 | 61855-1     |

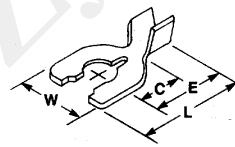
<sup>1</sup> Tongue Bent 45°.

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

## Spring Spade



**A**  
Insulation Support

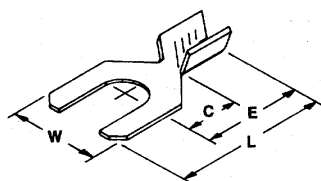


**B**  
Non-Insulation Support

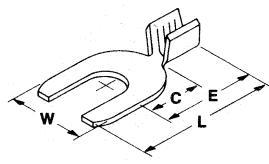
| Type | Wire Range |                 | Insul. Size            | Stud Size/ Dia. | Stock Thk.   | Material and Finish       | Dimensions   |               |               |              | Part Number        |
|------|------------|-----------------|------------------------|-----------------|--------------|---------------------------|--------------|---------------|---------------|--------------|--------------------|
|      | AWG        | mm <sup>2</sup> |                        |                 |              |                           | W            | L             | E             | C            |                    |
| A    | 18-14      | 0.8-2.0         | .100-.140<br>2.54-3.56 | 6               | .030<br>0.76 | Tin Plated Brass          | .250<br>6.35 | .690<br>17.53 | .550<br>13.97 | .243<br>6.17 | 63268-1            |
|      |            |                 |                        | 6               | .030<br>0.76 | Tin Plated Brass          | .343<br>8.71 | .752<br>19.10 | .612<br>15.54 | .312<br>7.92 | 60187-2            |
|      |            |                 |                        | 8               | .030<br>0.76 | Tin Plated Brass          | .343<br>8.71 | .752<br>19.10 | .612<br>15.54 | .312<br>7.92 | 42168-2            |
|      |            |                 |                        | 10              | .030<br>0.76 | Tin Plated Brass          | .343<br>8.71 | .752<br>19.10 | .612<br>15.54 | .312<br>7.92 | 42169-2            |
|      | 16-12      | 1.4-3.0         | .110-.150<br>2.79-3.81 | 8               | .030<br>0.76 | Tin Plated Brass          | .343<br>8.71 | .745<br>18.92 | .612<br>15.54 | .312<br>7.92 | 62795-1            |
| B    | 20-16      | 0.5-1.4         | —                      | .138<br>3.51    | .020<br>0.51 | Tin Plated Brass          | .260<br>6.60 | .472<br>11.99 | .350<br>8.89  | .194<br>4.93 | 485073-1           |
|      | 18-14      | 0.8-2.0         | —                      | 8               | .020<br>0.51 | Tin Plated Brass          | .315<br>8.00 | .554<br>14.07 | .389<br>9.88  | .249<br>6.33 | 350568-1           |
|      | 14-10      | 2.0-5.0         | —                      | 10              | .040<br>1.02 | Brass<br>Tin Plated Brass | .372<br>9.45 | .668<br>16.97 | .506<br>12.85 | .281<br>7.14 | 63610-1<br>63610-2 |

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

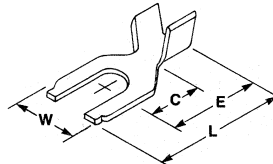
## Spade Tongue Terminals, Non-Insulation Support



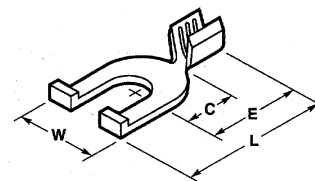
**A**  
With Serrations



**B**  
With Serrations



**C**  
Without Serrations

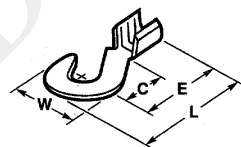


**D**  
Flanged

| Type | Wire Range |                 | Insul. Size | Stud Size/ Dia. | Stock Thk.   | Material and Finish | Dimensions    |               |               |               | Part Number |
|------|------------|-----------------|-------------|-----------------|--------------|---------------------|---------------|---------------|---------------|---------------|-------------|
|      | AWG        | mm <sup>2</sup> |             |                 |              |                     | W             | L             | E             | C             |             |
| D    | 20-16      | 0.5-1.4         | —           | 6               | .020<br>0.51 | Tin Plated Brass    | .275<br>6.99  | .527<br>13.39 | .328<br>8.33  | .175<br>4.45  | 42318-2     |
| B    | 18-14      | 0.8-2.0         | —           | 10              | .030<br>0.76 | Tin Plated Brass    | .343<br>8.71  | .628<br>15.95 | .441<br>11.20 | .275<br>6.99  | 40521       |
| A    | 18-14      | 0.8-2.0         | —           | 6               | .025<br>0.64 | Brass               | .275<br>6.99  | .482<br>12.24 | .295<br>7.49  | .175<br>4.45  | 40577       |
| C    | 18-14      | 0.8-2.0         | —           | 8               | .025<br>0.64 | Brass               | .275<br>6.99  | .482<br>12.24 | .295<br>7.49  | .175<br>4.45  | 40705       |
|      |            |                 | —           | 8               | .025<br>0.64 | Tin Plated Brass    | .275<br>6.99  | .482<br>12.24 | .295<br>7.49  | .175<br>4.45  | 41473       |
| B    | 12-10      | 3.0-6.0         | —           | 8               | .030<br>0.76 | Tin Plated Brass    | .312<br>7.92  | .688<br>17.48 | .450<br>11.43 | .235<br>5.97  | 42113-2     |
|      |            |                 | —           | 10              | .030<br>0.76 | Brass               | .312<br>7.92  | .688<br>17.48 | .450<br>11.43 | .235<br>5.97  | 40891       |
|      |            |                 | —           | 10              | .030<br>0.76 | Tin Plated Brass    | .312<br>7.92  | .688<br>17.48 | .450<br>11.43 | .235<br>5.97  | 41495       |
| D    | 12-10      | 3.0-6.0         | —           | 10              | .040<br>1.02 | Brass               | .440<br>11.18 | .968<br>24.58 | .700<br>17.78 | .435<br>11.05 | 63526-1     |

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

## Spade Hook Terminals



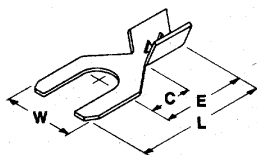
**E**  
With Serrations

| Type | Wire Range |                 | Insul. Size | Stud Size/ Dia. | Stock Thk.   | Material and Finish | Dimensions   |               |              |              | Part Number |
|------|------------|-----------------|-------------|-----------------|--------------|---------------------|--------------|---------------|--------------|--------------|-------------|
|      | AWG        | mm <sup>2</sup> |             |                 |              |                     | W            | L             | E            | C            |             |
| E    | 18-14      | 0.8-2.0         | —           | 10              | .020<br>0.51 | Tin Plated Brass    | .280<br>7.11 | .540<br>13.72 | .374<br>9.50 | .214<br>5.44 | 41461       |

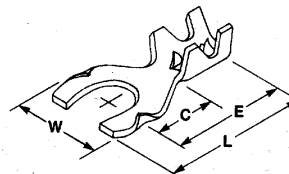
**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

## Spade Tongue Terminals

### Spade Insulation Piercing



**A**  
Insulation Piercing

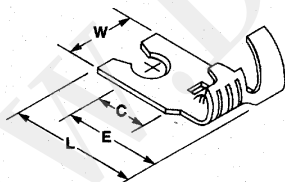


**B**  
SPADE-LOK

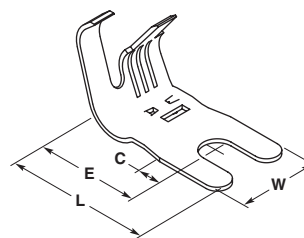
| Type | Wire Range |                 | Insul. Size            | Stud Size/ Dia. | Stock Thk.   | Material and Finish  | Dimensions   |               |               |              | Part Number |
|------|------------|-----------------|------------------------|-----------------|--------------|----------------------|--------------|---------------|---------------|--------------|-------------|
|      | AWG        | mm <sup>2</sup> |                        |                 |              |                      | W            | L             | E             | C            |             |
| A    | 28-22      | 0.08-0.4        | .035-.040<br>0.89-1.02 | 5               | .016<br>0.41 | Brass                | .250<br>6.35 | .578<br>14.68 | .422<br>10.72 | .215<br>5.46 | 61498-1     |
|      |            |                 |                        | 5               | .016<br>0.41 | Tin Plated Brass     | .250<br>6.35 | .578<br>14.68 | .422<br>10.72 | .215<br>5.46 | 61498-2     |
|      |            |                 |                        | 5               | .016<br>0.41 | Pre-Tin Plated Brass | .250<br>6.35 | .578<br>14.68 | .422<br>10.72 | .215<br>5.46 | 61498-3     |
|      | 26-22      | 0.12-0.4        | .045-.050<br>1.14-1.27 | 5               | .016<br>0.41 | Brass                | .250<br>6.35 | .578<br>14.68 | .472<br>11.99 | .265<br>6.73 | 61519-1     |
|      |            |                 |                        | 5               | .016<br>0.41 | Tin Plated Brass     | .250<br>6.35 | .578<br>14.68 | .422<br>10.72 | .215<br>5.46 | 60234-2     |
|      |            |                 |                        | 5               | .016<br>0.41 | Tin Plated Brass     | .250<br>6.35 | .578<br>14.68 | .422<br>10.72 | .215<br>5.46 | 640260-2    |
|      |            |                 |                        | 6               | .016<br>0.41 | Tin Plated Brass     | .250<br>6.35 | .547<br>13.89 | .422<br>10.72 | .215<br>5.46 | 61385-2     |
|      |            |                 |                        | 5               | .020<br>0.51 | Tin Plated Brass     | .250<br>6.35 | .500<br>12.70 | .392<br>9.96  | .187<br>4.75 | 41933       |
|      | B          | 20-16           | .085-.105<br>2.16-2.67 | 6               | .020<br>0.51 | Tin Plated Brass     | .322<br>8.18 | .750<br>19.05 | .545<br>13.84 | .281<br>7.14 | 40764       |
|      |            |                 |                        | 8               | .020<br>0.51 | Tin Plated Brass     | .322<br>8.18 | .750<br>19.05 | .545<br>13.84 | .281<br>7.14 | 40765       |
|      |            |                 |                        | 10              | .020<br>0.51 | Tin Plated Brass     | .322<br>8.18 | .750<br>19.05 | .545<br>13.84 | .281<br>7.14 | 40766       |
| A    | 20-18      | 0.5-0.8         | .065-.080<br>1.65-2.03 | 5               | .020<br>0.51 | Tin Plated Brass     | .250<br>6.35 | .542<br>14.77 | .412<br>10.46 | .206<br>5.23 | 42339-2     |

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

### Flag Spade and Spring Spade



**A**  
Tab-Lok Spring Spade



**B**  
Tab-Lok

| Type | Wire Range |                 | Insul. Size            | Stud Size/ Dia. | Stock Thk.   | Material and Finish | Dimensions   |               |               |              | Part Number |
|------|------------|-----------------|------------------------|-----------------|--------------|---------------------|--------------|---------------|---------------|--------------|-------------|
|      | AWG        | mm <sup>2</sup> |                        |                 |              |                     | W            | L             | E             | C            |             |
| A    | 18-12      | 0.8-3.0         | .110-.210<br>2.79-5.33 | 12              | .018<br>0.46 | Brass               | .315<br>8.00 | .720<br>12.29 | .535<br>13.59 | .263<br>6.68 | 63053-1     |
| B    | 18-12      | 0.8-3.0         | .110-.210<br>2.79-5.33 | 8               | .018<br>0.46 | Tin Plated Brass    | .376<br>9.55 | .720<br>12.29 | .535<br>13.59 | .263<br>6.68 | 42187-11    |
|      |            |                 |                        | 10              | .018<br>0.46 | Tin Plated Brass    | .376<br>9.55 | .720<br>12.29 | .535<br>13.59 | .263<br>6.68 | 42188-11    |

<sup>1</sup> Terminals may be bent 45° in applicator (use suffix "N").

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

## Splices

### Product Facts

- Terminates stranded wire and/or solid wire combinations together or to leads on components or devices
- End feed splices available for pigtail connections.
- Side feed splices available for parallel connections.
- Available in brass, copper-nickel, phosphor bronze and steel material
- Precision formed, strip-fed splices terminated in AMP automatic machines for high production rates per hour



Tyco Electronics offers a full selection of AMP open barrel splices that are specifically designed to terminate combinations of stranded wire and/or solid wire to themselves or to resistors, light emitting devices (LED), glass reed switch assemblies, etc.

Open barrel splices are available with or without serrations. Pre-stripped stranded or solid wire leads are forced into the serrations during the crimping process. The resulting termination produces a high tensile strength connection that is resistant to corrosion. Depending on your specific application, open barrel splices are available for terminations in the 400 to 30,000 CMA range in brass, copper-nickel, phosphor bronze and steel material.

Others are available with insulation support barrels to terminate round or square posts, resistance wire, and solid pin or calrod leads. The insulation support barrel prevents harmful flexing of the wire at the termination point where the wire is rigidly crimped in the wire barrel and deters fraying of the insulation. Depending on your specific application, open barrel insulation support splices are available for terminations in the 150 to 12,000 CMA range in brass and steel material.

Insulation piercing splices are also available to eliminate the need to pre-strip the insulated wire. The barrel contains two perpendicular lances that are driven through the wire insulation to make contact with the conductor.

Depending on your specific application, open barrel insulation piercing splices are available for terminations in the 16–22 AWG wire range in brass material.

Identification splices are available for wire marking. Up to three digits can be stamped on the bands during the crimping process. Depending on your specific application, open barrel identification splices are available for terminations from .150 to .300 insulation diameters in brass and aluminum material.

Open barrel splices are manufactured in strip form and supplied on reels for semi-automated and fully automated terminations on crimping machines for high output per hour production rates.

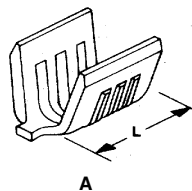
### Technical Documents

Application Specifications describe requirements for using the product in its intended application and/or crimping information. They are intended for the Packaging and Design Engineer and the Machine Setup Person.

114-2088 — Pigtail and Thru Splices

**Splices** (Continued)

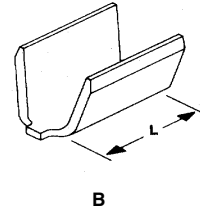
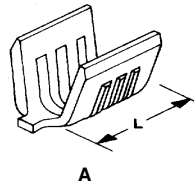
**Side Feed Splices —  
Non-Insulation Support**



| Type | Wire Range  |                 | Stock Thickness | Crimp Width  | Dim. L       | Material             | Part Number |
|------|-------------|-----------------|-----------------|--------------|--------------|----------------------|-------------|
|      | CMA         | mm <sup>2</sup> |                 |              |              |                      |             |
| A    | 400-1300    | 0.20-0.66       | .016<br>0.41    | .070<br>1.78 | .100<br>2.54 | Brass                | 62759-1     |
|      |             |                 |                 |              |              | Tin Plated Brass     | 62759-2     |
|      |             |                 |                 |              |              | Steel                | 62759-5     |
|      | 500-2200    | 0.25-1.11       | .030<br>0.76    | .110<br>2.79 | .100<br>2.54 | Brass                | 485016-1    |
|      |             |                 |                 |              |              | Brass                | 61769-1     |
|      | 1200-2600   | 0.61-1.32       | .020<br>0.51    | .090<br>2.29 | .120<br>3.05 | Nickel Plated Steel  | 61769-2     |
|      |             |                 |                 |              | .190<br>4.83 | Brass                | 60372-1     |
|      |             |                 |                 |              |              | Brass                | 63130-2     |
|      | 1500-5000   | 0.76-2.53       | .020<br>0.51    | .110<br>2.79 | .155<br>3.94 | Tin Plated Brass     | 63130-3     |
|      |             |                 |                 |              |              | Tin Plated Phos. Bz. | 63130-4     |
|      |             |                 |                 |              |              | Brass                | 485043-1    |
|      | 4000-9000   | 2.03-4.56       | .020<br>0.51    | .140<br>3.56 | .250<br>6.35 | Tin Plated Brass     | 485043-2    |
|      |             |                 |                 |              |              | Nickel Plated Steel  | 485043-4    |
|      |             |                 |                 |              |              | Tin Plated Steel     | 61299-1     |
|      | 7000-12500  | 3.55-6.33       | .031<br>0.79    | .180<br>4.57 | .265<br>6.73 | Tin Plated Brass     | 61299-2     |
|      |             |                 |                 |              |              | Brass                | 61299-3     |
|      |             |                 |                 |              |              | Brass                | 1217967-1   |
|      | 8500-14000  | 4.31-7.10       | .025<br>0.64    | .180<br>4.57 | .265<br>6.73 | Tin Plated Brass     | 1217967-2   |
|      |             |                 |                 |              |              | Brass                | 62754-1     |
|      | 14000-30000 | 7.10-15.20      | .030<br>0.76    | .280<br>7.11 | .310<br>7.87 | Tin Plated Brass     | 62754-2     |

**Splices** (Continued)

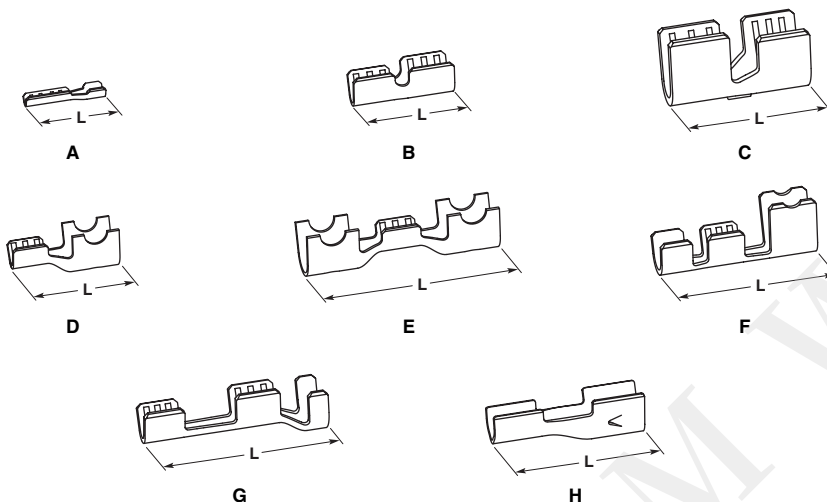
**End Feed Splices —  
Non-Insulation Support**



| Type | Wire Range  |                 | Stock Thickness | Crimp Width  | Dim. L       | Material            | Part Number |
|------|-------------|-----------------|-----------------|--------------|--------------|---------------------|-------------|
|      | CMA         | mm <sup>2</sup> |                 |              |              |                     |             |
| A    | 400-1100    | 0.20-0.56       | .010<br>0.25    | .055<br>1.40 | .100<br>2.54 | Brass               | 63834-1     |
|      | 1000-3200   | 0.51-1.62       | .020<br>0.51    | .110<br>2.79 | .150<br>3.81 | Brass               | 41974       |
|      |             |                 |                 |              |              | Tin Plated Brass    | 41975       |
|      | 1500-4600   | 0.76-2.33       | .020<br>0.51    | .110<br>2.79 | .225<br>5.72 | Nickel Plated Steel | 62318-1     |
|      | 2500-4700   | 1.27-2.38       | .020<br>0.51    | .120<br>3.05 | .150<br>3.81 | Brass               | 61492-1     |
|      |             |                 |                 |              |              | Tin/Cu Plated Brass | 61492-2     |
|      |             |                 |                 |              |              | Copper-Nickel       | 61492-3     |
|      |             |                 |                 |              |              | Tin Plated Brass    | 40868       |
|      |             |                 |                 |              |              | Brass               | 40509       |
|      | 3300-9000   | 1.67-4.56       | .020<br>0.51    | .140<br>3.56 | .150<br>3.81 | Tin Plated Brass    | 40552       |
|      |             |                 |                 |              |              | Nickel Plated Steel | 40952       |
|      |             |                 |                 |              |              | Blackened St. Steel | 60470-1     |
|      | 800-2600    | 0.41-1.32       | .016<br>0.41    | .090<br>2.29 | .065<br>1.65 | Brass               | 41459       |
|      |             |                 |                 |              |              | Copper-Nickel       | 41459-1     |
|      |             |                 |                 |              |              | Tin Plated Brass    | 41459-2     |
|      | 1400-3600   | 0.71-1.82       | .016<br>0.41    | .090<br>2.29 | .065<br>1.65 | Tin Plated Brass    | 40862       |
|      | 1400-2800   | 0.71-1.42       | .016<br>0.41    | .090<br>2.29 | .100<br>2.54 | Tin Plated Steel    | 61008-1     |
|      | 2200-4200   | 1.11-2.13       | .012<br>0.31    | .090<br>2.29 | .250<br>6.35 | Nickel Plated Steel | 63432-1     |
|      | 2200-2900   | 1.11-1.47       | .012<br>0.31    | .090<br>2.29 | .065<br>1.65 | Tin Plated Steel    | 60933-2     |
|      | 2200-4500   | 1.11-2.28       | .012<br>0.31    | .090<br>2.29 | .065<br>1.65 | Nickel Plated Steel | 41215       |
| B    | 2500-4700   | 1.27-2.38       | .020<br>0.51    | .120<br>3.05 | .150<br>3.81 | Nickel Plated Steel | 41397       |
|      |             |                 |                 |              | .125<br>3.17 | Tin Plated Steel    | 60932-2     |
|      |             |                 |                 |              |              | Brass               | 60932-4     |
|      | 3200-3900   | 1.62-1.98       | .012<br>0.31    | .100<br>2.54 | .150<br>3.81 | Nickel Plated Steel | 42329-1     |
|      | 3200-8000   | 1.62-4.05       | .020<br>0.51    | .140<br>3.56 | .225<br>5.72 | Brass               | 155352-1    |
|      | 4000-10000  | 2.02-5.07       | .025<br>0.64    | .155<br>3.94 | .250<br>6.35 | Stainless Steel     | 41627-1     |
|      | 6000-8000   | 3.04-4.05       | .020<br>0.51    | .155<br>3.94 | .125<br>3.17 | Tin Plated Steel    | 485020-1    |
|      | 7000-13000  | 3.55-6.59       | .025<br>0.64    | .180<br>4.57 | .225<br>5.72 | Brass               | 155353-1    |
|      |             |                 |                 |              |              | Tin Plated Brass    | 155353-2    |
|      | 7400-10000  | 3.75-5.07       | .025<br>0.64    | .180<br>4.57 | .250<br>6.35 | Tin Plated Brass    | 41996       |
|      |             |                 |                 |              |              | Brass               | 62357-1     |
|      | 12000-18000 | 6.08-9.12       | .025<br>0.64    | .180<br>4.57 | .250<br>6.35 | Brass               | 60997-1     |
|      |             |                 |                 |              |              | Nickel Plated Steel | 60997-3     |
|      |             |                 |                 |              |              | Stainless Steel     | 60997-5     |

## Splices (Continued)

### Insulation Support Splices



| Type | Wire Range**                   |                                | Insul. Dia.            | Stock Thickness | Dim. L        | Material            | Part Number |
|------|--------------------------------|--------------------------------|------------------------|-----------------|---------------|---------------------|-------------|
|      | CMA                            | mm <sup>2</sup>                |                        |                 |               |                     |             |
| A    | 150-480                        | 0.76-2.43                      | .035-.050<br>0.89-1.27 | .010<br>0.25    | .305<br>7.75  | Brass               | 62382-1     |
|      |                                |                                |                        |                 |               | Tin Plated Brass    | 62382-2     |
|      | 250-500                        | 0.13-0.25                      | —                      | .010<br>0.25    | .190<br>4.83  | Brass               | 1375622-11  |
| B    | 975-2700                       | 0.49-1.37                      | .080-.115<br>2.03-2.92 | .012<br>0.31    | .375<br>9.52  | Nickel Plated Steel | 61021-1     |
|      | 1200-2200                      | 0.61-1.11                      | .070-.100<br>1.78-2.54 | .020<br>0.51    | .230<br>5.84  | Nickel Plated Steel | 62503-2     |
|      | 3200-9000                      | 1.62-4.56                      | .120-.160<br>3.05-4.06 | .020<br>0.51    | .370<br>9.40  | Nickel Plated Steel | 42627-4     |
| C    | 6000-12000                     | 3.04-6.08                      | .140-.185<br>3.55-4.70 | .031<br>0.79    | .545<br>13.85 | Tin Plated Steel    | 61300-1     |
| D    | 1600-4100                      | 0.81-2.08                      | .105-.145<br>2.67-3.68 | .012<br>0.31    | .450<br>11.43 | Brass               | 60806-1     |
| E    | 1600-4100                      | 0.81-2.08                      | .105-.145<br>2.67-3.68 | .012<br>0.31    | .745<br>18.92 | Brass               | 62516-2     |
| F    | 975-3100                       | 0.49-1.57                      | .080-.115<br>2.03-2.92 | .020<br>0.51    | .605<br>15.37 | Tin Plated Steel    | 505033-12   |
| G    | a ~ 1000-3100<br>b ~ 1500-4500 | a ~ 0.51-1.57<br>b ~ 0.76-2.28 | .135-.170<br>3.43-4.32 | .020<br>0.51    | .705<br>17.90 | Brass               | 62419-2     |
|      |                                |                                |                        |                 |               | Nickel Plated Steel | 62419-3     |
| H    | 1600-3000                      | 0.81-1.52                      | .105-.145<br>2.67-3.68 | .014<br>0.36    | .580<br>14.70 | Tin Plated Brass    | 1438246-2   |
|      |                                |                                |                        |                 |               | Brass               | 1438246-4   |
|      | 4100-6900                      | 2.08-3.50                      |                        |                 |               | Brass               | 1438246-5   |

\*\* Wire sizes indicated do not apply to resistance (heater) wire applications.

<sup>1</sup> Crimps to .015 [0.38] round or square post.

<sup>2</sup> Crimps to .092 [2.33] dia. solid pin or calrod.

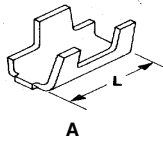
### Insulation Piercing Crimp (AWG Wire, 7 Strands Min.)



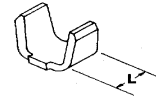
| Type | Wire Range |                 | Insul. Dia.            | Stock Thickness | Dim. L       | Material            | Part Number |
|------|------------|-----------------|------------------------|-----------------|--------------|---------------------|-------------|
|      | CMA        | mm <sup>2</sup> |                        |                 |              |                     |             |
| A    | 20-16      | 0.5-1.4         | .070-.090<br>1.78-2.29 | .020<br>0.51    | .210<br>5.33 | Tin Plated Brass    | 40771       |
| B    | 22         | 0.3-0.4         | .050-.065<br>1.27-1.65 | .012<br>0.31    | .210<br>5.33 | Brass               | 485064-1    |
|      |            |                 |                        |                 |              | Gold Plated Brass   | 485064-2    |
|      |            |                 |                        |                 |              | Nickel Plated Brass | 485064-4    |

## Splices (Continued)

### Identification Bands \*\*



A



B

| Type | Wire Range |                 | Insul.<br>Dia.                | Stock<br>Thickness  | Dim.<br>L           | Material | Part<br>Number |
|------|------------|-----------------|-------------------------------|---------------------|---------------------|----------|----------------|
|      | AWG        | mm <sup>2</sup> |                               |                     |                     |          |                |
| A    | —          | —               | <b>.190-.220</b><br>4.82-5.59 | <b>.020</b><br>0.51 | <b>.250</b><br>6.35 | Aluminum | 41276          |
|      |            |                 | <b>.210-.235</b><br>5.33-5.97 | <b>.020</b><br>0.51 | <b>.300</b><br>7.62 | Brass    | 41108          |
|      | —          | —               | <b>.240-.260</b><br>6.09-6.60 | <b>.020</b><br>0.51 | <b>.300</b><br>7.62 | Aluminum | 1438254-1      |
|      |            |                 | <b>.150-.300</b><br>3.81-7.62 | <b>.030</b><br>0.76 | <b>.180</b><br>4.57 | Aluminum | 1438254-2      |
| B    | —          | —               | <b>.150-.300</b><br>3.81-7.62 | <b>.030</b><br>0.76 | <b>.180</b><br>4.57 | Brass    | 41282          |

\*\* One to three digits can be stamped on bands in crimping operation.

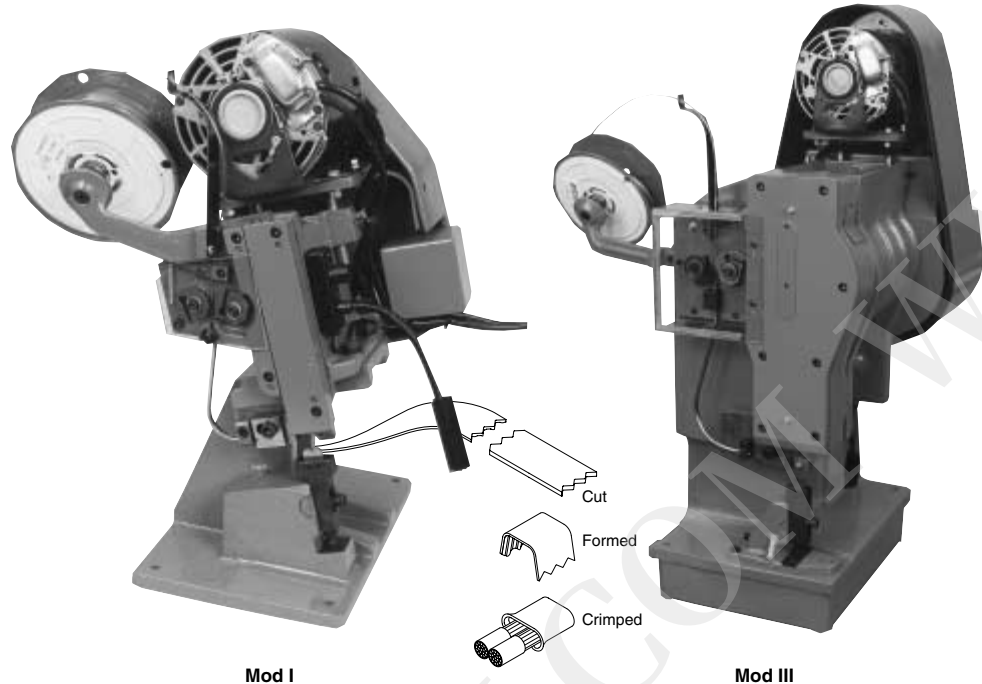
## RTM Crimpband Splices

### Product Facts

- Made from a continuous coil of "Ribbon Connector" material
- RTM Crimpband have grooved serrations for improved axial retention
- Available in brass, tin-plated brass and copper-nickel alloy (CA725) material
- Make parallel or pigtail connections on same machine
- Used for electrical and non-electrical connections
- 100% of RTM Crimpband material is used in scrap free terminations
- Crimpband material coupled with appropriate toolsets accommodate specific CMA ranges
- Produced in Tyco Electronics equipment on your production floor
- Meets UL 486C crimp tensile requirements

### Applications

- Stranded and solid wire-to-wire connections
- Light bulb LED assembly
- Switch lead assembly
- Resistor lead assembly
- Printed circuit board lead assembly
- Flex-film lead assembly
- Glass reed switch lead assembly



Mod I

Mod III

Tyco Electronics features the AMP RTM Crimpband system that is comprised of two key features: the semi-automatic termination machine and a reel of RTM Crimpband material.

In a one-step crimping operation, the machine feeds, cuts, forms and crimps the material to provide a low-cost, high reliability crimp connection.

The RTM Crimpband splices are formed during the crimping process from

milled longitudinal groove material that produce rolled, rounded serrations.

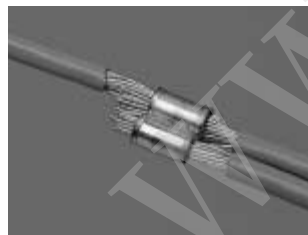
They are designed to terminate pre-stripped stranded and solid wire conductors together as well as wire conductors to switch tabs, resistors, printed circuit board, flex circuit and light bulb LED and glass reed switch assemblies, etc.

The flexibility of the RTM Crimpband system provides opportunity for use in custom applications for

either electrical and / or mechanical connections.

Tyco Electronics provides a wide range of toolset types and crimpband splices to meet various production requirements.

Depending on your specific application, RTM Crimpband splices are available in 3, 6, 7, 8, 9, 10 14 and 20 ridge serration versions for terminations in the 170 to 13,000 CMA range.



## RTM Crimpband Splices (Continued)

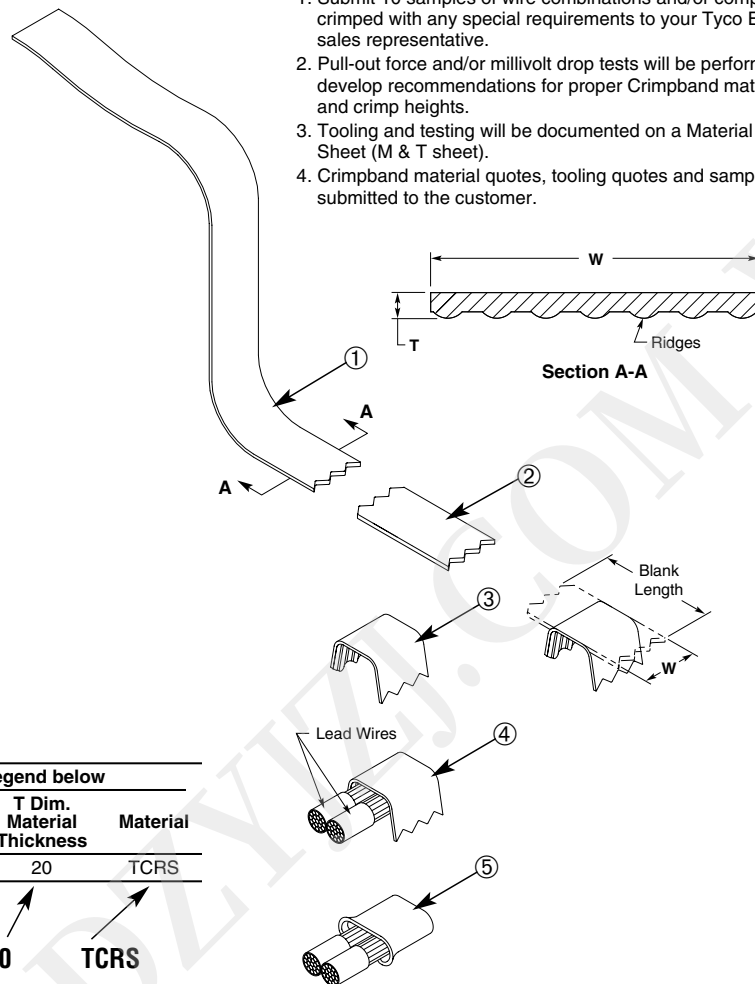
### RTM Crimpband Interconnection System

#### How the System Operates

- ① **Feed (Ribbon Connector Material)**  
Machine feeds strip until the strip hits the wire stop.
- ② **Shear (Blank Length)**  
The strip is cut by the cutter block former bar insert tooling.
- ③ **Bend (Crimp Formed)**  
The former bar drives the cut strip over the anvil, bending the cut strip into an upside down "U".
- ④ **Wire (Placement)**  
Pigtail and Parallel (Thru) splice terminations are made on the same machine.
- ⑤ **Crimp (Crimp Formed)**  
The anvil retracts as the driver takes the formed strip down into the clincher.

**Notes:** So that the proper Crimpband splice is chosen, Tyco Electronics recommends the following:

1. Submit 10 samples of wire combinations and/or components to be crimped with any special requirements to your Tyco Electronics sales representative.
2. Pull-out force and/or millivolt drop tests will be performed to develop recommendations for proper Crimpband material, toolset and crimp heights.
3. Tooling and testing will be documented on a Material & Tooling Sheet (M & T sheet).
4. Crimpband material quotes, tooling quotes and samples will be submitted to the customer.



#### Connector Specification Code

See Figure 1 and/or Legend below

| Machine Basis | B.L. Dim. Tooling Size | W Dim. Connector Width | T Dim. Material Thickness | Material |
|---------------|------------------------|------------------------|---------------------------|----------|
| L             | 092                    | F                      | 20                        | TCRS     |

Splice No. Example: L 092 F 20 TCRS

#### Legend

| Machine Basis     |                         |
|-------------------|-------------------------|
| L                 | P                       |
| Leased            | Purchase                |
| Tooling Size Code | Blank Length B/L (Nom.) |
| 032               | .167                    |
| 032/036           | .228                    |
| 036               | .224                    |
| 045               | .246                    |
| 051               | .267                    |
| 061               | .292                    |
| 061/076           | .324                    |
| 076               | .339                    |
| 076/092           | .361                    |
| 092               | .379                    |
| 092/125           | .413                    |
| 125               | .446                    |
| 125/160           | .485                    |
| 125/165           | .506                    |
| 165               | .546                    |

| Connector Width Code | W Dim. | N No. of Ridges |
|----------------------|--------|-----------------|
| B                    | .076   | 3               |
| C                    | .138   | 6               |
| D                    | .154   | 7               |
| E                    | .185   | 8               |
| F                    | .216   | 9               |
| G                    | .234   | 10              |
| H                    | .247   | 10              |
| L                    | .086   | 3               |
| M                    | .330   | 14              |
| N                    | .500   | 20              |
| P                    | .114   | 5               |

| Material Thickness Code | T ±.002 Dim. |
|-------------------------|--------------|
| 12                      | .012         |
| 16                      | .016         |
| 18                      | .018         |
| 20                      | .020         |
| 22                      | .022         |
| 24                      | .024         |
| 25                      | .025         |

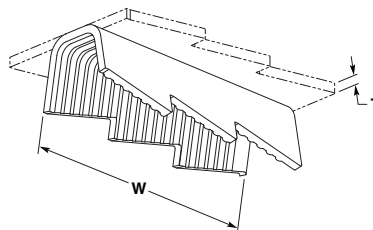
| Material Code | Material/Finish                    |
|---------------|------------------------------------|
| B             | CDA 260 Brass                      |
| A             | CDA 725 Copper/Nickel Alloy        |
| TB            | Pre-Tin over CDA 260 Brass         |
| TCRS          | 1010 Cold Rolled Steel, Tin Plated |
| SS            | 301 or 302 Stainless Steel         |
| ST            | Stainless Steel, Tin Plated        |

| Wire Size AWG | UL486C Pull Out Force Requirements Underwriters Laboratory (lbs.) |
|---------------|-------------------------------------------------------------------|
| 26            | 3                                                                 |
| 24            | 5                                                                 |
| 22            | 8                                                                 |
| 20            | 10                                                                |
| 18            | 10                                                                |
| 16            | 15                                                                |
| 14            | 25                                                                |
| 12            | 35                                                                |
| 10            | 40                                                                |

**Note:** For B/L above, .546 consult factory for tooling size code

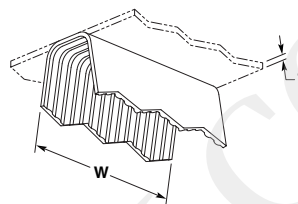
## RTM Crimpband Splices (Continued)

### 20 Ridges



| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | CMA<br>Range | Stock<br>Thk. (T) | Mat'l<br>Width (W) | Material            | Toolset | Part<br>Number | Descriptive<br>X-ref |
|-------------------------|--------------------------|--------------|-------------------|--------------------|---------------------|---------|----------------|----------------------|
| 11½-9<br>4.00-6.50      | .084-.114<br>2.13-2.90   | 7000-13000   | .020<br>0.51      | .500<br>12.70      | Tin Plated<br>Brass | 200/202 | 1601771-1      | L200/202N20TB        |

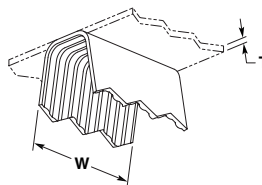
### 14 Ridges



| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | CMA<br>Range | Stock<br>Thk. (T) | Mat'l<br>Width (W) | Material | Toolset | Part<br>Number | Descriptive<br>X-ref |
|-------------------------|--------------------------|--------------|-------------------|--------------------|----------|---------|----------------|----------------------|
| 22-19<br>0.38-0.60      | .024-.036<br>0.61-0.91   | 600-1300     | .012<br>0.30      | .330<br>8.38       | Cu Ni    | 045     | 1601577-1†     | L045M12A             |
| 22-19<br>0.38-0.60      | .024-.036<br>0.61-0.91   | 600-1300     | .012<br>0.30      | .330<br>8.38       | Brass    | 045     | 1601578-1      | L045M12B             |

† These part numbers are available upon special request; contact Tyco Electronics Engineering for details.

### 10 Ridges

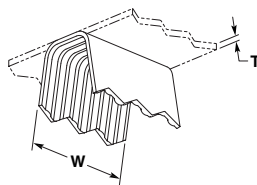


| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | CMA<br>Range | Stock<br>Thk. (T) | Mat'l<br>Width (W) | Material | Toolset | Part<br>Number | Descriptive<br>X-ref |
|-------------------------|--------------------------|--------------|-------------------|--------------------|----------|---------|----------------|----------------------|
| 22-19<br>0.38-0.60      | .024-.036<br>0.61-0.91   | 600-1300     | .012<br>0.30      | .234<br>5.94       | Brass    | 045     | 1601575-1      | L045G12B             |
| 21-18½<br>0.40-0.75     | .028-.039<br>0.71-0.99   | 800-1500     | .016<br>0.41      | .234<br>5.94       | Cu Ni    | 051     | 1601593-1†     | L051G16A             |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .012<br>0.30      | .234<br>5.94       | Brass    | 061     | 1601632-1†     | L061G12B             |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .020<br>0.51      | .234<br>5.94       | Brass    | 061     | 1601633-1      | L061G20B             |
| 11½-9<br>4.00-6.50      | .084-.114<br>2.13-2.90   | 7000-13000   | .020<br>0.51      | .234<br>5.94       | Brass    | 200/202 | 1601853-1      | P200/<br>202G20B     |
| 11½-9<br>4.00-6.50      | .084-.114<br>2.13-2.90   | 7000-13000   | .025<br>0.64      | .234<br>5.94       | Brass    | 200/202 | 1601769-1      | L200/<br>202G25BX    |

† These part numbers are available upon special request; contact Tyco Electronics Engineering for details.

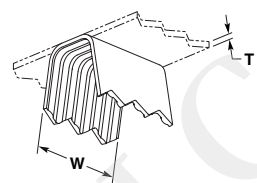
## RTM Crimpband Splices (Continued)

### 9 Ridges



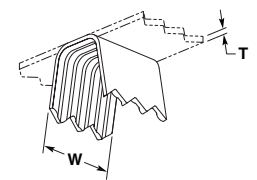
| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | CMA<br>Range | Stock<br>Thk. (T) | Mat'l<br>Width (W) | Material           | Toolset | Part<br>Number | Descriptive<br>X-ref |
|-------------------------|--------------------------|--------------|-------------------|--------------------|--------------------|---------|----------------|----------------------|
| 22-19<br>0.38-0.60      | .024-.036<br>0.61-0.91   | 600-1300     | .012<br>0.30      | .216<br>5.49       | Stainless<br>Steel | 045     | 1601807-1      | P045F12SS            |
| 20 1/2-16<br>0.45-1.30  | .030-.051<br>0.76-1.29   | 900-2600     | .012<br>0.30      | .216<br>5.49       | Stainless<br>Steel | 061     | 1601520-1      | G061F12SS            |

### 8 Ridges



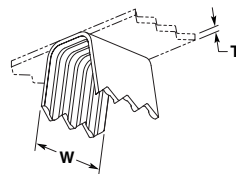
| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | CMA<br>Range | Stock<br>Thk. (T) | Mat'l<br>Width (W) | Material          | Toolset | Part<br>Number | Descriptive<br>X-ref |
|-------------------------|--------------------------|--------------|-------------------|--------------------|-------------------|---------|----------------|----------------------|
| 24-20<br>0.20-0.50      | .020-.033<br>0.51-0.84   | 400-1100     | .012<br>0.30      | .185<br>4.70       | Cu Ni             | 032/036 | 1601553-1      | L032/<br>036E12A     |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .018<br>0.46      | .185<br>4.70       | Tin Plated<br>CRS | 076     | 1601669-1      | L076E18TCRS          |
| 11 1/2-9<br>4.00-6.50   | .084-.114<br>2.13-2.90   | 7000-13000   | .024<br>0.61      | .185<br>4.70       | Brass             | 200/202 | 1601768-1      | L200/<br>202E24B     |

### 7 Ridges



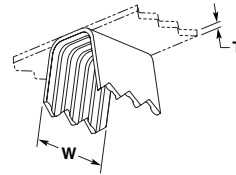
| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | CMA<br>Range | Stock<br>Thk. (T) | Mat'l<br>Width (W) | Material            | Toolset | Part<br>Number | Descriptive<br>X-ref |
|-------------------------|--------------------------|--------------|-------------------|--------------------|---------------------|---------|----------------|----------------------|
| 24-20<br>0.20-0.50      | .020-.033<br>0.51-0.84   | 400-1100     | .012<br>0.30      | .154<br>3.91       | Brass               | 032/036 | 1601550-1      | L032/<br>036D12B     |
| 24-20<br>0.20-0.50      | .020-.033<br>0.51-0.84   | 400-1100     | .016<br>0.41      | .154<br>3.91       | Cu Ni               | 032/036 | 1601551-1      | L032/<br>036D16A     |
| 24-20<br>0.20-0.50      | .020-.033<br>0.51-0.84   | 400-1100     | .016<br>0.41      | .154<br>3.91       | Brass               | 032/036 | 1601797-1      | P032/<br>036D16B     |
| 24-20<br>0.20-0.50      | .020-.033<br>0.51-0.84   | 400-1100     | .016<br>0.41      | .154<br>3.91       | Tin Plated<br>Brass | 032/036 | 1601798-1      | P032/<br>036D16TB    |
| 22-19<br>0.38-0.60      | .024-.036<br>0.61-0.91   | 600-1300     | .012<br>0.30      | .154<br>3.91       | Brass               | 045     | 1601572-1      | L045D12B             |
| 22-19<br>0.38-0.60      | .024-.036<br>0.61-0.91   | 600-1300     | .016<br>0.41      | .154<br>3.91       | Cu Ni               | 045     | 1601573-1      | L045D16A             |

**RTM Crimpband Splices** (Continued)

**7 Ridges** (Continued)


| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | CMA<br>Range | Stock<br>Thk. (T) | Mat'l<br>Width (W) | Material               | Toolset | Part<br>Number | Descriptive<br>X-ref |
|-------------------------|--------------------------|--------------|-------------------|--------------------|------------------------|---------|----------------|----------------------|
| 22-19<br>0.38-0.60      | .024-.036<br>0.61-0.91   | 600-1300     | .016<br>0.41      | .154<br>3.91       | Brass                  | 045     | 1601507-1†     | G045D16B             |
| 21-18½<br>0.40-0.75     | .028-.039<br>0.71-0.99   | 800-1500     | .012<br>0.30      | .154<br>3.91       | Brass                  | 051     | 1601587-1      | L051D12B             |
| 21-18½<br>0.40-0.75     | .028-.039<br>0.71-0.99   | 800-1500     | .016<br>0.41      | .154<br>3.91       | Brass                  | 051     | 1601588-1      | L051D16B             |
| 21-18½<br>0.40-0.75     | .028-.039<br>0.71-0.99   | 800-1500     | .020<br>0.51      | .154<br>3.91       | Nickel Plated<br>Steel | 051     | 1601591-1      | L051D20NPS           |
| 21-18½<br>0.40-0.75     | .028-.039<br>0.71-0.99   | 800-1500     | .020<br>0.51      | .154<br>3.91       | Tin Plated<br>CRS      | 051     | 1601811-1†     | P051D20TCRS          |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .012<br>0.30      | .154<br>3.91       | Cu Ni                  | 061     | 1601818-1†     | P061D12A             |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .012<br>0.30      | .154<br>3.91       | Brass                  | 061     | 1601620-1†     | L061D12B             |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .012<br>0.30      | .154<br>3.91       | Tin Plated<br>Brass    | 061     | 1601514-1†     | G061D12TB            |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .016<br>0.41      | .154<br>3.91       | Cu Ni                  | 061     | 1601819-1      | P061D16A             |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .016<br>0.41      | .154<br>3.91       | Brass                  | 061     | 1601820-1      | P061D16B             |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .016<br>0.41      | .154<br>3.91       | Tin Plated<br>Brass    | 061     | 1601623-1      | L061D16TB            |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .018<br>0.46      | .154<br>3.91       | Brass                  | 061     | 1601625-1      | L061D18B             |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .018<br>0.46      | .154<br>3.91       | Tin Plated<br>Brass    | 061     | 1601628-1      | L061D18TB            |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .020<br>0.51      | .154<br>3.91       | Cu Ni                  | 061     | 1601629-1      | L061D20A             |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .020<br>0.51      | .154<br>3.91       | Brass                  | 061     | 1601630-1      | L061D20B             |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .020<br>0.51      | .154<br>3.91       | Tin Plated<br>Brass    | 061     | 1601631-1      | L061D20TBX           |
| 20-15<br>0.60-1.60      | .033-.057<br>0.84-1.45   | 1100-3200    | .016<br>0.41      | .154<br>3.91       | Brass                  | 061/076 | 1601601-1      | L061/076D16B         |
| 19½-14½<br>0.60-1.80    | .035-.061<br>0.89-1.54   | 1200-3700    | .016<br>0.41      | .154<br>3.91       | Brass                  | 061/092 | 1601603-1      | L061/092D16B         |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .012<br>0.30      | .154<br>3.91       | Cu Ni                  | 076     | 1601828-1      | P076D12A             |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .012<br>0.30      | .154<br>3.91       | Brass                  | 076     | 1601655-1†     | L076D12B             |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .016<br>0.41      | .154<br>3.91       | Cu Ni                  | 076     | 1601656-1      | L076D16A             |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .016<br>0.41      | .154<br>3.91       | Brass                  | 076     | 1601829-1      | P076D16B             |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .016<br>0.41      | .154<br>3.91       | Tin Plated<br>Brass    | 076     | 1601658-1      | L076D16TB            |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .018<br>0.46      | .154<br>3.91       | Cu Ni                  | 076     | 1601660-1      | L076D18AX            |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .018<br>0.46      | .154<br>3.91       | Brass                  | 076     | 1601661-1      | L076D18B             |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .018<br>0.46      | .154<br>3.91       | Tin Plated<br>Brass    | 076     | 1601664-1      | L076D18TB            |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .020<br>0.51      | .154<br>3.91       | Brass                  | 076     | 1601665-1      | L076D20B             |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .020<br>0.51      | .154<br>3.91       | Tin Plated<br>CRS      | 076     | 1601667-1      | L076D20TCRS          |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .024<br>0.61      | .154<br>3.91       | Brass                  | 076     | 1601668-1      | L076D24B             |

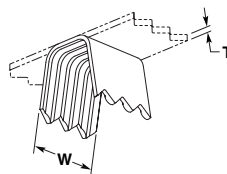
† These part numbers are available upon special request; contact Tyco Electronics Engineering for details.

**RTM Crimpband Splices (Continued)**
**7 Ridges (Continued)**


| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | CMA<br>Range | Stock<br>Thk. (T) | Mat'l<br>Width (W) | Material            | Toolset | Part<br>Number | Descriptive<br>X-ref |
|-------------------------|--------------------------|--------------|-------------------|--------------------|---------------------|---------|----------------|----------------------|
| 17½-13<br>0.95-2.54     | .042-.068<br>1.07-1.80   | 1800-4600    | .016<br>0.41      | .154<br>3.91       | Brass               | 076/092 | 1601642-1      | L076/<br>092D16BX    |
| 16½-13<br>1.10-2.60     | .047-.072<br>1.19-1.83   | 2200-5200    | .016<br>0.41      | .154<br>3.91       | Cu Ni               | 092     | 1601689-1      | L092D16ASP           |
| 16½-13<br>1.10-2.60     | .047-.072<br>1.19-1.83   | 2200-5200    | .016<br>0.41      | .154<br>3.91       | Brass               | 092     | 1601691-1      | L092D16B             |
| 16½-13<br>1.10-2.60     | .047-.072<br>1.19-1.83   | 2200-5200    | .016<br>0.41      | .154<br>3.91       | Tin Plated<br>Brass | 092     | 1601693-1      | L092D16TB            |
| 16½-13<br>1.10-2.60     | .047-.072<br>1.19-1.83   | 2200-5200    | .018<br>0.46      | .154<br>3.91       | Cu Ni               | 092     | 1601694-1      | L092D18A             |
| 16½-13<br>1.10-2.60     | .047-.072<br>1.19-1.83   | 2200-5200    | .018<br>0.46      | .154<br>3.91       | Brass               | 092     | 1601695-1      | L092D18B             |
| 16½-13<br>1.10-2.60     | .047-.072<br>1.19-1.83   | 2200-5200    | .018<br>0.46      | .154<br>3.91       | Tin Plated<br>Brass | 092     | 1601841-1      | P092D18TB            |
| 16½-13<br>1.10-2.60     | .047-.072<br>1.19-1.83   | 2200-5200    | .020<br>0.51      | .154<br>3.91       | Brass               | 092     | 1601528-1†     | G092D20B             |
| 16-12<br>1.30-3.46      | .051-.078<br>1.29-1.98   | 2600-6100    | .020<br>0.51      | .154<br>3.91       | Cu Ni               | 092/125 | 1601680-1      | L092/<br>125D20A     |
| 16-12<br>1.30-3.46      | .051-.078<br>1.29-1.98   | 2600-6100    | .020<br>0.51      | .154<br>3.91       | Brass               | 092/125 | 1601681-1      | L092/<br>125D20B     |
| 16-12<br>1.30-3.46      | .051-.078<br>1.29-1.98   | 2600-6100    | .020<br>0.51      | .154<br>3.91       | Tin Plated<br>CRS   | 092/125 | 1601682-1      | 092/<br>125D20TCRS   |
| 15½-12<br>1.54-3.46     | .055-.082<br>1.40-2.10   | 3000-6750    | .016<br>0.41      | .154<br>3.91       | Brass               | 125     | 1601529-1      | G125D16B             |
| 15½-12<br>1.54-3.46     | .055-.082<br>1.40-2.10   | 3000-6750    | .018<br>0.46      | .154<br>3.91       | Cu Ni               | 125     | 1601531-1      | G125D18A             |
| 15½-12<br>1.54-3.46     | .055-.082<br>1.40-2.10   | 3000-6750    | .018<br>0.46      | .154<br>3.91       | Brass               | 125     | 1601726-1      | L125D18B             |
| 15½-12<br>1.54-3.46     | .055-.082<br>1.40-2.10   | 3000-6750    | .018<br>0.46      | .154<br>3.91       | Tin Plated<br>Brass | 125     | 1601729-1      | L125D18TBX           |
| 15½-12<br>1.54-3.46     | .055-.082<br>1.40-2.10   | 3000-6750    | .020<br>0.51      | .154<br>3.91       | Brass               | 125     | 1601730-1      | L125D20B             |
| 15½-12<br>1.54-3.46     | .055-.082<br>1.40-2.10   | 3000-6750    | .020<br>0.51      | .154<br>3.91       | Tin Plated<br>Brass | 125     | 1601731-1      | L125D20TB            |
| 15½-12<br>1.54-3.46     | .055-.082<br>1.40-2.10   | 3000-6750    | .020<br>0.51      | .154<br>3.91       | Tin Plated<br>CRS   | 125     | 1601733-1      | L125D20TCRS          |
| 14½-11½<br>1.80-4.00    | .059-.087<br>1.50-2.21   | 3500-7500    | .018<br>0.46      | .154<br>3.91       | Tin Plated<br>Brass | 125/165 | 1601709-1      | L125/<br>165D18TB    |
| 14½-11½<br>1.80-4.00    | .059-.087<br>1.50-2.21   | 3500-7500    | .020<br>0.51      | .154<br>3.91       | Cu Ni               | 125/165 | 1601710-1      | L125/<br>165D20A     |
| 14½-11½<br>1.80-4.00    | .059-.087<br>1.50-2.21   | 3500-7500    | .020<br>0.51      | .154<br>3.91       | Brass               | 125/165 | 1601711-1      | L125/<br>165D20B     |
| 14½-11½<br>1.80-4.00    | .059-.087<br>1.50-2.21   | 3500-7500    | .020<br>0.51      | .154<br>3.91       | Tin Plated<br>Brass | 125/165 | 1601712-1      | L125/<br>165D20TB    |
| 14-11<br>2.00-4.20      | .063-.092<br>1.60-2.34   | 4000-8500    | .020<br>0.51      | .154<br>3.91       | Cu Ni               | 165     | 1601754-1†     | L165D20A             |
| 14-11<br>2.00-4.20      | .063-.092<br>1.60-2.34   | 4000-8500    | .020<br>0.51      | .154<br>3.91       | Brass               | 165     | 1601755-1      | L165D20B             |
| 13½-10½<br>2.54-4.50    | .071-.097<br>1.70-2.46   | 4500-9500    | .020<br>0.51      | .154<br>3.91       | Brass               | 165/200 | 1601532-1      | G165/<br>200D20B     |
| 11½-9<br>4.00-6.50      | .084-.114<br>2.13-2.90   | 7000-13000   | .016<br>0.41      | .154<br>3.91       | Brass               | 200/202 | 1601764-1      | L200/<br>202D16B     |
| 11½-9<br>4.00-6.50      | .084-.114<br>2.13-2.90   | 7000-13000   | .020<br>0.51      | .154<br>3.91       | Cu Ni               | 200/202 | 1601765-1      | L200/<br>202D20A     |
| 11½-9<br>4.00-6.50      | .084-.114<br>2.13-2.90   | 7000-13000   | .020<br>0.51      | .154<br>3.91       | Brass               | 200/202 | 1601852-1      | P200/<br>202D20B     |
| 11½-9<br>4.00-6.50      | .084-.114<br>2.13-2.90   | 7000-13000   | .020<br>0.51      | .154<br>3.91       | Tin Plated<br>Brass | 200/202 | 1601766-1      | L200/<br>202D20TB    |

† These part numbers are available upon special request; contact Tyco Electronics Engineering for details.

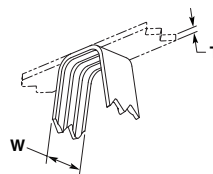
**RTM Crimpband Splices** (Continued)

**6 Ridges**


| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | CMA<br>Range | Stock<br>Thk. (T) | Mat'l<br>Width (W) | Material            | Toolset | Part<br>Number | Descriptive<br>X-ref |
|-------------------------|--------------------------|--------------|-------------------|--------------------|---------------------|---------|----------------|----------------------|
| 24-20<br>0.20-0.50      | .020-.033<br>0.51-0.84   | 400-1100     | .012<br>0.30      | .138<br>3.51       | Tin Plated<br>Brass | 032/036 | 1601548-1      | L032/<br>036C12TB    |
| 24-20<br>0.20-0.50      | .020-.033<br>0.51-0.84   | 400-1100     | .016<br>0.41      | .138<br>3.51       | Brass               | 032/036 | 1601549-1      | L032/<br>036C16B     |
| 22-19<br>0.38-0.60      | .024-.036<br>0.61-0.91   | 600-1300     | .012<br>0.30      | .138<br>3.51       | Brass               | 045     | 1601566-1      | L045C12B             |
| 22-19<br>0.38-0.60      | .024-.036<br>0.61-0.91   | 600-1300     | .016<br>0.41      | .138<br>3.51       | Cu Ni               | 045     | 1601569-1      | L045C16A             |
| 22-19<br>0.38-0.60      | .024-.036<br>0.61-0.91   | 600-1300     | .016<br>0.41      | .138<br>3.51       | Brass               | 045     | 1601571-1      | L045C16B             |
| 21-18½<br>0.40-0.75     | .028-.039<br>0.71-0.99   | 800-1500     | .012<br>0.30      | .138<br>3.51       | Brass               | 051     | 1601808-1†     | P051C12B             |
| 21-18½<br>0.40-0.75     | .028-.039<br>0.71-0.99   | 800-1500     | .016<br>0.41      | .138<br>3.51       | Cu Ni               | 051     | 1601809-1      | P051C16A             |
| 21-18½<br>0.40-0.75     | .028-.039<br>0.71-0.99   | 800-1500     | .016<br>0.41      | .138<br>3.51       | Brass               | 051     | 1601810-1      | P051C16B             |
| 21-18½<br>0.40-0.75     | .028-.039<br>0.71-0.99   | 800-1500     | .018<br>0.46      | .138<br>3.51       | Brass               | 051     | 1601586-1†     | L051C18B             |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .016<br>0.41      | .138<br>3.51       | Cu Ni               | 061     | 1601614-1      | L061C16A             |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .016<br>0.41      | .138<br>3.51       | Brass               | 061     | 1601511-1      | G061C16B             |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .016<br>0.41      | .138<br>3.51       | Tin Plated<br>Brass | 061     | 1601617-1      | L061C16TB            |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .018<br>0.46      | .138<br>3.51       | Cu Ni               | 061     | 1601618-1      | L061C18AX            |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .018<br>0.46      | .138<br>3.51       | Brass               | 061     | 1601619-1      | L061C18B             |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .020<br>0.51      | .138<br>3.51       | Brass               | 061     | 1601513-1†     | G061C20B             |
| 20-15<br>0.60-1.60      | .033-.057<br>0.84-1.45   | 1100-3200    | .016<br>0.41      | .138<br>3.51       | Brass               | 061/076 | 1601597-1      | L061/<br>076C16B     |
| 20-15<br>0.60-1.60      | .033-.057<br>0.84-1.45   | 1100-3200    | .016<br>0.41      | .138<br>3.51       | Tin Plated<br>Brass | 061/076 | 1601599-1      | L061/<br>076C16TB    |
| 20-15<br>0.60-1.60      | .033-.057<br>0.84-1.45   | 1100-3200    | .018<br>0.46      | .138<br>3.51       | Brass               | 061/076 | 1601600-1†     | L061/<br>076C18B     |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .016<br>0.41      | .138<br>3.51       | Cu Ni               | 076     | 1601650-1      | L076C16A             |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .016<br>0.41      | .138<br>3.51       | Brass               | 076     | 1601651-1      | L076C16B             |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .018<br>0.46      | .138<br>3.51       | Cu Ni               | 076     | 1601652-1†     | L076C18A             |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .018<br>0.46      | .138<br>3.51       | Brass               | 076     | 1601827-1      | P076C18B             |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .018<br>0.46      | .138<br>3.51       | Tin Plated<br>CRS   | 076     | 1601654-1†     | L076C18TCRS          |
| 17½-13<br>0.95-2.54     | .042-.068<br>1.07-1.80   | 1800-4600    | .016<br>0.41      | .138<br>3.51       | Brass               | 076/092 | 1601640-1      | L076/<br>092C16B     |
| 16½-13<br>1.10-2.60     | .047-.072<br>1.19-1.83   | 2200-5200    | .016<br>0.41      | .138<br>3.51       | Cu Ni               | 092     | 1601837-1      | P092C16AX            |
| 16½-13<br>1.10-2.60     | .047-.072<br>1.19-1.83   | 2200-5200    | .016<br>0.41      | .138<br>3.51       | Brass               | 092     | 1601687-1      | L092C16B             |
| 15½-12<br>1.54-3.46     | .055-.082<br>1.40-2.10   | 3000-6750    | .016<br>0.41      | .138<br>3.51       | Tin Plated<br>Brass | 125     | 1601721-1      | L125C16TB            |
| 15½-12<br>1.54-3.46     | .055-.082<br>1.40-2.10   | 3000-6750    | .018<br>0.46      | .138<br>3.51       | Cu Ni               | 125     | 1601722-1      | L125C18A             |
| 15½-12<br>1.54-3.46     | .055-.082<br>1.40-2.10   | 3000-6750    | .018<br>0.46      | .138<br>3.51       | Brass               | 125     | 1601723-1      | L125C18B             |

† These part numbers are available upon special request; contact Tyco Electronics Engineering for details.

**RTM Crimpband Splices** (Continued)

**3 Ridges**


| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | CMA<br>Range | Stock<br>Thk. (T) | Mat'l<br>Width (W) | Material            | Toolset | Part<br>Number | Descriptive<br>X-ref |
|-------------------------|--------------------------|--------------|-------------------|--------------------|---------------------|---------|----------------|----------------------|
| 27½-21<br>0.09-0.40     | .013-.028<br>0.33-0.71   | 170-800      | .012<br>0.30      | .076<br>1.93       | Brass               | 032     | 1601555-1      | L032B12B             |
| 24-20<br>0.20-0.50      | .020-.033<br>0.51-0.84   | 400-1100     | .012<br>0.30      | .076<br>1.93       | Cu Ni               | 032/036 | 1601542-1      | L032/<br>036B12A     |
| 24-20<br>0.20-0.50      | .020-.033<br>0.51-0.84   | 400-1100     | .012<br>0.30      | .076<br>1.93       | Brass               | 032/036 | 1601795-1      | P032/<br>036B12B     |
| 24-20<br>0.20-0.50      | .020-.033<br>0.51-0.84   | 400-1100     | .016<br>0.41      | .076<br>1.93       | Brass               | 032/036 | 1601545-1      | L032/<br>036B16B     |
| 24-20<br>0.20-0.50      | .020-.033<br>0.51-0.84   | 400-1100     | .016<br>0.41      | .076<br>1.93       | Tin Plated<br>Brass | 032/036 | 1601546-1      | L032/<br>036B16TB    |
| 24-20<br>0.20-0.50      | .020-.033<br>0.51-0.84   | 400-1100     | .018<br>0.46      | .076<br>1.93       | Brass               | 032/036 | 1601547-1†     | L032/<br>036B18B     |
| 22-19<br>0.38-0.60      | .024-.036<br>0.61-0.91   | 600-1300     | .016<br>0.41      | .076<br>1.93       | Cu Ni               | 045     | 1601503-1      | G045B16A             |
| 22-19<br>0.38-0.60      | .024-.036<br>0.61-0.91   | 600-1300     | .016<br>0.41      | .076<br>1.93       | Brass               | 045     | 1601562-1      | L045B16B             |
| 22-19<br>0.38-0.60      | .024-.036<br>0.61-0.91   | 600-1300     | .016<br>0.41      | .076<br>1.93       | Tin Plated<br>Brass | 045     | 1601504-1†     | G045B16TB            |
| 22-19<br>0.38-0.60      | .024-.036<br>0.61-0.91   | 600-1300     | .016<br>0.41      | .076<br>1.93       | Tin Plated<br>Brass | 045     | 1601564-1      | L045B16TBSP          |
| 21-18½<br>0.40-0.75     | .028-.039<br>0.71-0.99   | 800-1500     | .016<br>0.41      | .076<br>1.93       | Cu Ni               | 051     | 1601580-1†     | L051B16A             |
| 21-18½<br>0.40-0.75     | .028-.039<br>0.71-0.99   | 800-1500     | .016<br>0.41      | .076<br>1.93       | Brass               | 051     | 1601582-1†     | L051B16B             |
| 21-18½<br>0.40-0.75     | .028-.039<br>0.71-0.99   | 800-1500     | .016<br>0.41      | .076<br>1.93       | Tin Plated<br>Brass | 045     | 1601583-1†     | L051B16TB            |
| 21-18½<br>0.40-0.75     | .028-.039<br>0.71-0.99   | 800-1500     | .020<br>0.51      | .076<br>1.93       | Brass               | 051     | 1601584-1      | L051B20B             |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .016<br>0.41      | .076<br>1.93       | Tin Plated<br>Brass | 061     | 1601612-1†     | L061B16TB            |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .016<br>0.41      | .076<br>1.93       | Cu Ni               | 061     | 1601610-1      | L061B16A             |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .016<br>0.41      | .076<br>1.93       | Brass               | 061     | 1601611-1      | L061B16B             |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .016<br>0.41      | .076<br>1.93       | Brass               | 061     | 1601635-1      | L061L16B             |
| 20-15<br>0.60-1.60      | .033-.057<br>0.84-1.45   | 1100-3200    | .016<br>0.41      | .076<br>1.93       | Tin Plated<br>Brass | 061/076 | 1601596-1      | L061/<br>076B16TBX   |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .016<br>0.41      | .076<br>1.93       | Brass               | 076     | 1601825-1      | P076B16B             |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .020<br>0.51      | .076<br>1.93       | Brass               | 076     | 1601649-1      | L076B20B             |

† These part numbers are available upon special request; contact Tyco Electronics Engineering for details.

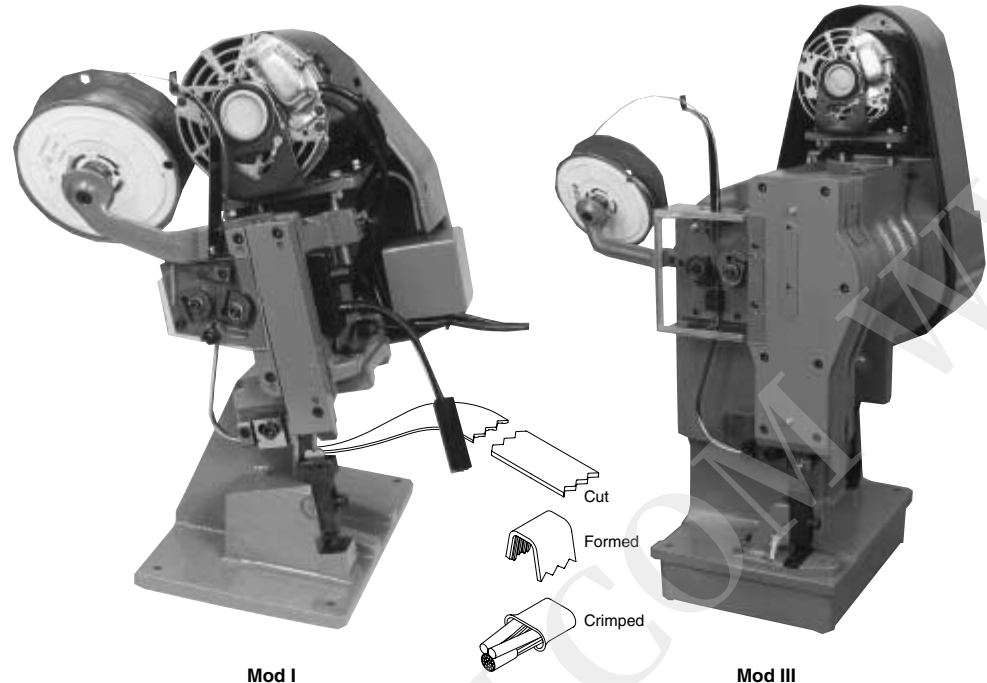
## MTM Crimband Splices

### Product Facts

- Made from a continuous coil of "Ribbon Connector" material
- Magnet wires MTM Crimband splices have machine-piercing serrations designed for displacing magnet wire insulation
- Available in brass, tin-plated brass, and copper-nickel alloy material
- Make parallel or pigtail connections on same machine
- 100% of Crimband material is used in scrap free terminations
- Crimband material coupled with appropriate toolsets accommodate specific CMA ranges
- Produced in Tyco Electronics equipment on your production floor
- Meets UL 486C crimp tensile requirements

### Applications

- Motors windings and connections
- Coil connections
- Transformer windings and connections
- Lighting ballasts
- Power supplies



Mod I

Mod III

Tyco Electronics features the AMP MTM Crimband system that is comprised of two key features: the semi-automatic termination machine and a reel of MTM Crimband material.

In a one-step crimping operation, the machine feeds, cuts, forms and crimps the material to provide a low-cost, high reliability crimp connection.

The MTM Crimband splices are formed during the crimping process from

machined longitudinal grooved material that pierces magnet wire varnish film insulation during crimping.

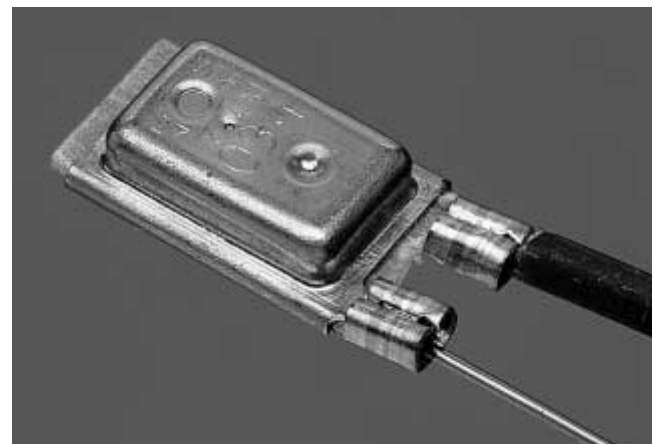
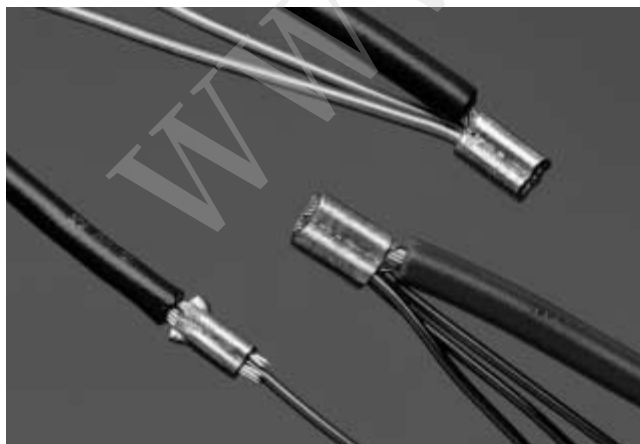
MTM Crimband splices are specifically designed to terminate magnet wire to itself or in combination with standard solid or stranded lead wire.

Three magnet wires maximum can be terminated together with stranded lead wire in one splice.

Tyco Electronics provides a wide range of toolset types and Crimband splices to meet various production requirements.

Depending on your specific application, MTM Crimband splices are available in 7, 9, 11 and 13 serration versions for terminations in the 400 to 13,000 CMA range.

When aluminum magnet wire is used, MTM Crimband splices must be tin plated.



## MTM Crimband Splices (Continued)

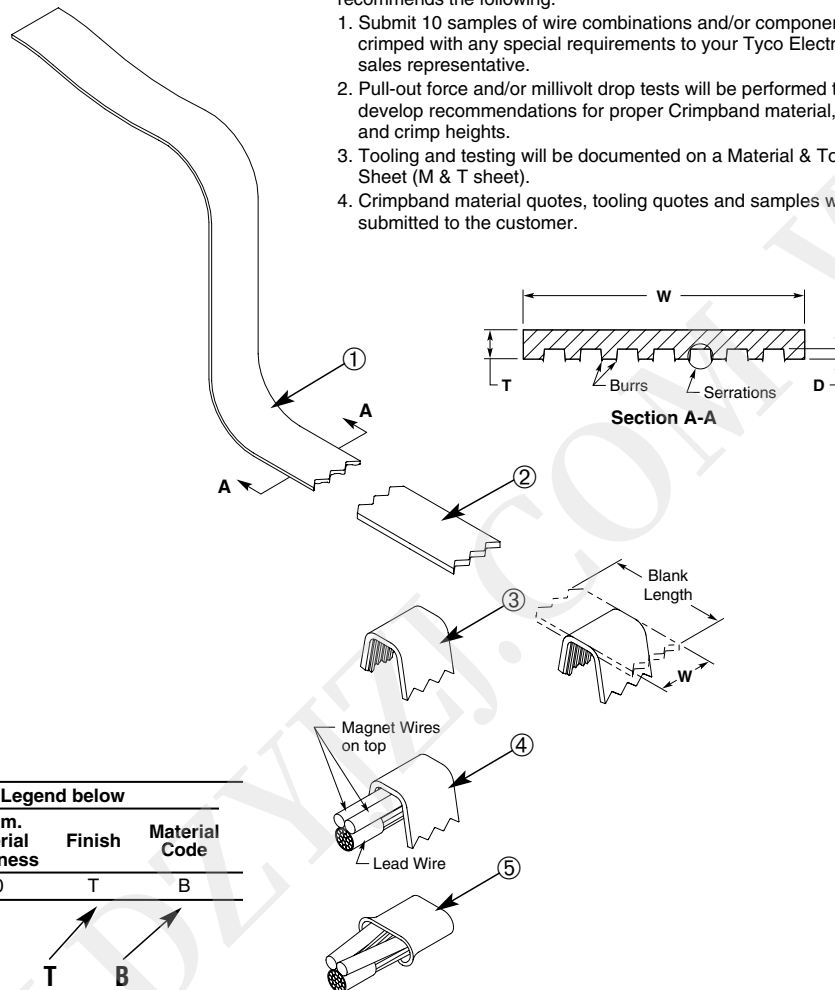
### MTM Crimband Interconnection System

#### How the System Operates

- ① **Feed (Magnet Wire Connector Material)**  
Machine feeds strip until the strip hits the wire stop.
- ② **Shear (Blank Length)**  
The strip is cut by the cutter block former bar insert tooling.
- ③ **Bend (Crimp Formed)**  
The former bar drives the cut strip over the anvil, bending the cut strip into an upside down "U".
- ④ **Wire (Placement)**  
In Pigtail and Parallel (Thru) splices magnet wires must be placed on top of the lead wire.
- ⑤ **Crimp (Crimp Formed)**  
The anvil retracts as the driver takes the formed strip down into the clincher.

**Notes:** So that the proper Crimband splice is chosen, Tyco Electronics recommends the following:

1. Submit 10 samples of wire combinations and/or components to be crimped with any special requirements to your Tyco Electronics sales representative.
2. Pull-out force and/or millivolt drop tests will be performed to develop recommendations for proper Crimband material, toolset and crimp heights.
3. Tooling and testing will be documented on a Material & Tooling Sheet (M & T sheet).
4. Crimband material quotes, tooling quotes and samples will be submitted to the customer.



#### Connector Specification Code

| See Figure 1 and/or Legend below    |                        |                        |                           |        |               |
|-------------------------------------|------------------------|------------------------|---------------------------|--------|---------------|
| Machine Basis                       | B.L. Dim. Tooling Size | W Dim. Connector Width | T Dim. Material Thickness | Finish | Material Code |
| L                                   | 092                    | 6R                     | 20                        | T      | B             |
| Splice No. Example: L 092 6R 20 T B |                        |                        |                           |        |               |

#### Legend

| Machine Basis |          |         |
|---------------|----------|---------|
| L             | P        | G*      |
| Leased        | Purchase | General |

\* Customer has their own Tooling

| Tooling Size Code | Blank Length B/L (Nom.) |
|-------------------|-------------------------|
| 032               | .167                    |
| 032/036           | .228                    |
| 036               | .224                    |
| 045               | .246                    |
| 051               | .267                    |
| 061               | .292                    |
| 061/076           | .324                    |
| 076               | .339                    |
| 076/092           | .361                    |
| 092               | .379                    |
| 092/125           | .413                    |
| 125               | .446                    |
| 125/160           | .485                    |
| 125/165           | .506                    |
| 165               | .546                    |

**Note:** For B/L above, .546 consult Tyco Electronics for tooling size code.

| Connector Width Code W |                    |
|------------------------|--------------------|
| 4R                     | 5 Serrations .138  |
| 6R                     | 7 Serrations .154  |
| 8R                     | 9 Serrations .194  |
| 10R                    | 11 Serrations .234 |

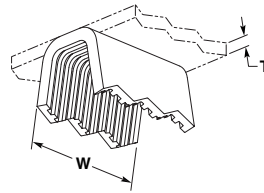
| Material Thickness Code | T ±.002 Dim. | D Serration Depth |
|-------------------------|--------------|-------------------|
| 12                      | .012         | .005              |
| 14                      | .014         | .005              |
| 16                      | .016         | .007              |
| 20                      | .020         | .007              |
| 25                      | .025         | .007              |

| Material Code | Material/Finish             |
|---------------|-----------------------------|
| B             | CDA 260 Brass               |
| A             | CDA 725 Copper/Nickel Alloy |
| TB            | Pre-Tin over CDA 260 Brass  |

| Wire Size AWG | UL486C Pull Out Force Requirements Underwriters Laboratory (lbs.) |
|---------------|-------------------------------------------------------------------|
| 26            | 3                                                                 |
| 24            | 5                                                                 |
| 22            | 8                                                                 |
| 20            | 10                                                                |
| 18            | 10                                                                |
| 16            | 15                                                                |
| 14            | 25                                                                |
| 12            | 35                                                                |
| 10            | 40                                                                |

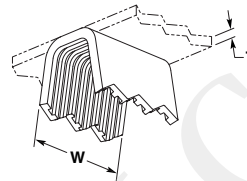
**MTM Crimband Splices** (Continued)

**11 Serrations**



| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | CMA<br>Range | Stock<br>Thk. (T) | Mat'l<br>Width (W) | Material            | Toolset | Part<br>Number | Descriptive<br>X-ref |
|-------------------------|--------------------------|--------------|-------------------|--------------------|---------------------|---------|----------------|----------------------|
| 14½-11½<br>1.80-4.00    | .059-.087<br>1.50-2.21   | 3500-7500    | .025<br>0.64      | .234<br>5.94       | Brass               | 125/165 | 1601842-1      | P125/<br>16510R25B   |
| 14½-11½<br>1.80-4.00    | .059-.087<br>1.50-2.21   | 3500-7500    | .025<br>0.64      | .234<br>5.94       | Tin Plated<br>Brass | 125/165 | 1601705-1      | L125/<br>16510R25TB  |
| 13½-10½<br>2.54-4.50    | .071-.097<br>1.70-2.46   | 4500-9500    | .025<br>0.64      | .234<br>5.94       | Brass               | 165/200 | 1601847-1      | P165/<br>20010R25B   |
| 13½-10½<br>2.54-4.50    | .071-.097<br>1.70-2.46   | 4500-9500    | .025<br>0.64      | .234<br>5.94       | Tin Plated<br>Brass | 165/200 | 1601848-1      | P165/<br>20010R25TB  |

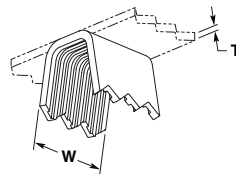
**9 Serrations**



| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | CMA<br>Range | Stock<br>Thk. (T) | Mat'l<br>Width (W) | Material            | Toolset | Part<br>Number | Descriptive<br>X-ref |
|-------------------------|--------------------------|--------------|-------------------|--------------------|---------------------|---------|----------------|----------------------|
| 24-20<br>0.20-0.50      | .020-.033<br>0.51-0.84   | 400-1100     | .016<br>0.41      | .194<br>4.93       | Tin Plated<br>Brass | 032/036 | 1601794-1†     | P032/<br>0368R16TB   |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .018<br>0.46      | .194<br>4.93       | Tin Plated<br>Brass | 061     | 1601607-1†     | L0618R16TB           |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .018<br>0.46      | .194<br>4.93       | Brass               | 061     | 1601608-1      | L0618R20B            |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .018<br>0.46      | .194<br>4.93       | Tin Plated<br>Brass | 061     | 1601814-1†     | P0618R20TB           |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .016<br>0.41      | .194<br>4.93       | Tin Plated<br>Brass | 076     | 1601824-1      | P0768R16TB           |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .020<br>0.51      | .194<br>4.93       | Tin Plated<br>Brass | 076     | 1601857-1      | PO768R20TB           |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1800-4600    | .020<br>0.51      | .194<br>4.93       | Brass               | 076/092 | 1601823-1      | P076/<br>0928R20B    |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1800-4600    | .020<br>0.51      | .194<br>4.93       | Tin Plated<br>Brass | 076/092 | 1601639-1      | L076/<br>0928R20TB   |
| 16-12<br>1.30-3.46      | .051-.078<br>1.29-1.98   | 2600-6100    | .020<br>0.51      | .194<br>4.93       | Brass               | 092/125 | 1601833-1      | P092/<br>1258R20B    |
| 16-12<br>1.30-3.46      | .051-.078<br>1.29-1.98   | 2600-6100    | .020<br>0.51      | .194<br>4.93       | Tin Plated<br>Brass | 092/125 | 1601677-1      | L092/<br>1258R20TB   |
| 16-12<br>1.30-3.46      | .051-.078<br>1.29-1.98   | 2600-6100    | .025<br>0.64      | .194<br>4.93       | Brass               | 092/125 | 1601678-1†     | L092/<br>1258R25B    |
| 16-12<br>1.30-3.46      | .051-.078<br>1.29-1.98   | 2600-6100    | .025<br>0.64      | .194<br>4.93       | Tin Plated<br>Brass | 092/125 | 1601835-1†     | P092/<br>1258R25TB   |
| 15½-12<br>1.54-3.46     | .055-.082<br>1.40-2.10   | 3000-6750    | .016<br>0.41      | .194<br>4.93       | Brass               | 125     | 1601717-1†     | L1258R16B            |
| 15½-12<br>1.54-3.46     | .055-.082<br>1.40-2.10   | 3000-6750    | .016<br>0.41      | .194<br>4.93       | Tin Plated<br>Brass | 125     | 1601718-1      | L1258R16TB           |
| 15½-12<br>1.54-3.46     | .055-.082<br>1.40-2.10   | 3000-6750    | .020<br>0.51      | .194<br>4.93       | Brass               | 125     | 1601846-1      | P1258R20B            |
| 15½-12<br>1.54-3.46     | .055-.082<br>1.40-2.10   | 3000-6750    | .025<br>0.64      | .194<br>4.93       | Brass               | 125     | 1601719-1      | L1258R25B            |
| 14½-11½<br>1.80-4.00    | .059-.087<br>1.50-2.21   | 3500-7500    | .025<br>0.64      | .194<br>4.93       | Brass               | 125/165 | 1601706-1      | L125/<br>1658R25B    |
| 14½-11½<br>1.80-4.00    | .059-.087<br>1.50-2.21   | 3500-7500    | .025<br>0.64      | .194<br>4.93       | Tin Plated<br>Brass | 125/165 | 1601707-1      | L125/<br>1658R25TB   |
| 14-11<br>2.00-4.20      | .063-.092<br>1.60-2.34   | 4000-8500    | .025<br>0.64      | .194<br>4.93       | Tin Plated<br>Brass | 165     | 1601750-1†     | L1658R25TB           |
| 11½-9<br>4.00-6.50      | .084-.114<br>2.13-2.90   | 7000-13000   | .025<br>0.64      | .194<br>4.93       | Tin Plated<br>Brass | 200/202 | 1601761-1      | L200/<br>2028R25TB   |

† These part numbers are available upon special request; contact Tyco Electronics Engineering for details.

**MTM Crimpband Splices** (Continued)

**7 Serrations**


| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | CMA<br>Range | Stock<br>Thk. (T) | Mat'l<br>Width (W) | Material            | Toolset | Part<br>Number | Descriptive<br>X-ref             |
|-------------------------|--------------------------|--------------|-------------------|--------------------|---------------------|---------|----------------|----------------------------------|
| 27½-21<br>0.09-0.40     | .013-.028<br>0.33-0.71   | 170-800      | .012<br>0.30      | .154<br>3.91       | Brass               | 032     | 1601800-1      | P0326R12BUF <sup>1</sup>         |
| 24-20<br>0.20-0.50      | .020-.033<br>0.51-0.84   | 400-1100     | .012<br>0.30      | .154<br>3.91       | Brass               | 032/036 | 1601539-1      | L032/<br>0366R12B                |
| 24-20<br>0.20-0.50      | .020-.033<br>0.51-0.84   | 400-1100     | .012<br>0.30      | .154<br>3.91       | Cu Ni               | 032/036 | 1601538-1      | L032/<br>0366R12AUF <sup>1</sup> |
| 24-20<br>0.20-0.50      | .020-.033<br>0.51-0.84   | 400-1100     | .016<br>0.41      | .154<br>3.91       | Brass               | 032/036 | 1601540-1      | L032/<br>0366R16B                |
| 24-20<br>0.20-0.50      | .020-.033<br>0.51-0.84   | 400-1100     | .016<br>0.41      | .154<br>3.91       | Tin Plated<br>Brass | 032/036 | 1601793-1      | P032/<br>0366R16TB               |
| 22-19<br>0.38-0.60      | .024-.036<br>0.70-0.91   | 600-1300     | .016<br>0.41      | .154<br>3.91       | Brass               | 045     | 1601559-1      | L0456R16B                        |
| 22-19<br>0.38-0.60      | .024-.036<br>0.70-0.91   | 600-1300     | .020<br>0.51      | .154<br>3.91       | Brass               | 045     | 1601560-1†     | L0456R20B                        |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .016<br>0.41      | .154<br>3.91       | Brass               | 061     | 1601604-1      | L0616R16B                        |
| 20½-16<br>0.45-1.30     | .030-.051<br>0.76-1.29   | 900-2600     | .016<br>0.41      | .154<br>3.91       | Tin Plated<br>Brass | 061     | 1601606-1      | L0616R16TB                       |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .016<br>0.41      | .154<br>3.91       | Brass               | 076     | 1601644-1      | L0766R16B                        |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .016<br>0.41      | .154<br>3.91       | Tin Plated<br>Brass | 076     | 1601646-1†     | L0766R16TB                       |
| 18-14<br>0.80-2.00      | .040-.063<br>1.02-1.60   | 1600-4000    | .020<br>0.51      | .154<br>3.91       | Brass               | 076     | 1601647-1†     | L0766R20B                        |
| 17½-13½<br>0.95-2.54    | .042-.068<br>1.07-1.80   | 1800-4600    | .016<br>0.41      | .154<br>3.91       | Brass               | 076/092 | 1601637-1      | L076/<br>0926R16BX               |
| 16½-13<br>1.10-2.60     | .047-.072<br>1.19-1.83   | 2200-5200    | .016<br>0.41      | .154<br>3.91       | Tin Plated<br>Brass | 092     | 1601683-1      | L0926R16TB                       |
| 16-12<br>1.30-3.46      | .051-.078<br>1.29-1.98   | 2600-6100    | .016<br>0.41      | .154<br>3.91       | Tin Plated<br>Brass | 092/125 | 1601675-1      | L092/<br>1256R16TB               |
| 16-12<br>1.30-3.46      | .051-.078<br>1.29-1.98   | 2600-6100    | .020<br>0.51      | .154<br>3.91       | Brass               | 092/125 | 1601832-1      | P092/<br>1256R20B                |
| 15½-12<br>1.54-3.46     | .055-.082<br>1.40-2.10   | 3000-6750    | .012<br>0.30      | .154<br>3.91       | Brass               | 125     | 1601844-1      | P1256R12B                        |
| 15½-12<br>1.54-3.46     | .055-.082<br>1.40-2.10   | 3000-6750    | .016<br>0.41      | .154<br>3.91       | Brass               | 125     | 1601845-1      | P1256R16B                        |
| 15½-12<br>1.54-3.46     | .055-.082<br>1.40-2.10   | 3000-6750    | .016<br>0.41      | .154<br>3.91       | Tin Plated<br>Brass | 125     | 1601716-1†     | L1256R16TB                       |

<sup>1</sup> UF designates Ultra-Fine serrations which are recommended for applications using wire size 28 AWG [0.32 mm] or smaller.

† These part numbers are available upon special request; contact Tyco Electronics Engineering for details.

## AMPLIVAR Splices

### Product Facts

- Compression crimp eliminates cold solder points, weld burns and wire embrittlement usually associated with thermal-type terminations
- Excellent tensile strength—vibration resistant
- Provides a superior electrical connection that is free of many contaminants such as stripper residue and solder flux
- Precision formed, strip-fed splices terminated in AMP automatic machines for high production rates per hour
- High termination rates, low wire consumption and the elimination of rejects caused by solder flux or heat damage results in the lowest applied costs
- Precisely controlled crimp termination helps eliminate human error for maximum reliability
- Splice up to 3 magnet wires together with stranded lead in one barrel

### Applications

- Motor windings and connections
- Coil connections
- Transformer windings and connections
- Solid wire connections
- Lighting ballasts
- Power supplies
- Starters and alternators



Tyco Electronics offers a full selection of AMPLIVAR splices that are specifically designed to terminate magnet wire to itself or in combination with standard solid or stranded lead wire.

AMPLIVAR splices have machined, sharp edged serrations inside the crimp barrels. These serrations, made by a special production process, pierce the insulating layer of magnet wires in a manner that provides a large contact area.

In a one-step operation the magnet wire is automatically multiple ring-stripped of its insulation as it is forced into

the serrations during the precisely controlled crimp.

The resulting termination produces a high tensile strength, air-sealed connection that is as resistant to corrosion as the insulated conductor.

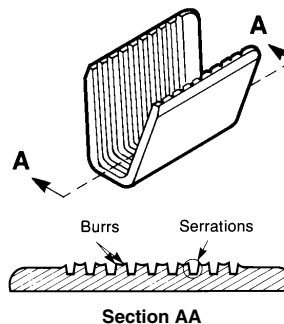
As many as three magnet wires can be terminated simultaneously in one splice. In addition, copper or aluminum magnet wire, or a combination of both, can be terminated.

When required, copper or aluminum magnet wire can be combined with standard,

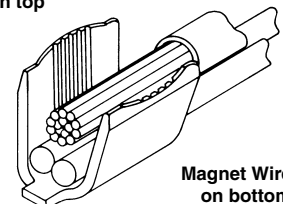
pre-stripped solid or stranded lead wires.

Depending on your specific application, AMPLIVAR splices are available in 5, 7 and 9 serration versions for terminations in the 100 to 22,000 CMA range as well as miniature and subminiature designs for terminations in the 100 to 1850 CMA range.

The crimping of AMPLIVAR splices is done by semi-automatic crimping machines for high output per hour production rates.



Stranded Wire  
on top



Magnet Wire  
on bottom

## AMPLIVAR Splices (Continued)

### Technical Features

**Applicable Types of Wire** — Cu, Al (Solid) together or in combination with stranded lead wire

**Wire Size Range** — from 300 to 13,000 CMA (0.1 mm<sup>2</sup> to 6.6 mm<sup>2</sup>)

**Terminal Base Material** — Brass, phosphor bronze

**Surface Finish** — plain and tin plated except where noted

**Temperature Range** — -65°C to +150°C

**Rated Current** — according connected wire size

**Rated Voltage** — according terminated winding

### Test Results

The AMPLIVAR products have been subjected to the following tests without significant millivolt losses.

**Temperature Cycling** — 25 cycles with each cycle consisting of 30 minutes at +125°C followed by 30 minutes at -65°C

**Heat Age** — 96 hours at +150°C

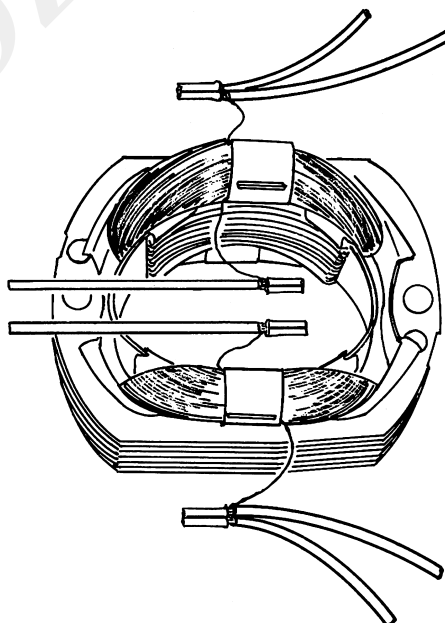
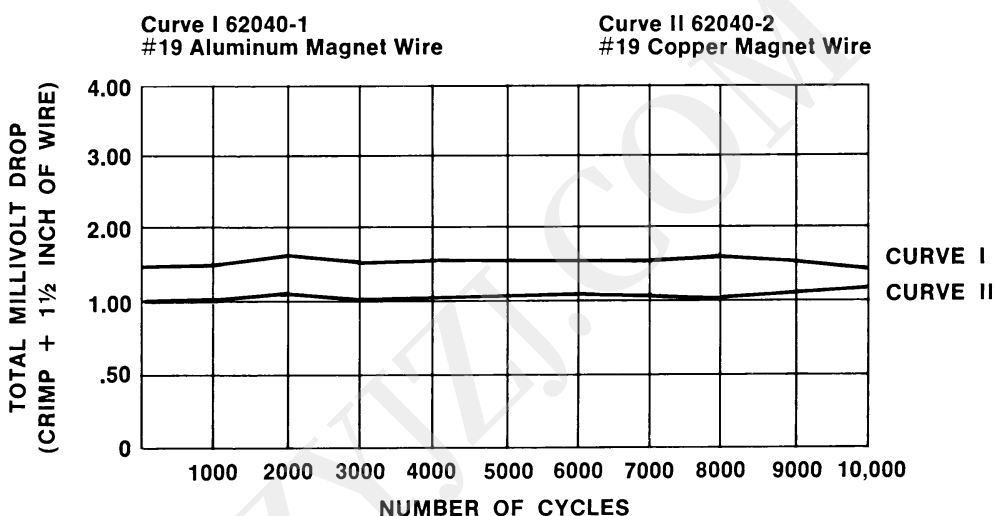
**Thermal Shock** — 25 cycles with each cycle consisting of 30 minutes at +150°C followed by 30 minutes at -65°C

**Salt Spray** — 96 hours at +35°C with a 5% salt solution spray

**Humidity** — 96 hours at 90–95% relative humidity and +40°C

**Current Cycling** — 10,000 cycles with each consisting of 3 minutes on and 3 minutes off at a current (25 A) which establishes a wire temperature of +150°C

### TYPICAL CURRENT CYCLING TEST RESULTS



## AMPLIVAR Splices (Continued)

### General Application Guidelines

To assist you in obtaining the optimum AMPLIVAR splice termination, the following guidelines are recommended:

1. All magnet wires must be placed in the bottom of the wire barrel before crimping. If lead wire is to be crimped in the same termination, it should be placed on top of the magnet wires.
2. Wire barrels are designed to accept a maximum of three insulated magnet wires plus stranded lead wires.
3. The ratio of magnet wire diameters crimped in any wire barrel should not exceed 2:1. This ratio is approximately a range from the largest to the smallest magnet wire of six sizes.
4. The sum of the circular mil area (CMA) of the magnet wires and any lead wires should not exceed the capacity of the splice.
5. The sum of the diameters of the individual magnet wires plus twice the terminal stock thickness must be equal to or less than the crimp width.
6. Magnet wire of 26 AWG [0.40 mm] or smaller should be used with 7-serration splices having "shallow serrations," and magnet wire of 28 AWG [0.32 mm] or smaller should be used with 9-serration splices having "shallow serrations" (part numbers identified with asterisk [\*] are in the tabular data on the following technical pages).
7. Magnet wire of 20 AWG [0.81 mm] or larger having an insulation thickness heavier than "single film coated," should not be used with splices having "shallow serrations" (those part numbers marked with an asterisk [\*] in the tabular data on the following technical pages).
8. When aluminum magnet wire is used, splices and terminals must be tin plated.
9. Consult Tyco Electronics for splice and terminal selection and recommendations for all non-standard applications.

### Technical Documents

**Application Specifications** describe requirements for using the product in its intended application and or crimping information. They are intended for the Packaging and Design Engineer and the Machine Setup Person.

|          |                                            |          |                                             |
|----------|--------------------------------------------|----------|---------------------------------------------|
| 114-2002 | AMPLIVAR<br>7-Serration<br>Pigtail Splices | 114-2006 | AMPLIVAR<br>Subminiature<br>Pigtail Splices |
| 114-2003 | AMPLIVAR<br>9-Serration<br>Pigtail Splices | 114-2009 | AMPLIVAR<br>5-Serration<br>Thru Splices     |
| 114-2005 | AMPLIVAR<br>Subminiature<br>Thru Splices   | 114-2016 | AMPLIVAR<br>Miniature<br>Pigtail Splices    |

### Suggested Splice Selection Procedure

Use the following guide to help you to determine the proper splice for your application:

1. Use 9-serration splices, tin plated when terminating aluminum magnet wire or combinations with aluminum magnet wire.
2. Use 9-serration splices for hermetic and severe environment applications.
3. Use splices identified with an asterisk [\*] when terminating 7-serration 26 AWG [0.40 mm] or smaller wires and 9-serration 28 AWG [0.32 mm] or smaller wires.
4. Calculate the total CMA of the magnet wires plus any lead wires to be terminated. Always use the coated magnet wire for CMA.
5. Calculate the total magnet wire diameters.
6. Select a splice for trial calculations. It should have the proper CMA range. Plating finish should be considered at this time.
7. Calculate the sum of the magnet wire diameters plus two splice stock thicknesses. If this total is less than the crimp width of the splice selected, it may be used. If the total is greater than the crimp width, a splice with a greater crimp width must be selected. Consult Tyco Electronics for special wide tooling recommendations.

#### Example:

- Selection of a Pigtail Splice to terminate the following wires:

One 28 AWG [0.32 mm] copper magnet wire.  
One 22 AWG [0.64 mm] aluminum magnet wire.  
One 18 AWG [0.8–0.9 mm<sup>2</sup>] 19-strand copper lead wire.

- Calculate the total CMA (Procedure 4):

28 AWG [0.32 mm] coated magnet wire = 185 CMA  
22 AWG [0.64 mm] coated magnet wire = 708 CMA  
18 AWG [0.8–0.9 mm<sup>2</sup>] stranded lead wire = 1608 CMA

**Total = 2501 CMA**

- Calculate the sum of the magnet wire diameters (Procedure 5):

28 AWG [0.32 mm] coated magnet wire = .0136 [0.35]  
22 AWG [0.64 mm] coated magnet wire = .0266 [0.68]

**Total = .0402 [1.03]**

- Select a terminal for trial calculations. Splice No. 62305-2, page 46 (Procedure 6):

CMA range = 600–3000  
Stock thickness = .016 [0.41]  
Crimp width = .110 [2.79]

9-serration, tin plated for aluminum magnet wire (Procedure 1).

Splice identified with asterisk [\*] for 28 AWG [0.32 mm] (Procedure 3).

- Calculate the sum of the magnet wire diameters plus two splice stock thicknesses (Procedure 7):

.0402 + (.016 x 2) = .0722

[1.02 + (0.41 x 2) = 1.84

.0722 [1.84] is less than the splice crimp width of .110 [2.79]; therefore, Part No. 62305-2 may be used.

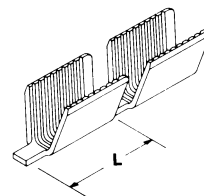
## AMPLIVAR Splices (Continued)

### 9 Serrations — Pigtail Type

#### Product Facts

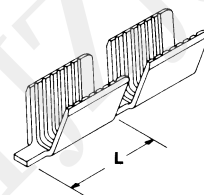
(Plus All 7 Serration Facts)

- Splice length is increased on larger CMA splices for improved performance
- Serration depths are varied within the splice to give optimum electrical/mechanical performance on all wire sizes
- Serration sidewall angles are varied to allow better wire stripping and serration fill
- Flat bottom of splice helps keep magnet wires on bottom as required during crimping
- Magnet wires 28 AWG [0.32 mm] and larger may be terminated without requiring shallow serrations
- Additional serrations enhance stability of crimp



| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | Wire Range<br>CMA | Stock<br>Thickness | Crimp<br>Width | Dim.<br>L    | Material         | Part<br>Number       |
|-------------------------|--------------------------|-------------------|--------------------|----------------|--------------|------------------|----------------------|
| 24-18.5<br>0.26-0.80    | .020-.039<br>0.55-1.00   | 400-1500          | .016<br>0.41       | .080<br>2.03   | .225<br>5.72 | Tin Plated Brass | 62303-2*             |
| 22-15.5<br>0.38-1.54    | .028-.055<br>0.70-1.40   | 600-3000          | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Tin Plated Brass | 62304-2              |
| 22-15.5<br>0.38-1.54    | .028-.055<br>0.70-1.40   | 600-3000          | .016<br>0.41       | .110<br>2.79   | .225<br>5.72 | Tin Plated Brass | 62305-2*             |
| 18.5-13.5<br>0.80-2.54  | .039-.071<br>1.00-1.80   | 1500-5000         | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Tin Plated Brass | 62306-2              |
| 18.5-13.5<br>0.80-2.54  | .039-.071<br>1.00-1.80   | 1500-5000         | .016<br>0.41       | .110<br>2.79   | .225<br>5.72 | Tin Plated Brass | 62307-2*             |
| 15.5-12<br>1.54-3.46    | .055-.083<br>1.40-2.10   | 3000-7000         | .020<br>0.51       | .140<br>3.56   | .265<br>6.73 | Tin Plated Brass | 62308-2              |
| 13.5-10<br>2.54-4.90    | .071-.098<br>1.80-2.50   | 5000-10,000       | .025<br>0.64       | .180<br>4.57   | .265<br>6.73 | Tin Plated Brass | 62309-2              |
| 12-9<br>3.46-6.38       | .083-.112<br>2.10-2.85   | 7000-13,000       | .025<br>0.64       | .180<br>4.57   | .265<br>6.73 | Tin Plated Brass | 62310-2              |
| 10-6.5<br>4.90-9.45     | .098-.137<br>2.50-3.47   | 10,000-22,000     | .030<br>0.76       | .220<br>5.59   | .340<br>8.64 | Tin Plated Brass | 62311-2 <sup>1</sup> |

\*These splices are recommended for applications using wire size 28 AWG [0.32 mm] or smaller.

<sup>1</sup> Special high force application equipment required.


### 7 Serrations — Pigtail Type

#### Product Facts

- Taper on both crimper and anvil improves flex life of termination
- Longer “flat” on tooling improves electrical performance (.125 vs. .080 [3.18 vs. 2.03])
- Radius on wire entry end of splice helps prevent nicking wires and improves mechanical performance
- Serrations are offset to sheared end to place additional serrations in “electrical” portion of crimped splice
- Splice CMA ranges are overlapped so that two splices are available for any given CMA

| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | Wire Range<br>CMA | Stock<br>Thickness | Crimp<br>Width | Dim.<br>L    | Material         | Part<br>Number       |
|-------------------------|--------------------------|-------------------|--------------------|----------------|--------------|------------------|----------------------|
| 22-15.5<br>0.38-1.54    | .028-.055<br>0.70-1.40   | 600-3000          | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Brass            | 62000-1              |
| 22-15.5<br>0.38-1.54    | .028-.055<br>0.70-1.40   | 600-3000          | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Brass            | 62157-1*             |
| 22-15.5<br>0.38-1.54    | .028-.055<br>0.70-1.40   | 600-3000          | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Tin Plated Brass | 62000-2              |
| 22-15.5<br>0.38-1.54    | .028-.055<br>0.70-1.40   | 600-3000          | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Tin Plated Brass | 62157-2*             |
| 22-15.5<br>0.38-1.54    | .028-.055<br>0.70-1.40   | 600-3000          | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Tin Plated Brass | 62200-2 <sup>1</sup> |
| 18.5-13.5<br>0.80-2.54  | .039-.071<br>1.00-1.80   | 1500-5000         | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Brass            | 62040-2              |
| 18.5-13.5<br>0.80-2.54  | .039-.071<br>1.00-1.80   | 1500-5000         | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Tin Plated Brass | 62040-1              |
| 18.5-13.5<br>0.80-2.54  | .039-.071<br>1.00-1.80   | 1500-5000         | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Phosphor Bronze  | 964156-1             |
| 15.5-12<br>1.54-3.46    | .055-.083<br>1.40-2.10   | 3000-7000         | .020<br>0.51       | .140<br>3.56   | .225<br>5.72 | Brass            | 62001-1              |
| 15.5-12<br>1.54-3.46    | .055-.083<br>1.40-2.10   | 3000-7000         | .020<br>0.51       | .140<br>3.56   | .225<br>5.72 | Tin Plated Brass | 62001-2              |
| 15.5-12<br>1.54-3.46    | .055-.083<br>1.40-2.10   | 3000-7000         | .020<br>0.51       | .140<br>3.56   | .225<br>5.72 | Tin Plated Brass | 62201-2 <sup>1</sup> |
| 12-10<br>2.10-6.0       | .085-.110<br>2.10-2.85   | 7000-12,000       | .025<br>0.64       | .250<br>6.35   | .225<br>5.72 | Tin Plated Brass | 62295-1              |
| 12-10<br>2.10-6.0       | .085-.110<br>2.10-2.85   | 7000-12,000       | .025<br>0.64       | .250<br>6.35   | .225<br>5.72 | Brass            | 62295-2              |
| 12-9<br>2.10-6.38       | .085-.115<br>2.10-3.47   | 7000-13,000       | .025<br>0.64       | .180<br>4.57   | .225<br>5.72 | Tin Plated Brass | 62002-2              |

\*These splices are recommended for applications using wire size 26 AWG [0.40 mm] or smaller.

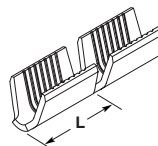
<sup>1</sup> Flat bottom.

## AMPLIVAR Splices (Continued)

### 7 Serrations — Thru Type

#### Product Facts

- Crimp bellmouth provides retention in circular cavity slot in bobbin



| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | Wire Range<br>CMA | Stock<br>Thickness | Crimp<br>Width | Dim.<br>L    | Material         | Part<br>Number |
|-------------------------|--------------------------|-------------------|--------------------|----------------|--------------|------------------|----------------|
| 22-15.5<br>0.38-1.54    | .028-.055<br>0.70-1.40   | 600-3000          | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Tin Plated Brass | 1217384-1*     |

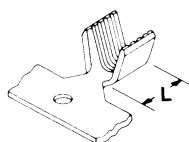
\*These splices are recommended for applications using wire size 26 AWG [0.40 mm] or smaller.

### 5 Serrations — Thru Type

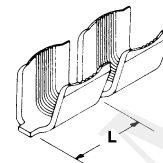
#### Product Facts

- Wide range of thru splices
- Serrations centered in splice to achieve optimum electrical and mechanical performance in a thru splice
- CMA range accepts a wide variety of wire sizes and combinations

A



B



| Type | AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | Wire Range<br>CMA | Stock<br>Thickness | Crimp<br>Width | Dim.<br>L    | Material         | Part<br>Number         |
|------|-------------------------|--------------------------|-------------------|--------------------|----------------|--------------|------------------|------------------------|
| A    | 17-12.5<br>1.00-2.80    | .045-.075<br>1.15-1.85   | 2000-5400         | .020<br>0.51       | .110<br>5.08   | .235<br>5.97 | Brass            | 63564-1                |
|      | 12-9<br>3.00-7.00       | .077-.118<br>1.95-3.00   | 6000-14,000       | .025<br>0.64       | .180<br>4.57   | .265<br>6.73 | Brass            | 1217990-1              |
|      |                         |                          |                   |                    |                |              | Tin Plated Brass | 1217990-2              |
|      | 10-8<br>5.00-8.00       | .100-.125<br>2.55-3.20   | 10,000-16,000     | .032<br>0.80       | .180<br>4.57   | .267<br>6.78 | Tin Plated Brass | 63561-1                |
|      | 10-7.5<br>5.00-11.50    | .100-.150<br>2.60-3.80   | 10,400-22,900     | .030<br>0.76       | .300<br>7.62   | .310<br>7.87 | Tin Plated Brass | 63562-1                |
|      | 22-15.5<br>0.38-1.54    | .028-.055<br>0.70-1.40   | 600-3000          | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Brass            | 42076                  |
|      | 22-15.5<br>0.38-1.54    | .028-.055<br>0.70-1.40   | 600-3000          | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Brass            | 42192-1*               |
|      | 22-15.5<br>0.38-1.54    | .028-.055<br>0.70-1.40   | 600-3000          | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Tin Plated Brass | 42192-2*               |
|      | 22-15.5<br>0.38-1.54    | .028-.055<br>0.70-1.40   | 600-3000          | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Brass            | 42778-1* <sup>1</sup>  |
|      | 22-15.5<br>0.38-1.54    | .028-.055<br>0.70-1.40   | 600-3000          | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Tin Plated Brass | 42778-2* <sup>1</sup>  |
| B    | 18.5-13.5<br>0.80-2.54  | .039-.071<br>1.00-1.80   | 1500-5000         | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Brass            | 41765                  |
|      | 18.5-13.5<br>0.80-2.54  | .039-.071<br>1.00-1.80   | 1500-5000         | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Tin Plated Brass | 41899                  |
|      | 18.5-13.5<br>0.80-2.54  | .039-.071<br>1.00-1.80   | 1500-5000         | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Brass            | 42119-1*               |
|      | 18.5-13.5<br>0.80-2.54  | .039-.071<br>1.00-1.80   | 1500-5000         | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Brass            | 42776-1* <sup>1</sup>  |
|      | 18.5-13.5<br>0.80-2.54  | .039-.071<br>1.00-1.80   | 1500-5000         | .020<br>0.51       | .110<br>2.79   | .225<br>5.72 | Tin Plated Brass | 42776-2* <sup>1</sup>  |
|      | 15.5-12<br>1.54-3.46    | .055-.083<br>1.40-2.10   | 3000-7000         | .020<br>0.51       | .140<br>3.56   | .225<br>5.72 | Brass            | 41766                  |
|      | 15.5-12<br>1.54-3.46    | .055-.083<br>1.40-2.10   | 3000-7000         | .020<br>0.51       | .140<br>3.56   | .225<br>5.72 | Tin Plated Brass | 41900                  |
|      | 15.5-12<br>1.54-3.46    | .055-.083<br>1.40-2.10   | 3000-7000         | .020<br>0.51       | .140<br>3.56   | .225<br>5.72 | Brass            | 42779-11               |
|      | 15.5-12<br>1.54-3.46    | .055-.083<br>1.40-2.10   | 3000-7000         | .020<br>0.51       | .140<br>3.56   | .225<br>5.72 | Tin Plated Brass | 42779-21               |
|      | 12-10<br>3.46-6.00      | .083-.110<br>2.10-2.80   | 7000-12,000       | .025<br>0.64       | .250<br>6.35   | .225<br>5.72 | Tin Plated Brass | 61074-11, <sup>2</sup> |
|      | 12-9<br>3.46-6.38       | .083-.112<br>2.10-2.85   | 7000-13,000       | .025<br>0.64       | .180<br>4.57   | .225<br>5.72 | Brass            | 41770                  |
|      | 12-9<br>3.46-6.38       | .083-.112<br>2.10-2.85   | 7000-13,000       | .025<br>0.64       | .180<br>4.57   | .225<br>5.72 | Tin Plated Brass | 41904                  |
|      | 12-9<br>3.46-6.38       | .083-.112<br>2.10-2.85   | 7000-13,000       | .025<br>0.64       | .180<br>4.57   | .225<br>5.72 | Brass            | 42780-11               |
|      | 12-9<br>3.46-6.38       | .083-.112<br>2.10-2.85   | 7000-13,000       | .025<br>0.64       | .180<br>4.57   | .225<br>5.72 | Tin Plated Brass | 42780-21               |

\* These splices are recommended for applications using wire size 26 AWG [0.40 mm] or smaller.

<sup>1</sup> Increased terminal pitch.

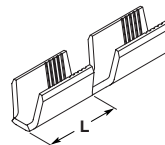
<sup>2</sup> Increased U-diameter.

## AMPLIVAR Splices (Continued)

### 5 Serrations — Pigtail Type

#### Product Facts

- Serration depths are varied within the splice to give optimum electrical / mechanical performance on all wire sizes
- Flat bottom of splice helps keep magnet wires on bottom as required during crimping



| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | Wire Range<br>CMA | Stock<br>Thickness | Crimp<br>Width | Dim.<br>L    | Material         | Part<br>Number |
|-------------------------|--------------------------|-------------------|--------------------|----------------|--------------|------------------|----------------|
| 20-17<br>0.50-1.00      | .030-.045<br>0.80-1.15   | 1000-2000         | .016<br>0.41       | .100<br>2.54   | .225<br>5.72 | Tin Plated Brass | 62670-2*1      |

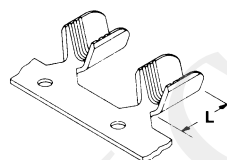
\*These splices are recommended for applications using wire size 26 AWG [0.40 mm] or smaller.

<sup>1</sup> Flat bottom.

### Miniature Splice — Pigtail Type

#### Product Facts

- The Miniature AMPLIVAR splice was developed for crimping thinner copper magnet wires having a diameter between .003 and .016 [0.08 and 0.40 mm] and has to be connected with a stranded conductor
- The diameter of one conductor strand should not exceed the magnet wire diameter to be applied

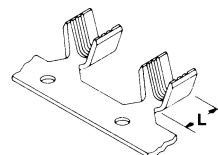


| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | Wire Range<br>CMA | Stock<br>Thickness | Crimp<br>Width | Dim.<br>L    | Material         | Part<br>Number |
|-------------------------|--------------------------|-------------------|--------------------|----------------|--------------|------------------|----------------|
| 27-21<br>0.10-0.40      | .014-.030<br>0.35-0.75   | 200-850           | .012<br>0.30       | .055<br>1.40   | .195<br>4.95 | Tin Plated Brass | 63431-1        |
| 25-18<br>0.16-0.90      | .015-.045<br>0.45-1.10   | 300-1850          | .012<br>0.30       | .070<br>1.78   | .195<br>4.95 | Copper-Nickel    | 61166-1        |
| 24-18.5<br>0.20-0.75    | .020-.039<br>0.55-1.00   | 480-1500          | .014<br>0.36       | .080<br>2.03   | .195<br>4.95 | Tin Plated Brass | 62341-1        |
| 24-18.5<br>0.20-0.75    | .020-.039<br>0.55-1.00   | 480-1500          | .014<br>0.36       | .080<br>2.03   | .195<br>4.95 | Brass            | 62341-2        |
| 24-18<br>0.20-0.80      | .020-.040<br>0.55-1.00   | 480-1700          | .016<br>0.41       | .070<br>1.78   | .195<br>4.95 | Brass            | 62044-1        |

### Subminiature Splice — Thru or Pigtail Type

#### Product Facts

- The compactness of these splices makes them ideal for use in small subfractional motors, transformers, relays, solenoids, indicator lamps and small appliance terminations
- These splices provide the same reliability as the larger AMPLIVAR splices



| AWG/<br>mm <sup>2</sup> | Wire Range<br>Solid Dia. | Wire Range<br>CMA | Stock<br>Thickness | Crimp<br>Width | Dim.<br>L    | Material          | Part<br>Number |
|-------------------------|--------------------------|-------------------|--------------------|----------------|--------------|-------------------|----------------|
| 30-26<br>0.05-0.15      | .010-.015<br>0.30-0.50   | 100-300           | .010<br>0.25       | .042<br>1.08   | .080<br>2.03 | Tin Plated Brass  | 63621-2        |
| 24-19<br>0.26-0.60      | .020-.035<br>0.55-0.90   | 400-1300          | .016<br>0.41       | .070<br>1.78   | .100<br>2.54 | Tin Plated Brass  | 62194-2        |
| 24-19<br>0.26-0.60      | .020-.035<br>0.55-0.90   | 400-1300          | .016<br>0.41       | .070<br>1.78   | .100<br>2.54 | Gold Plated Brass | 62194-4        |

## AMPLIVAR Application Tooling

### AMPLIVAR Product Terminator (APT)

#### Product Facts

- No need to strip magnet wire
- Connects up to 3 wires in 1 splice
- Crimp Quality Monitor (CQM) system measures crimp heights
- Machine shut height easily adjusts in .0005 [0.013] increments
- Quick-change tooling without major shut-height adjustments

#### Specifications

**Weight** — Approximately 150 lb [68 kg] with CQM

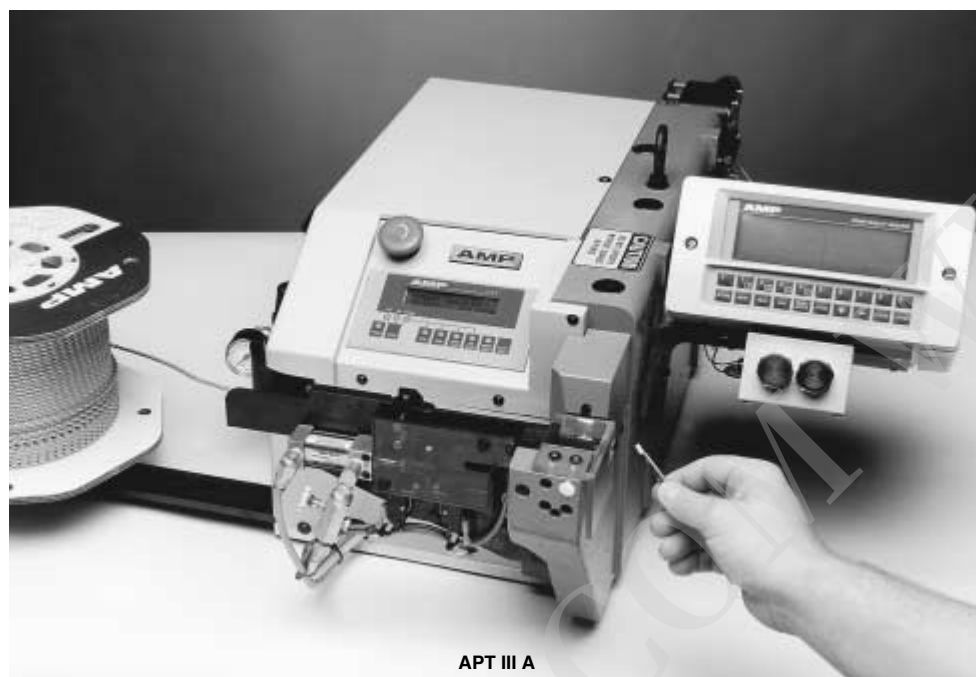
**Width** — 38 [965] with CQM and product reel

**Depth** — 35 [889]

**Height** — 14 [356]

**Electrical** — 120 VAC, 60 Hz, 1 A, 1f, or 240 VAC, 50 Hz, .5 A, 1f

**Air** — 80-100 psi [5.52-7.59 bar], 22 scfm [0.000141 m3/s]



APT III A

For pigtail splice connection of magnet wire, the AMPLIVAR Product Terminator (APT) and strip-form AMPLIVAR products offer a fast and efficient system, with no need to strip mag-wire insulation. To apply a splice, simply place the wires in the target area and depress the foot switch. The machine automatically shears the splice from the strip, crimps it, shears off excess wire, and advances the next splice into position.

APT semi-automatic bench machines are available in two versions: the IIIA with automatic precision adjustment controlled by the Crimp Quality Monitor (CQM), and the IIE with manual precision adjustment.

With CQM, the APT IIIA assists in achieving 6-sigma processing capability. In addition to providing 100% inspection and automatic adjustment of crimp heights as needed, the CQM also evaluates the quality of each crimp. If a questionable crimp is detected, visual and audible alarms alert the operator.

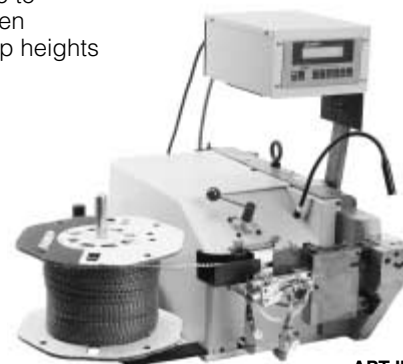
For operations with multiple wire sizes, the APT IIIA provides programmable sequencing of different crimp-height settings, and it can store up to 2,000 different programs of 7 different settings each. The maximum time to auto-adjust between programmed crimp heights is 2 seconds.

The lower cost, manual adjust IIE is a simpler version without CQM capability, with the advantage of faster set-up times.

To avoid the need to change product reels when wire combinations are smaller than the CMA range of the splice, an optional stuffer (part no. 679323-1 for APT IIIA, part no. 679323-2 for APT IIE.) inserts a stuffer wire into the splice prior to crimping, increasing the total CMA to the recommended range. The wire stuffer unit is for pigtail splices only.



APT III A with vertical base  
(679984-1) for direct connect  
terminals



APT IIE

## AMPLIVAR Application Tooling (Continued)

### AMPLIVAR Product Terminator (APT) (Continued)

#### Machine Ordering Information

A "Base Part Number" is selected from the Basic Machine Part Numbers table. Then, a dash number or numbers are selected from one of the other two tables depending on the type of product to be applied.

**Note:** The wire stuffer is available for Pigtail-Type Splice only and may be added to the machine after installation.

679323-1 — APT IIIA

679323-2 — APT IIE

#### Basic Machine Part Numbers

| Machine Features |                       |                                      | Base Part Number* |                     |
|------------------|-----------------------|--------------------------------------|-------------------|---------------------|
| Precision Adjust | Crimp Quality Monitor | Programmable Crimp-Height Sequencing | Model             | Pigtail-type Splice |
| Manual           | Not included          | Not included                         | APT IIE**         | □-1338906-□         |
| Automatic        | Included              | Included                             | APT IIIA          | □-679453-□          |

\*See tables below for suffix and prefix dash numbers which indicate product to be applied, product crimp width, and voltage requirement.

\*\*Not upgradable to an APT IIIA

#### AMPLIVAR Pigtail-Type Splice Suffix and Prefix Dash Numbers

(Aluminum base 679984-1 not included)

| Pigtail-type Splice Base Number | Crimp Width | 120/240 VAC IIE Machine<br>□-1338906-□ | 120/240 VAC IIIA Machine<br>□-679453-□ |
|---------------------------------|-------------|----------------------------------------|----------------------------------------|
| 42775                           | .110 [2.79] | 1-( )-1                                | 3-( )-7                                |
| 42776                           |             |                                        |                                        |
| 42777                           | .110 [2.79] | 1-( )-2                                | 3-( )-8                                |
| 42778                           |             |                                        |                                        |
| 42779                           | .140 [3.56] | ( )-8                                  | 3-( )-4                                |
| 62000                           | .110 [2.79] | 1-( )-2                                | 3-( )-8                                |
| 62001                           | .140 [3.56] | ( )-7                                  | 3-( )-3                                |
| 62001                           | .180 [4.57] | ( )-6                                  | 3-( )-2                                |
| 62201                           | .140 [3.56] | ( )-8                                  | 3-( )-4                                |
| 62002                           | .180 [4.57] | ( )-3                                  | 2-( )-9                                |
| 62040                           | .110 [2.79] | 1-( )-1                                | 3-( )-7                                |
| 62157                           | .110 [2.79] | 1-( )-2                                | 3-( )-8                                |
| 62200                           |             |                                        |                                        |
| 62295                           | .250 [6.35] | ( )-1                                  | 2-( )-7                                |
| 62303                           | .080 [2.03] | 1-( )-3                                | 3-( )-9                                |
| 62304                           | .110 [2.79] | 1-( )-2                                | 3-( )-8                                |
| 62305                           |             |                                        |                                        |
| 62306                           | .140 [3.56] | 1-( )-0                                | 3-( )-6                                |
| 62306                           | .110 [2.79] | 1-( )-1                                | 3-( )-7                                |
| 62307                           |             |                                        |                                        |
| 62308                           | .140 [3.56] | ( )-9                                  | 3-( )-5                                |
| 62308                           | .180 [4.57] | ( )-6                                  | 3-( )-2                                |
| 62309                           | .220 [5.59] | 5-( )-4                                | 5-( )-3                                |
| 62309                           | .180 [4.57] | ( )-5                                  | 3-( )-1                                |
| 62310                           | .220 [5.59] | ( )-2                                  | 2-( )-8                                |
| 62310                           | .180 [4.57] | ( )-4                                  | 3-( )-0                                |
| 280002                          | .110 [2.79] | 1-( )-1                                | 3-( )-7                                |
| 280004                          | .110 [2.79] | 1-( )-2                                | 3-( )-8                                |
| 964156                          | .110 [2.79] | 1-( )-1                                | 3-( )-7                                |

## Pins, Receptacles, Tab and Taper Tab Receptacles Terminals

### Product Facts

- Pin terminals are available in .080, .093, .109 and .125 diameters.
- Receptacle terminals are available that accept .032, .040, .050, .055, .062, .090, .093 and .109 pin diameters
- SHUR-PLUG terminals and Receptacle terminals are available in .156 and .180 diameters.
- Tab Receptacle terminals are available that accept tab thicknesses ranging from .010 - .060 and widths ranging from .025 - .250.
- Taper Tab Receptacle terminals are available in 78 Series and 98 Series
- Precision formed, strip-fed pins, receptacles and tab receptacle terminals terminated in AMP automatic machines for high production rates per hour



Tyco Electronics offers a full selection of AMP open barrel pins, receptacles and tab receptacle terminals that are specifically designed to terminate various stranded and solid wire ranges for customer specific application requirements.

Pin terminals are available in .080, .093, .109 and .125 diameters to mate to industry standard or customer specific receptacle terminals. They are designed with and/or without insulation barrel supports, including one with an insulation piercing wire barrel to terminate flat wire while others are specifically designed for post overmolding.

Depending on your specific application, pin terminals are available for terminations in the 14–30 AWG wire range in brass and tin plated brass material.

Receptacle terminals are available to accept .032, .040, .050, .055, .062, .090, .093 and .109 pin terminal diameters to mate to industry standard or customer specific pin terminal requirements. They are designed with and/or without insulation barrel

supports for terminations ranging from 20–32 AWG stranded or solid wire as well as magnet wire ranging from 29–16 AWG. Some terminals are designed with or without locking feature and others are specifically designed for post overmolding. Receptacle terminals are manufactured in brass and phosphor bronze material with tin, silver and gold plating options available.

SHUR-PLUG terminals and SHUR-PLUG Receptacle terminals that are specifically designed for wiring harnesses used in the truck, bus, marine and off-highway vehicle marketplace. SHUR-PLUG terminals are available in .156 and .180 diameters that accept wire ranging from 24–5 AWG gage. They are available with or without insulation support barrels with various part numbers available for post overmolding and one specifically designed for a weld connection. SHUR-PLUG terminals are manufactured in brass material with tin or tin over nickel plating options available.

Tab Receptacle terminals are available to mate to industry standard and customer specific tab applications. They accept tab thicknesses ranging from .010–.060 in widths ranging from .025–.250. They accept wire ranging from 26–14 AWG and are available with or without insulation support barrels. Tab Receptacles are manufactured in brass and beryllium copper material with tin and gold plated versions available.

Taper Tab Receptacle terminals are available in 78 Series and 98 Series with insulation support. They terminate 24–22 AWG wire in tin plated brass material. The 78 Series insulation piercing terminals are manufactured in brass material with tin, nickel and gold plating options that terminate tinsel wire.

Pins, Receptacles and Tab Receptacle terminals are manufactured in strip form and supplied on reels for semi-automated and fully automated terminations on crimping machines for high output per hour production rates.

### Technical Documents

Application Specifications describe requirements for using the product in its intended application and/or crimping information. They are intended for the Packaging and Design Engineer and the Machine Setup Person.

**114-2080** — Pin Receptacle Contacts

**114-2083** — Pin Receptacle Contact

**114-2042** — .156 [3.96] Diameter SHUR-PLUG and Receptacle Terminals

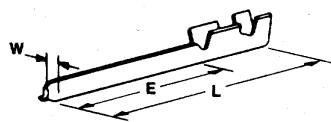
**114-2017** — .180 [4.57] Diameter SHUR-PLUG and Receptacle Terminals

### Product Specifications

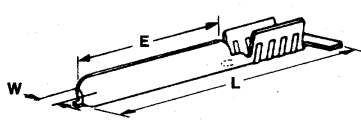
Product Specifications describe the product qualification test results completed by Tyco Electronics for consideration of product use in a specific application. They are intended for the Design and Product Reliability Engineer.

**108-2027** — .156 [3.96] Diameter SHUR-PLUG and Receptacle terminals

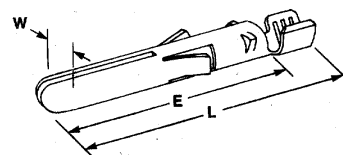
## Pin Terminals



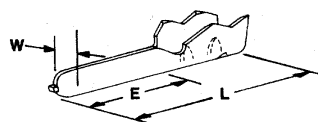
A



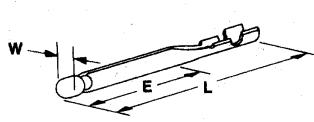
B



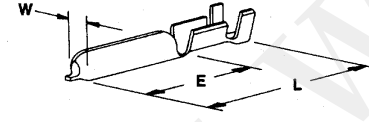
C



D



E



F

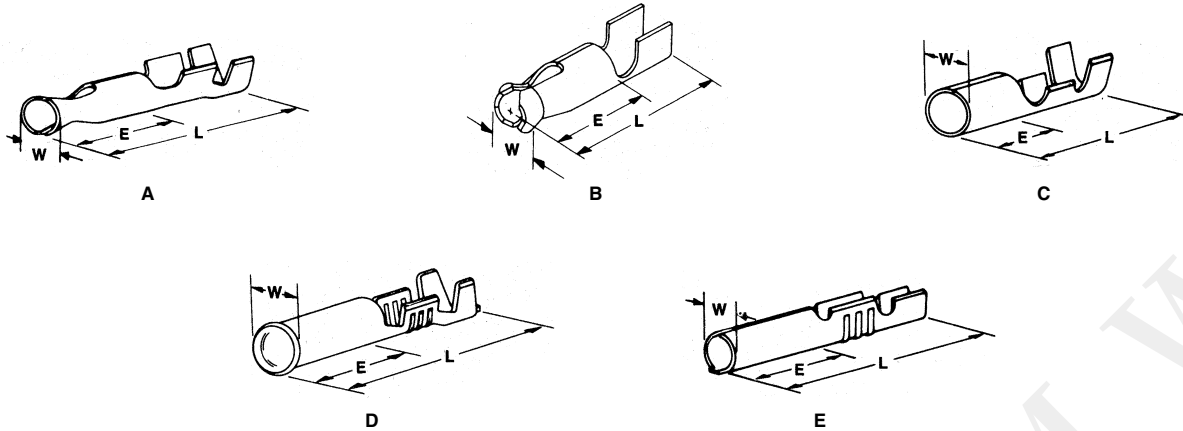
| Type | Wire Range                 |                 | Insul.<br>Size         | Pin<br>Dia.  | Stock<br>Thk. | Material<br>and Finish       | Dimensions   |                |                | Part<br>Number       |
|------|----------------------------|-----------------|------------------------|--------------|---------------|------------------------------|--------------|----------------|----------------|----------------------|
|      | AWG                        | mm <sup>2</sup> |                        |              |               |                              | W            | L              | E              |                      |
| A    | 30-26                      | 0.05-0.12       | .042-.073<br>1.07-1.85 | .080<br>2.03 | .010<br>0.25  | Tin Plated Brass             | .080<br>2.03 | 1.280<br>32.51 | 1.000<br>25.40 | 350053-2             |
| F    | 24-20                      | 0.2-0.6         | .060-.103<br>1.52-2.62 | .125<br>3.18 | .016<br>0.41  | Brass                        | .125<br>3.18 | .705<br>17.51  | .450<br>11.43  | 62074-1              |
| E    | 24-20                      | 0.2-0.6         | .060-.103<br>1.52-2.62 | .125<br>3.18 | .016<br>0.41  | Brass                        | .125<br>3.18 | .705<br>17.51  | .450<br>11.43  | 62344-1              |
| A    | 24-20                      | 0.2-0.6         | .042-.073<br>1.07-1.85 | .080<br>2.03 | .010<br>0.25  | Tin Plated Brass             | .080<br>2.03 | 1.000<br>25.40 | .720<br>18.29  | 62358-1              |
|      |                            |                 |                        | .080<br>2.03 | .010<br>0.25  | Br. Tin Lead<br>Plated Brass | .080<br>2.03 | 1.000<br>25.40 | .720<br>18.29  | 62358-4              |
| E    | 22-20                      | 0.4-0.6         | .075-.090<br>1.91-2.29 | .125<br>3.18 | .016<br>0.41  | Brass                        | .125<br>3.18 | 1.393<br>35.38 | .800<br>20.32  | 60115-1 <sup>1</sup> |
|      |                            |                 |                        | .125<br>3.18 | .016<br>0.41  | Brass                        | .125<br>3.18 | 1.393<br>35.38 | .800<br>20.32  | 60115-4 <sup>1</sup> |
| C    | 22-18                      | 0.3-0.9         | —                      | .130<br>3.30 | .016<br>0.41  | Brass                        | .130<br>3.30 | .855<br>21.72  | .660<br>16.76  | 62505-1              |
| B    | 22-16                      | 0.3-1.4         | —                      | .093<br>2.36 | .012<br>0.31  | Tin Plated Brass             | .093<br>2.36 | .835<br>21.21  | .652<br>16.56  | 62820-1 <sup>1</sup> |
| B    | 18-14                      | 0.9-2.0         | —                      | .109<br>2.77 | .016<br>0.41  | Tin Plated Brass             | .109<br>2.77 | .925<br>23.50  | .500<br>12.70  | 61013-2 <sup>1</sup> |
|      |                            |                 |                        | .109<br>2.77 | .016<br>0.41  | Brass                        | .109<br>2.77 | .920<br>23.37  | .610<br>15.44  | 62616-1              |
| D    | .085 × .035<br>2.16 × 0.89 | Flat Wire       | .085<br>2.16           | .109<br>2.77 | .020<br>0.51  | Brass                        | .109<br>2.77 | .595<br>15.11  | .350<br>8.90   | 61674-1 <sup>2</sup> |

<sup>1</sup> Can be molded.

<sup>2</sup> Insulation Piercing.

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

## Receptacle Terminals



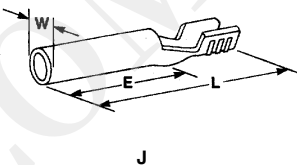
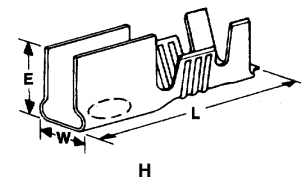
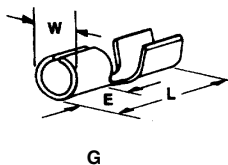
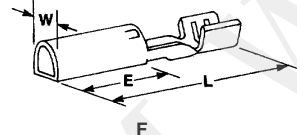
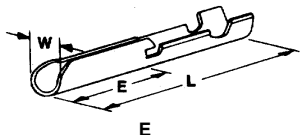
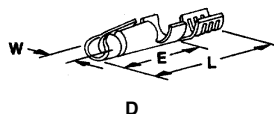
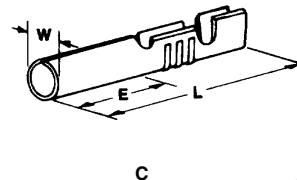
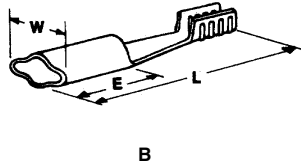
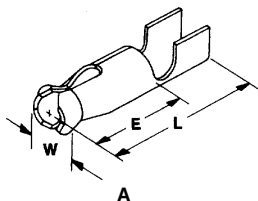
| Type | Wire Range |                 | Insul. Size            | Pin Dia.                  | Stock Thk.   | Material and Finish             | Dimensions   |               |              | Part Number          |
|------|------------|-----------------|------------------------|---------------------------|--------------|---------------------------------|--------------|---------------|--------------|----------------------|
|      | AWG        | mm <sup>2</sup> |                        |                           |              |                                 | W            | L             | E            |                      |
| C    | 32-26      | 0.03-0.15       | .060<br>1.52 Max.      | .050<br>1.27              | .008<br>0.20 | Pre-Tin Plated Phos. Bronze     | .070<br>1.78 | .330<br>8.38  | .150<br>3.81 | 61547-2              |
| B    | 28-26      | 0.09-0.15       | —                      | .040<br>1.02              | .012<br>0.31 | Gold Plated Phos. Bronze        | .090<br>2.29 | .370<br>9.40  | .150<br>3.81 | 62185-1              |
|      |            |                 |                        | .040<br>1.02              | .012<br>0.31 | Tin Plated Phos. Bronze         | .090<br>2.29 | .370<br>9.40  | .150<br>3.81 | 62185-2              |
|      |            |                 |                        | .040<br>1.02              | .012<br>0.31 | Tin Plated Phos. Bronze         | .095<br>2.41 | .450<br>11.43 | .220<br>5.59 | 42428-5 <sup>1</sup> |
| A    | 24-20      | 0.2-0.6         | .048-.071<br>1.22-1.8  | .040<br>1.02              | .012<br>0.31 | Silver Plated Phos. Bronze      | .095<br>2.41 | .450<br>11.43 | .220<br>5.59 | 42428-8              |
|      |            |                 |                        | .050<br>1.27              | .012<br>0.31 | Tin Plated Phos. Bronze         | .090<br>2.29 | .360<br>9.14  | .220<br>5.59 | 60348-4              |
|      |            |                 |                        | .032<br>0.81              | .012<br>0.31 | Tin Plated Phos. Bronze         | .095<br>2.41 | .450<br>11.43 | .220<br>5.59 | 60373-4              |
| E    | 24-20      | 0.2-0.6         | .090-.130<br>2.27-3.30 | .093<br>2.36              | .010<br>0.25 | Brass                           | .115<br>2.92 | .560<br>14.23 | .250<br>6.35 | 60469-1              |
| A    | 24-20      | 0.2-0.6         | .048-.071<br>1.22-1.80 | .055<br>1.40              | .013<br>0.33 | Gold/Nickel Plated Phos. Bronze | .095<br>2.41 | .450<br>11.43 | .220<br>5.59 | 60885-1              |
|      |            |                 |                        | .055<br>1.40              | .013<br>0.33 | Tin Plated Phos. Bronze         | .095<br>2.41 | .450<br>11.43 | .220<br>5.59 | 60885-2 <sup>2</sup> |
| D    | 24-20      | 0.2-0.6         | .070<br>1.78 Max.      | .062 <sup>3</sup><br>1.57 | .010<br>0.25 | Pre-Tin Plated Brass            | .100<br>2.54 | .430<br>10.92 | .190<br>4.83 | 61622-1              |

<sup>1</sup> Reverse reel of 42428-2.

<sup>2</sup> Reverse reel of 42429-2.

<sup>3</sup> Or .045 [1.14] square post.

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

**Receptacle Terminals** (Continued)


| Type | Wire Range |                 | Insul. Size            | Pin Dia.     | Stock Thk.   | Material and Finish     | Dimensions   |               |              | Part Number          |
|------|------------|-----------------|------------------------|--------------|--------------|-------------------------|--------------|---------------|--------------|----------------------|
|      | AWG        | mm <sup>2</sup> |                        |              |              |                         | W            | L             | E            |                      |
| A    | 24-20      | 0.2-0.6         | —                      | .040<br>1.02 | .012<br>0.31 | Tin Plated Phos. Bronze | .090<br>2.29 | .360<br>9.14  | .220<br>5.59 | 62160-1              |
|      |            |                 |                        | .040<br>1.02 | .012<br>0.31 | Tin Plated Phos. Bronze | .090<br>2.29 | .360<br>9.14  | .220<br>5.59 | 42869-6              |
|      |            |                 |                        | .040<br>1.02 | .012<br>0.31 | Tin Plated Phos. Bronze | .100<br>2.54 | .360<br>9.14  | .200<br>5.08 | 62405-2              |
| C    | 24-18      | 0.2-0.9         | .045-.085<br>1.14-2.16 | .093<br>2.36 | .012<br>0.31 | Tin Plated Brass        | .115<br>2.92 | .560<br>14.23 | .250<br>6.35 | 42827-2              |
| E    | 22-20      | 0.4-0.6         | .075-.100<br>1.91-2.54 | .106<br>2.69 | .012<br>0.31 | Tin Plated Brass        | .150<br>3.81 | .690<br>17.53 | .360<br>9.14 | 60908-1              |
| C    | 22-18      | 0.4-0.9         | .090-.130<br>2.29-3.30 | .093<br>2.36 | .012<br>0.31 | Tin Plated Brass        | .115<br>2.92 | .560<br>14.23 | .250<br>6.35 | 41854                |
|      |            |                 |                        | .093<br>2.36 | .012<br>0.31 | Brass                   | .115<br>2.92 | .560<br>14.23 | .250<br>6.35 | 41870                |
|      |            |                 |                        | .093<br>2.36 | .012<br>0.31 | Silver Plated Brass     | .115<br>2.92 | .560<br>14.23 | .250<br>6.35 | 41870-1              |
| D    | 22-18      | 0.4-0.9         | —                      | .093<br>2.36 | .010<br>0.26 | Brass                   | .115<br>2.92 | .530<br>13.46 | .345<br>8.76 | 60440-1              |
| H    | 22-18      | 0.4-0.9         | .100<br>2.54 Max.      | .093<br>2.36 | .012<br>0.31 | Tin Plated Brass        | .130<br>3.30 | .480<br>12.19 | .150<br>3.81 | 60884-3 <sup>1</sup> |
| E    | 22-18      | 0.4-0.9         | (2) .060<br>1.52 Max.  | .106<br>2.69 | .012<br>0.31 | Tin Plated Brass        | .150<br>3.81 | .690<br>17.53 | .360<br>9.14 | 62402-1 <sup>2</sup> |
| F    | 22-18      | 0.4-0.9         | —                      | .109<br>2.77 | .014<br>0.36 | Silver Plated Brass     | .133<br>3.38 | .585<br>14.86 | .250<br>6.35 | 62720-2 <sup>3</sup> |
|      |            |                 |                        | .109<br>2.77 | .014<br>0.36 | Brass                   | .133<br>3.38 | .585<br>14.86 | .250<br>6.35 | 63594-1              |
|      |            |                 |                        | .109<br>2.77 | .014<br>0.36 | Silver Plated Brass     | .133<br>3.38 | .585<br>14.86 | .250<br>6.35 | 63594-2              |
| J    | 22-18      | 0.4-0.9         | —                      | .125<br>3.18 | .014<br>0.36 | Brass                   | .150<br>3.81 | .635<br>16.13 | .375<br>9.52 | 63381-1              |
| G    | 20-18      | 0.6-0.9         | —                      | .119<br>3.02 | .016<br>0.41 | Brass                   | .145<br>3.68 | .375<br>9.53  | .125<br>3.18 | 40652                |
| B    | 20-16      | 0.6-1.4         | —                      | .090<br>2.29 | .018<br>0.46 | Tin Plated Phos. Bronze | .235<br>5.97 | .660<br>16.76 | .255<br>6.48 | 60733-1 <sup>4</sup> |

<sup>1</sup> Right angle pin entry.

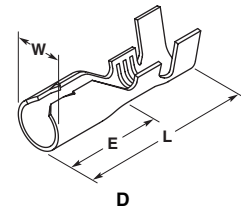
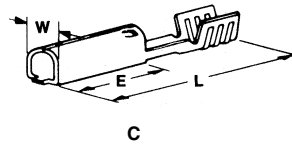
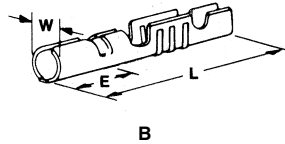
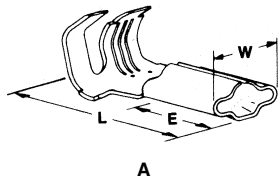
<sup>2</sup> Without ears.

<sup>3</sup> Can be molded.

<sup>4</sup> Corrugated serrations, Can be bent 90°.

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

## Receptacle Terminals (Continued)

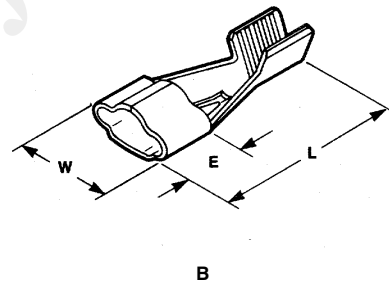
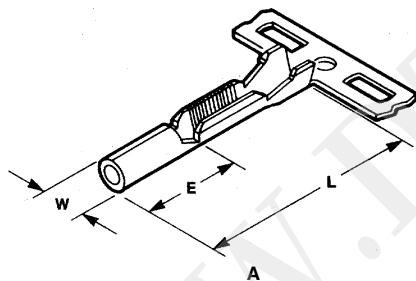


| Type | Wire Range |                 | Insul. Size            | Pin Dia.     | Stock Thk.   | Material and Finish     | Dimensions   |               |              | Part Number          |
|------|------------|-----------------|------------------------|--------------|--------------|-------------------------|--------------|---------------|--------------|----------------------|
|      | AWG        | mm <sup>2</sup> |                        |              |              |                         | W            | L             | E            |                      |
| A    | 20-14      | 0.6-2.0         | .120-.170<br>3.04-4.31 | .090<br>2.29 | .018<br>0.46 | Tin Plated Phos. Bronze | .235<br>5.97 | .550<br>13.97 | .250<br>6.35 | 42745-2              |
|      |            |                 |                        | .090<br>2.29 | .018<br>0.46 | Tin Plated Phos. Bronze | .235<br>5.97 | .550<br>13.97 | .250<br>6.35 | 60376-1 <sup>1</sup> |
|      |            |                 |                        | .090<br>2.29 | .018<br>0.46 | Beryllium Copper        | .235<br>5.97 | .550<br>13.97 | .250<br>6.35 | 60376-2 <sup>1</sup> |
| B    | 18-16      | 0.9-1.4         | .090-.120<br>2.29-3.05 | .093<br>2.36 | .014<br>0.36 | Tin Plated Brass        | .115<br>2.92 | .560<br>14.22 | .150<br>3.81 | 42101-2 <sup>2</sup> |
| C    | 18-14      | 0.9-2.0         | —                      | .109<br>2.77 | .014<br>0.36 | Brass                   | .133<br>3.38 | .645<br>16.38 | .300<br>7.62 | 61012-1 <sup>3</sup> |
|      |            |                 |                        | .109<br>2.77 | .014<br>0.36 | Tin Plated Brass        | .133<br>3.38 | .645<br>16.38 | .300<br>7.62 | 61012-3 <sup>3</sup> |
| D    | 18-14      | 0.9-2.0         | .130-.175<br>3.30-4.45 | #10<br>Screw | .016<br>0.41 | Brass                   | .212<br>5.38 | .690<br>17.53 | .250<br>6.35 | 42308-1              |

<sup>1</sup> Without locking dimple.

<sup>2</sup> Has locking feature for pin with indent.

<sup>3</sup> Can be molded.



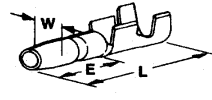
| Type | Wire Range |                 | Insul. Size            | Pin Dia.     | Stock Thk.   | Material and Finish     | Dimensions   |               |              | Part Number          |
|------|------------|-----------------|------------------------|--------------|--------------|-------------------------|--------------|---------------|--------------|----------------------|
|      | AWG        | mm <sup>2</sup> |                        |              |              |                         | W            | L             | E            |                      |
| A    | 29-22      | 0.28-0.64       | .040-.060<br>1.02-1.52 | .062<br>1.57 | .012<br>0.30 | Tin Plated Brass        | .084<br>2.13 | .590<br>14.99 | .195<br>4.95 | 63506-1 <sup>1</sup> |
| B    | 21-16      | 0.72-1.29       | —                      | .090<br>2.29 | .018<br>0.46 | Tin Plated Phos. Bronze | .235<br>5.97 | .660<br>16.76 | .255<br>6.48 | 60177-2 <sup>1</sup> |

<sup>1</sup> Magnet wire.

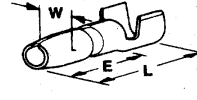
**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

## SHUR-PLUG Terminals

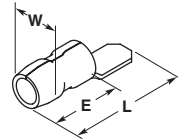
### .156 [3.96] Diameter



A



B

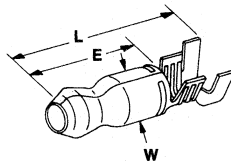


C

| Type | Wire Range         |                       | Insul.<br>Size         | Stock<br>Thk. | Material<br>and Finish | Dimensions   |               |              | Part<br>Number |
|------|--------------------|-----------------------|------------------------|---------------|------------------------|--------------|---------------|--------------|----------------|
|      | AWG                | mm <sup>2</sup>       |                        |               |                        | W            | L             | E            |                |
| A    | 20-16              | 0.6–1.4               | .095–.115<br>2.41–2.92 | .018<br>0.46  | Pre-Tin Plated Brass   | .160<br>4.06 | .710<br>18.03 | .345<br>8.76 | 61388-11       |
| B    | 18-14              | 0.9–2.0               | .125–.160<br>3.18–4.06 | .020<br>0.51  | Pre-Tin Plated Brass   | .157<br>3.99 | .535<br>13.59 | .345<br>8.76 | 41698          |
| A    | 18-14              | 0.9–2.0               | .085–.125<br>2.16–3.18 | .018<br>0.46  | Brass                  | .160<br>4.06 | .710<br>18.03 | .345<br>8.76 | 60766-11       |
|      |                    |                       |                        | .018<br>0.46  | Pre-Tin Plated Brass   | .160<br>4.06 | .710<br>18.03 | .345<br>8.76 | 60766-21       |
| B    | 18-14              | 0.9–2.0               | —                      | .018<br>0.46  | Pre-Tin Plated Brass   | .160<br>4.06 | .500<br>12.70 | .300<br>7.62 | 61802-11       |
| A    | 18-14              | 0.9–2.0               | .085–.210<br>2.16–5.33 | .018<br>0.46  | Brass                  | .160<br>4.06 | .710<br>18.03 | .350<br>8.89 | 61891-21       |
| B    | 12 or<br>(2) 14    | 3.0 or<br>(2) 2.0     | —                      | .018<br>0.46  | Pre-Tin Plated Brass   | .160<br>4.06 | .600<br>15.24 | .300<br>7.62 | 63925-11       |
| B    | 14-10 or<br>(2) 14 | 2.0–6.0 or<br>(2) 2.0 | —                      | .018<br>0.46  | Tin Plated Brass       | .160<br>4.06 | .625<br>15.88 | .300<br>7.62 | 1742039-1      |
| C    | Weld Tab           |                       | —                      | .018<br>0.46  | Pre-Tin Plated Brass   | .160<br>4.06 | .540<br>13.72 | .300<br>7.62 | 62829-1        |

<sup>1</sup> Can be molded.

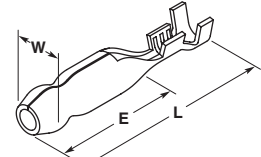
### .180 [4.57] Diameter



A



B



C

| Type | Wire Range |                 | Insul. Size            | Stock Thk.   | Material and Finish     | Dimensions   |                |                | Part Number             |
|------|------------|-----------------|------------------------|--------------|-------------------------|--------------|----------------|----------------|-------------------------|
|      | AWG        | mm <sup>2</sup> |                        |              |                         | W            | L              | E              |                         |
| C    | 24-22      | 0.2-0.4         | .058-.082<br>1.47-2.08 | .018<br>0.46 | Tin/Nickel Plated Brass | .180<br>4.57 | .885<br>22.48  | .435<br>11.05  | 62416-1 <sup>1</sup>    |
|      |            |                 |                        | .018<br>0.46 | Tin/Nickel Plated Brass | .180<br>4.57 | .865<br>21.97  | .435<br>11.05  | 1217104-11 <sup>2</sup> |
| A    | 20-16      | 0.6-1.4         | .090-.125<br>2.29-3.18 | .018<br>0.46 | Brass                   | .180<br>4.57 | .740<br>18.80  | .447<br>11.35  | 505038-1 <sup>1</sup>   |
|      |            |                 |                        | .018<br>0.46 | Tin Plated Brass        | .180<br>4.57 | .740<br>18.80  | .447<br>11.35  | 60793-1 <sup>1</sup>    |
|      | 18-14      | 0.9-2.0         | .090-.125<br>2.29-3.18 | .018<br>0.46 | Tin Plated Brass        | .180<br>4.57 | .740<br>18.80  | .447<br>11.35  | 62739-1 <sup>1</sup>    |
|      |            |                 |                        | .018<br>0.46 | Tin Plated Brass        | .180<br>4.57 | .740<br>18.80  | .447<br>11.35  | 60660-1 <sup>1</sup>    |
|      |            |                 |                        | .018<br>0.46 | Brass                   | .180<br>4.57 | .740<br>18.80  | .447<br>11.35  | 60660-2 <sup>1</sup>    |
|      |            |                 |                        | .018<br>0.46 | Brass                   | .180<br>4.57 | .855<br>21.72  | .435<br>11.05  | 42865-1 <sup>1</sup>    |
| B    | 14-10      | 2.0-6.0         | —                      | .018<br>0.46 | Tin Plated Brass        | .180<br>4.57 | .855<br>21.72  | .435<br>11.05  | 42865-3 <sup>1</sup>    |
|      |            |                 |                        | .018<br>0.46 | Tin/Nickel Plated Brass | .180<br>4.57 | .855<br>21.72  | .435<br>11.05  | 42865-5 <sup>1</sup>    |
|      |            |                 |                        | .018<br>0.46 | Pre-Tin Plated Brass    | .180<br>4.57 | .865<br>21.97  | .435<br>11.05  | 63989-1 <sup>1</sup>    |
|      |            |                 |                        | .030<br>0.76 | Tin Plated Brass        | .180<br>4.57 | 1.555<br>34.50 | 1.080<br>27.43 | 1217142-1 <sup>1</sup>  |
|      | (2) 8      | (2) 8.0         | —                      | .030<br>0.76 | Tin Plated Brass        | .180<br>4.57 | 1.555<br>34.50 | 1.080<br>27.43 | 1217185-1 <sup>1</sup>  |
|      |            |                 |                        | .030<br>0.76 | Tin Plated Brass        | .180<br>4.57 | 1.555<br>34.50 | 1.080<br>27.43 | 1217185-1 <sup>1</sup>  |

<sup>1</sup> Can be molded.

<sup>2</sup> Loose piece.

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

## SHUR-PLUG Receptacle Terminals

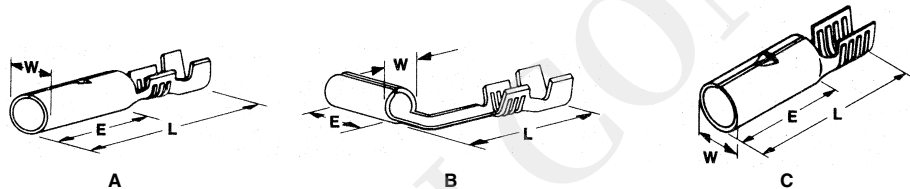
### .156 [3.96] Diameter



| Type | Wire Range |                 | Insul. Size            | Stock Thk.   | Material and Finish | Dimensions   |               |              | Part Number          |
|------|------------|-----------------|------------------------|--------------|---------------------|--------------|---------------|--------------|----------------------|
|      | AWG        | mm <sup>2</sup> |                        |              |                     | W            | L             | E            |                      |
| B    | 22-18      | 0.4-0.9         | .085-.125<br>2.16-3.18 | .016<br>0.41 | Tin Plated Brass    | .190<br>4.83 | .690<br>17.53 | .250<br>6.35 | 42581-2              |
| A    | 20-16      | 0.6-1.4         | .100-.140<br>2.54-3.56 | .016<br>0.41 | Brass               | .190<br>4.83 | .705<br>17.91 | .370<br>9.40 | 60017-3              |
|      |            |                 |                        | .016<br>0.41 | Tin Plated Brass    | .190<br>4.83 | .690<br>17.53 | .345<br>8.76 | 42142-1              |
| B    | 18-14      | 0.9-2.0         | .130-.175<br>3.30-4.45 | .016<br>0.41 | Brass               | .190<br>4.83 | .690<br>17.53 | .345<br>8.76 | 42142-2              |
|      |            |                 |                        | .016<br>0.41 | Tin Plated Brass    | .190<br>4.83 | .695<br>17.65 | .345<br>8.76 | 63865-1 <sup>1</sup> |

<sup>1</sup> No indent.

### .180 [4.57] Diameter



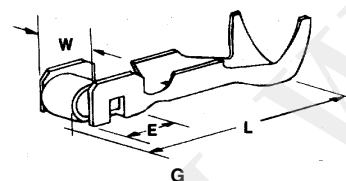
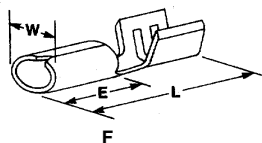
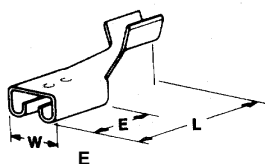
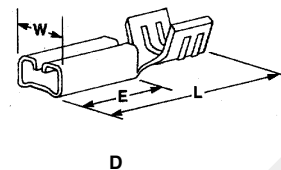
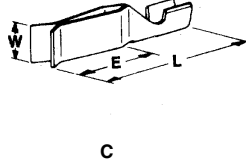
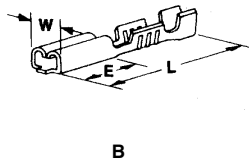
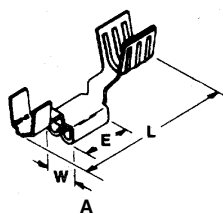
| Type | Wire Range |                 | Insul. Size            | Stock Thk.   | Material and Finish                | Dimensions   |               |               | Part Number          |
|------|------------|-----------------|------------------------|--------------|------------------------------------|--------------|---------------|---------------|----------------------|
|      | AWG        | mm <sup>2</sup> |                        |              |                                    | W            | L             | E             |                      |
| A    | 20-16      | 0.6-1.4         | .090-.120<br>2.29-3.05 | .016<br>0.41 | Brass                              | .208<br>5.28 | .785<br>19.94 | .420<br>10.67 | 42531-1              |
|      |            |                 |                        | .016<br>0.41 | Tin Plated Brass                   | .208<br>5.28 | .785<br>19.94 | .420<br>10.67 | 42531-2              |
| B    | 20-16      | 0.6-1.4         | .100-.140<br>2.54-3.56 | .016<br>0.41 | Brass                              | .208<br>5.28 | .715<br>18.16 | .360<br>9.14  | 42700-1              |
|      |            |                 |                        | .016<br>0.41 | Brass                              | .208<br>5.28 | .715<br>18.16 | .360<br>9.14  | 42700-3 <sup>2</sup> |
|      |            |                 |                        | .016<br>0.41 | Brass                              | .208<br>5.28 | .785<br>19.94 | .420<br>10.67 | 60798-2              |
|      |            |                 |                        | .016<br>0.41 | Tin Plated Brass                   | .208<br>5.28 | .785<br>19.94 | .420<br>10.67 | 60798-4              |
|      |            |                 |                        | .016<br>0.41 | Brass                              | .208<br>5.28 | .785<br>19.94 | .420<br>10.67 | 60799-2 <sup>1</sup> |
|      |            |                 |                        | .016<br>0.41 | Pre-Tin/Nickel Plated Phos. Bronze | .208<br>5.28 | .785<br>19.94 | .420<br>10.67 | 60799-4 <sup>1</sup> |
| A    | 18-14      | 0.9-2.0         | .090-.125<br>2.29-3.18 | .016<br>0.41 | Tin Plated Brass                   | .208<br>5.28 | .785<br>19.94 | .420<br>10.67 | 60799-5 <sup>1</sup> |
|      |            |                 |                        | .016<br>0.41 | Brass                              | .208<br>5.28 | .785<br>19.94 | .420<br>10.67 | 61412-1              |
|      |            |                 |                        | .016<br>0.41 | Tin Plated Brass                   | .208<br>5.28 | .785<br>19.94 | .420<br>10.67 | 61412-2              |
|      |            |                 |                        | .016<br>0.41 | Brass                              | .208<br>5.28 | .720<br>18.29 | .420<br>10.67 | 42868-1              |
|      |            |                 |                        | .016<br>0.41 | Tin Plated Brass                   | .208<br>5.28 | .720<br>18.29 | .420<br>10.67 | 42868-2              |
|      |            |                 |                        | .016<br>0.41 | Brass                              | .208<br>5.28 | .720<br>18.29 | .420<br>10.67 | 42891-1 <sup>1</sup> |
|      |            |                 |                        | .016<br>0.41 | Tin Plated Brass                   | .208<br>5.28 | .720<br>18.29 | .420<br>10.67 | 42891-2 <sup>1</sup> |
|      |            |                 |                        | .016<br>0.41 | Tin Plated Brass                   | .208<br>5.28 | .720<br>18.29 | .420<br>10.67 | 1217070-1            |
|      |            |                 |                        | .016<br>0.41 | Brass                              | .208<br>5.28 | .770<br>19.56 | .420<br>10.67 | 1217074-1            |
|      |            |                 |                        | .016<br>0.41 | Tin Plated Brass                   | .208<br>5.28 | .770<br>19.56 | .420<br>10.67 | 1217074-2            |
| C    | 14-10      | 2.0-6.0         | —                      | .016<br>0.41 | Brass                              | .208<br>5.28 | .720<br>18.29 | .420<br>10.67 | 42891-1 <sup>1</sup> |
|      |            |                 |                        | .016<br>0.41 | Tin Plated Brass                   | .208<br>5.28 | .720<br>18.29 | .420<br>10.67 | 42891-2 <sup>1</sup> |
|      |            |                 |                        | .016<br>0.41 | Tin Plated Brass                   | .208<br>5.28 | .720<br>18.29 | .420<br>10.67 | 1217070-1            |
|      |            |                 |                        | .016<br>0.41 | Brass                              | .208<br>5.28 | .770<br>19.56 | .420<br>10.67 | 1217074-1            |
|      | (2) 8      | (2) 8.0         | —                      | .016<br>0.41 | Tin Plated Brass                   | .208<br>5.28 | .770<br>19.56 | .420<br>10.67 | 1217074-2            |

<sup>1</sup> No indent.

<sup>2</sup> Reverse reel of Part Number 42700-1.

**Note:** The part numbers listed are for use with existing machine models. For AMP-O-LECTRIC Model G applicators part numbers, call the Technical Support Center at 1-800-522-6752.

## Tab Receptacle Terminals



| Type | Wire Range |                 | Insul. Dia.<br>Range   | Stock<br>Thk. | Material<br>and Finish          | Fits Tab                   | Dimensions   |               |               | Part<br>Number       |
|------|------------|-----------------|------------------------|---------------|---------------------------------|----------------------------|--------------|---------------|---------------|----------------------|
|      | AWG        | mm <sup>2</sup> |                        |               |                                 |                            | W            | L             | E             |                      |
| B    | 26-22      | 0.12-0.4        | .035-.065<br>0.89-1.65 | .010<br>0.25  | Pre-Tin Brass                   | .031 × .093<br>0.79 × 2.36 | .120<br>3.05 | .475<br>12.06 | .190<br>4.83  | 61813-1 <sup>6</sup> |
|      |            |                 |                        | .010<br>0.25  | Pre-Tin Brass                   | .014 × .093<br>0.36 × 2.36 | .120<br>3.05 | .475<br>12.06 | .190<br>4.83  | 62041-17             |
| G    | 26-22      | 0.12-0.4        | .035-.060<br>0.89-1.52 | .008<br>0.20  | Gold Plated<br>Beryllium Copper | .025 × .025<br>0.64 × 0.64 | .085<br>2.16 | .390<br>9.91  | .090<br>2.29  | 61941-1              |
|      |            |                 |                        | .010<br>0.25  | Brass                           | .045 × .045<br>1.14 × 1.14 | .095<br>2.41 | .372<br>9.45  | .130<br>3.30  | 60524-1              |
| A    | 24-20      | 0.2-0.6         | .040-.080<br>1.02-2.03 | .010<br>0.25  | Gold Plated Brass               | .045 × .045<br>1.14 × 1.14 | .095<br>2.41 | .372<br>9.45  | .130<br>3.30  | 60524-3              |
|      |            |                 |                        | .010<br>0.25  | Tin Plated<br>Beryllium Copper  | .045 × .045<br>1.14 × 1.14 | .095<br>2.41 | .372<br>9.45  | .130<br>3.30  | 60524-5              |
|      |            |                 |                        | .010<br>0.25  | Gold Plated Brass               | .031 × .062<br>0.79 × 1.57 | .090<br>2.29 | .372<br>9.45  | .130<br>3.30  | 60477-1              |
|      |            |                 |                        | .010<br>0.25  | Tin Plated Brass                | .023 × .062<br>0.58 × 1.57 | .090<br>2.29 | .372<br>9.45  | .130<br>3.30  | 60436-2              |
|      |            |                 |                        | .010<br>0.25  | Tin Plated Brass                | .031 × .062<br>0.79 × 1.57 | .090<br>2.29 | .462<br>11.73 | .187<br>4.75  | 60900-11             |
|      |            |                 |                        | .010<br>0.25  | Gold Plated Brass               | .031 × .062<br>0.79 × 1.57 | .090<br>2.29 | .462<br>11.73 | .187<br>4.75  | 60900-2              |
| B    | 24-20      | 0.2-0.6         | .040-.080<br>1.02-2.03 | .010<br>0.25  | Tin Plated Brass                | .031 × .062<br>0.79 × 1.57 | .090<br>2.29 | .462<br>11.73 | .187<br>4.75  | 60900-4 <sup>2</sup> |
|      |            |                 |                        | .010<br>0.25  | Gold Plated Brass               | .031 × .062<br>0.79 × 1.57 | .090<br>2.29 | .462<br>11.73 | .187<br>4.75  | 60900-5 <sup>8</sup> |
|      |            |                 |                        | .010<br>0.25  | Tin Plated Brass                | .031 × .062<br>0.79 × 1.57 | .090<br>2.29 | .462<br>11.73 | .187<br>4.75  | 61454-1 <sup>3</sup> |
|      |            |                 |                        | .010<br>0.25  | Tin Plated Brass                | .015 × .050<br>0.38 × 1.27 | .070<br>1.78 | .310<br>7.87  | .145<br>3.68  | 62352-1              |
| E    | 22-20      | 0.3-0.6         | —                      | .010<br>0.25  | Tin Plated Brass                | .037 × .125<br>0.94 × 3.18 | .160<br>4.06 | .425<br>10.80 | .190<br>4.83  | 41989                |
| A    | 22-18      | 0.3-0.9         | .060-.110<br>1.52-2.79 | .010<br>0.25  | Tin Plated Brass                | .031 × .062<br>0.79 × 1.57 | .090<br>2.29 | .372<br>9.45  | .130<br>3.30  | 61489-1              |
|      |            |                 |                        | .010<br>0.25  | Gold Plated Brass               | .031 × .062<br>0.79 × 1.57 | .090<br>2.29 | .372<br>9.45  | .130<br>3.30  | 61616-1              |
|      |            |                 |                        | .010<br>0.25  | Pre-Tin Brass                   | .010 × .093<br>0.25 × 2.36 | .120<br>3.05 | .480<br>12.19 | .190<br>4.83  | 63391-14.5           |
|      |            |                 |                        | .010<br>0.25  | Pre-Tin Brass                   | .010 × .093<br>0.25 × 2.36 | .120<br>3.05 | .480<br>12.19 | .190<br>4.83  | 63391-2 <sup>5</sup> |
| B    |            |                 |                        | .010<br>0.25  | Pre-Tin Brass                   | .032 × .103<br>0.81 × 2.62 | .126<br>3.20 | .480<br>12.19 | .200<br>5.08  | 60252-17             |
|      |            |                 |                        | .010<br>0.25  | Pre-Tin Brass                   | .020 × .103<br>0.51 × 2.62 | .126<br>3.20 | .480<br>12.19 | .200<br>5.08  | 60432-17             |
|      | 20-18      | 0.5-0.9         | .080-.120<br>2.03-3.05 | .010<br>0.25  | Tin Plated Brass                | .020 × .156<br>0.51 × 3.96 | .179<br>4.55 | .480<br>12.19 | .200<br>5.08  | 62399-1              |
|      |            |                 |                        | .010<br>0.25  | Brass                           | .010 × .110<br>0.25 × 2.79 | .148<br>3.76 | .380<br>9.65  | .200<br>5.08  | 62589-1              |
| D    | 20-18      | 0.5-0.9         | —                      | .010<br>0.25  | Tin Plated Brass                | .032 × .125<br>0.81 × 3.18 | .160<br>4.06 | .330<br>9.65  | .090<br>2.29  | 63615-1              |
| E    | 20-16      | 0.5-1.3         | —                      | .010<br>0.25  | Brass                           | .060 × .250<br>1.52 × 6.35 | .250<br>6.35 | .985<br>25.02 | .520<br>13.20 | 60312-1              |
| C    | 18-14      | 0.8-2.0         | —                      | .025<br>0.64  | Brass                           |                            |              |               |               |                      |

<sup>1</sup> Available in Loose Piece form, order Part No. 61454-1.  
<sup>2</sup> Reverse reel of 60900-1.

<sup>3</sup> Loose Piece form, of Part No. 60900-1.  
<sup>4</sup> Loose Piece form, of Part No. 63391-2.

<sup>5</sup> Compliant base.  
<sup>6</sup> No Dimple.

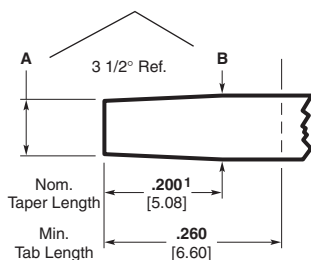
<sup>7</sup> Dimple.  
<sup>8</sup> Reverse reel of 60900-2.

## Taper Tab Receptacle Terminals

Precision formed taper tab receptacles are available to mate with tabs having front end dimensions of .078 [1.98] and .098 [2.49]. These receptacles are available in strip form, reel fed for high speed automatic machine termination.

### Taper Tab Specifications

Difference between these two dimensions must be held from .0115 to .0125 [0.29 to 0.32]



<sup>1</sup> Intersection must be clean no offset and no increase in taper (both sides) over this length.

### 78 Series

**A** = .078 ± .001  
[1.98 ± 0.03]

**B** = .090 ± .001  
[2.29 ± 0.03]

**Tab Thickness** — .023/.016  
[0.58/0.41]

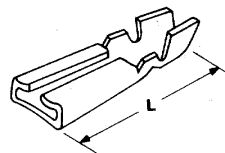
### 98 Series

**A** = .098 ± .001  
[2.49 ± 0.03]

**B** = .110 ± .001  
[2.79 ± 0.03]

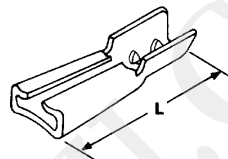
**Tab Thickness** — .025/.016  
[0.64/0.41]

### 78 Series—Insulation Support



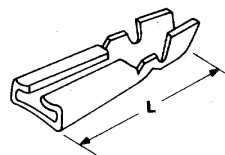
| Wire Range |                 | Insul. Dia. Range      | Dim. L        | Finish | Strip Form Part Number      |                              |
|------------|-----------------|------------------------|---------------|--------|-----------------------------|------------------------------|
| AWG        | mm <sup>2</sup> |                        |               |        | For Use With Standard Appl. | For Use With Miniature Appl. |
| 24-22      | 0.2–0.4         | .030–.050<br>0.76–1.27 | .500<br>12.70 | Tin    | —                           | 42765-1                      |

### 78 Series—Insulation Piercing



| Wire Range |                 | Insul. Dia. Range      | Dim. L        | Finish | Strip Form Part Number      |                              |
|------------|-----------------|------------------------|---------------|--------|-----------------------------|------------------------------|
| AWG        | mm <sup>2</sup> |                        |               |        | For Use With Standard Appl. | For Use With Miniature Appl. |
| Tinsel     | —               | .065–.075<br>1.65–1.91 | .366<br>9.30  | Gold   | 60442-1                     | —                            |
| Tinsel     | —               | .065–.075<br>1.65–1.91 | .366<br>9.30  | Nickel | 60442-2                     | —                            |
| Tinsel     | —               | .065–.075<br>1.65–1.91 | .500<br>12.70 | Tin    | 42519-1                     | —                            |

### 98 Series—Insulation Support

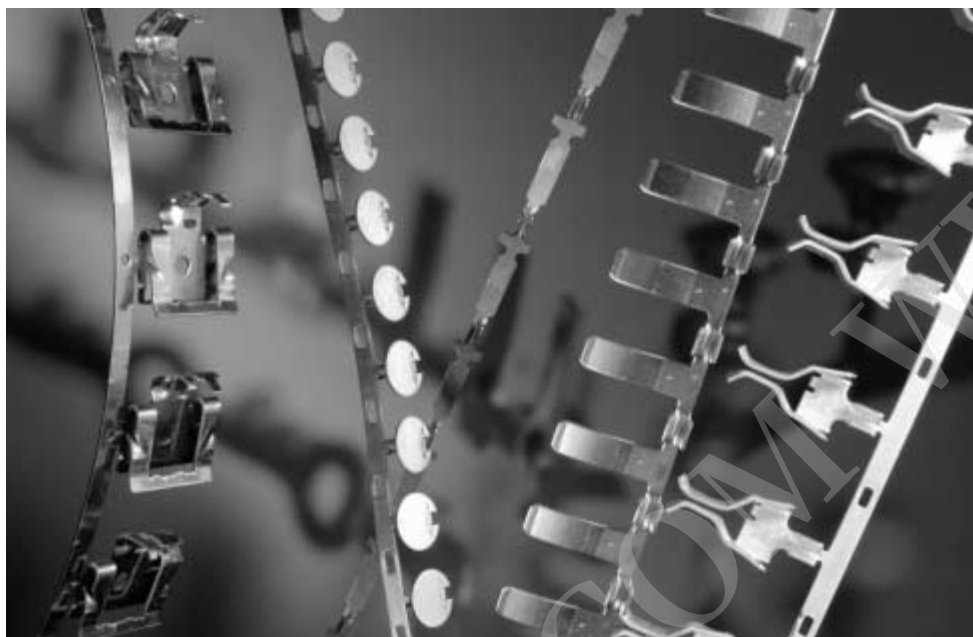


| Wire Range |                 | Insul. Dia. Range      | Dim. L        | Finish | Strip Form Part Number      |                              |
|------------|-----------------|------------------------|---------------|--------|-----------------------------|------------------------------|
| AWG        | mm <sup>2</sup> |                        |               |        | For Use With Standard Appl. | For Use With Miniature Appl. |
| 24-22      | 0.2–0.4         | .040–.060<br>1.02–1.52 | .562<br>14.27 | Tin    | —                           | 60891-1                      |

## Contact and Welding Tab Terminals

### Product Facts

- **Welding Tab terminals available for 26 -14 AWG lead wire**
- **Brush contacts available for 24-14 AWG lead wire**
- **Button contacts available for 20-16 AWG lead wire**
- **Grounding clip terminals accept .019 - .071 panel thicknesses**
- **Non-insulated Wire Pins available for lead wires ranging from 10 to 22 AWG lead wire**
- **Non-insulated Wire Pins available for magnet wire leads ranging from 13-27 AWG**
- **Precision formed, strip-fed terminals terminated in AMP automatic machines for high production rates per hour**



Tyco Electronics offers a full selection of AMP open barrel miscellaneous contact and welding tab terminals that are specifically designed to terminate various stranded and solid lead wire ranges for customer specific application requirements.

Welding tab terminals are available with and without insulation support barrels that terminate 26-14 AWG lead wire. They are manufactured in brass, phosphor bronze and steel material with tin, nickel and gold plating options available.

Brush contacts are manufactured without insulation support barrels, one part number being the exception, that terminate 24-14 AWG lead wire. They are manufactured in brass and phosphor bronze material with silver plating as an option.

Button contacts are available with and without insulation support barrels that terminate 20 -16 AWG lead wire. They are manufactured in brass material with tin plated versions available as well.

Grounding clip terminals are available that can be terminated to 22-14 AWG lead wire and accept panel thickness ranging from .019-.071. They are designed to pierce through enameled painted sheet metal panels in the appliance and lighting industry. They are manufactured out of stainless steel or tin plated phosphor bronze and steel material.

Special Tab Receptacles are available without insulation support barrels that can be terminated to 20-16 AWG lead wire. They are manufactured in brass, phosphor bronze and steel with tin and silver plated version available.

A Plug Blade terminal is featured and readily available to terminate 20-18 AWG lead wire in brass material.

Fuse terminals are available for .250 [6.5] diameters without insulation support that can be terminated to 22-10 AWG lead wire. They are manufactured in brass material with tin plated brass as an option.

Wire Strain Relief Clamps are available for insulation diameters ranging from .150-.310. They are manufactured in aluminum, phosphor bronze and tin plated steel.

A .250 Spark Plug Receptacle is available that is manufactured in nickel plated steel.

A Thermal Protector Crimp Pin is featured that can be terminated directly to a thermal protector open barrel that will accept 16-14 lead wire. The terminal is manufactured in tin plated brass.

Non-insulated Wire Pins are readily available for lead wires ranging from 10 to 22 AWG lead wire. They are manufactured in copper zinc with pre-plated and post plated tin and silver plated versions options listed. Nickel plated steel terminals are also featured.

Non-insulated AMPLIVAR Wire Pins with insulation supports are available to terminate directly to magnet wire leads ranging from 13-27 AWG. They are manufactured in brass with pre-plated and post tin plated versions available.

### Technical Documents

Application Specifications describe requirements for using the product in its intended application and or crimping information. They are intended for the Packaging and Design Engineer and the Machine Setup Person.

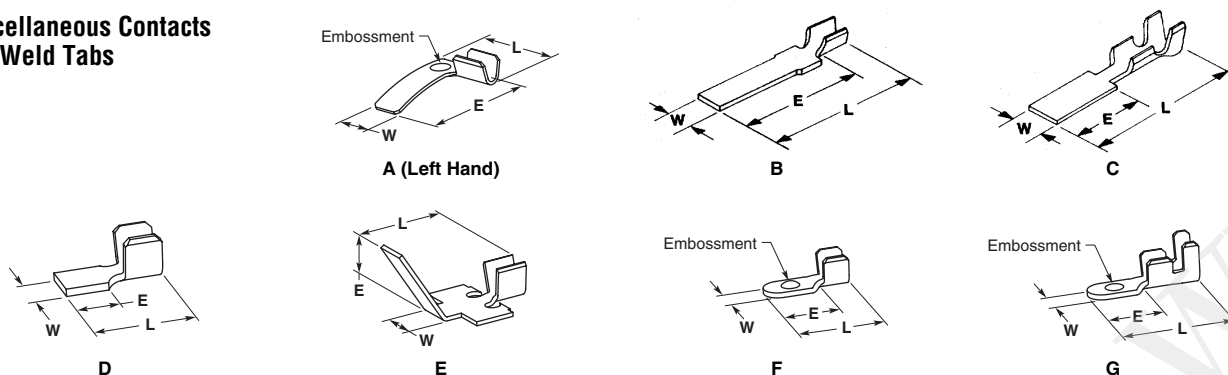
**114-2093** — Carbon Brush Contacts

**114-2129** — Grounding Clip

### Product Specifications

Product Specifications describe the product qualification test results completed by Tyco Electronics for consideration of product use in a specific application. They are intended for the Design and Product Reliability Engineer.

**108-1376** — Grounding Clip

**Contact and Welding Tab Terminals (Continued)**
**Miscellaneous Contacts and Weld Tabs**


| Type | Wire Range |                 | Insul. Dia.            | Stock Thickness | Dimensions   |               |               | Tab Direction | Material            | Part Number             |
|------|------------|-----------------|------------------------|-----------------|--------------|---------------|---------------|---------------|---------------------|-------------------------|
|      | AWG        | mm <sup>2</sup> |                        |                 | W            | L             | E             |               |                     |                         |
| A    | 18-14      | 0.8-2.0         | —                      | .020<br>0.51    | .155<br>3.94 | .340<br>8.64  | .390<br>9.91  | L.H.          | Phosphor Bronze     | 42920-3 <sup>4</sup>    |
|      |            |                 |                        |                 |              |               |               | R.H.          | Phosphor Bronze     | 42920-4 <sup>4</sup>    |
| B    | 22-18      | 0.3-0.9         | —                      | .016<br>0.41    | .140<br>3.56 | .740<br>18.80 | .615<br>15.62 | —             | Brass               | 155386-11. <sup>6</sup> |
|      |            |                 |                        |                 |              |               |               |               | Tin Plated Brass    | 155386-21. <sup>6</sup> |
|      |            |                 |                        |                 |              |               |               |               | Brass               | 155386-31. <sup>7</sup> |
|      | 24-22      | 0.2-0.4         | —                      | .008<br>0.20    | .115<br>2.92 | .600<br>15.24 | .470<br>11.94 | —             | Stainless Steel     | 62827-1                 |
| C    | 26-22      | 0.12-0.40       | .055-.080<br>1.40-2.03 | .012<br>0.30    | .090<br>2.29 | .365<br>9.27  | .100<br>2.54  | —             | Nickel Plated Steel | 62062-1                 |
|      |            |                 |                        | .008<br>0.20    | .115<br>2.92 | .685<br>17.40 | .375<br>9.53  | —             | Stainless Steel     | 61263-1                 |
| D    | 18-14      | 0.8-2.0         | —                      | .016<br>0.41    | .140<br>3.56 | .350<br>8.90  | .210<br>5.33  | —             | Nickel Plated Steel | 62134-2                 |
| E    | 18-14      | 0.8-2.0         | —                      | .016<br>0.41    | .140<br>3.56 | .540<br>13.72 | .345<br>8.76  | —             | Brass               | 42349-1 <sup>2</sup>    |
| F    | 20-16      | 0.5-1.4         | —                      | .020<br>0.51    | .125<br>3.18 | .270<br>6.86  | .175<br>4.45  | —             | Tin Plated Steel    | 62153-1 <sup>3</sup>    |
|      |            |                 |                        |                 |              |               |               |               | Nickel Plated Steel | 63701-1 <sup>4</sup>    |
|      |            |                 |                        |                 |              |               |               |               | Tin Plated Steel    | 40990-1 <sup>4</sup>    |
| G    | 20-16      | 0.5-1.4         | .090-.130<br>2.29-3.30 | .020<br>0.51    | .125<br>3.18 | .365<br>9.27  | .165<br>4.19  | —             | Gold Plated Steel   | 40990-2 <sup>5</sup>    |
|      |            |                 |                        |                 |              |               |               |               | Tin Plated Steel    | 60581-1 <sup>5</sup>    |
|      |            |                 |                        |                 |              |               |               |               | Tin Plated Steel    | 1217510-1 <sup>3</sup>  |

1 .062 [1.57] diameter hole in tab.

2 Tab bent up 60° in applicator.

3 Tab embossment up.

4 Tab embossment down.

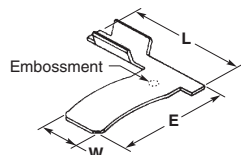
5 No tab embossment.

6 Standard applicator reeling.

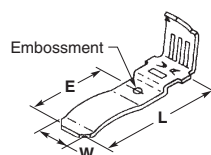
7 Mini applicator reeling.

**Contact and Welding Tab Terminals (Continued)**

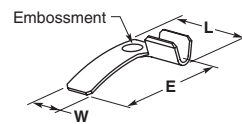
**Brush Contacts**



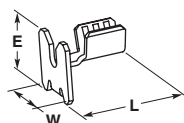
**A (Right Hand)**



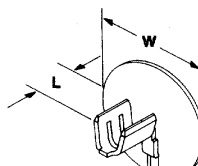
**B**



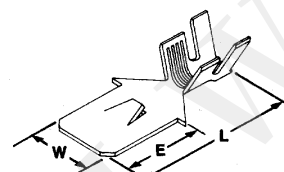
**C (Left Hand)**



**D**



**E**



**F**

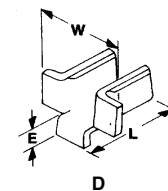
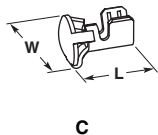
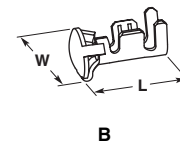
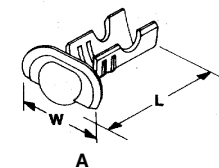
| Type | Wire Range           |                        | Insul. Dia.            | Stock Thickness | Dimensions   |               |               | Tab Direction | Material            | Part Number            |
|------|----------------------|------------------------|------------------------|-----------------|--------------|---------------|---------------|---------------|---------------------|------------------------|
|      | AWG                  | mm <sup>2</sup>        |                        |                 | W            | L             | E             |               |                     |                        |
| A    | 22-17<br>Magnet Wire | 0.3-1.0<br>Magnet Wire | —                      | .020<br>0.51    | .215<br>5.46 | .425<br>10.80 | .425<br>10.80 | L.H.          | Phosphor Bronze     | 62214-1                |
|      |                      |                        |                        |                 |              |               |               | R.H.          | Phosphor Bronze     | 62214-2                |
|      |                      |                        |                        |                 | .187<br>4.75 | .435<br>11.05 | .640<br>16.25 | R.H.          | Phosphor Bronze     | 60812-1                |
|      | 18-14                | 0.8-2.0                | —                      | .020<br>0.51    |              |               |               | L.H.          | Phosphor Bronze     | 60812-2                |
|      |                      |                        |                        |                 | .125<br>3.18 |               |               | R.H.          | Phosphor Bronze     | 350010-1               |
|      |                      |                        |                        |                 |              | .620<br>15.75 | .425<br>10.80 | R.H.          | Phosphor Bronze     | 62008-1 <sup>1</sup>   |
| B    | 20-14                | 0.5-2.0                | —                      | .018<br>0.46    | .187<br>4.75 |               |               | L.H.          | Silver Plated Ph Bz | 62008-2 <sup>1</sup>   |
|      |                      |                        |                        |                 |              |               |               | L.H.          | Phosphor Bronze     | 62009-1 <sup>1</sup>   |
|      |                      |                        |                        |                 |              | .495<br>12.57 | .300<br>7.62  | R.H.          | Silver Plated Ph Bz | 62009-2 <sup>1</sup>   |
|      |                      |                        |                        |                 |              |               |               | R.H.          | Phosphor Bronze     | 63182-1 <sup>1</sup>   |
| C    | 20-18                | 0.5-0.8                | —                      | .012<br>0.30    | .125<br>3.18 | .330<br>8.38  | .305<br>7.75  | L.H.          | Phosphor Bronze     | 63183-1 <sup>1</sup>   |
|      |                      |                        |                        |                 |              |               |               | R.H.          | Phosphor Bronze     | 1217698-1              |
| D    | 20-16                | 0.5-1.4                | —                      | .018<br>0.46    | .240<br>6.10 | .275<br>6.98  | .240<br>6.10  | L.H.          | Phosphor Bronze     | 1217698-2              |
|      |                      |                        |                        |                 |              |               |               | —             | Brass               | 61524-2 <sup>2</sup>   |
| E    | 24-20                | 0.2-0.6                | —                      | .018<br>0.46    | .285<br>7.24 | .210<br>5.33  | —             | —             | Brass               | 61933-1 <sup>2</sup>   |
|      |                      |                        |                        |                 | .016<br>0.41 | .312<br>7.29  | .185<br>4.70  | —             | Brass               | 63020-1 <sup>2</sup>   |
|      |                      |                        |                        |                 | .018<br>0.46 | .285<br>7.24  | .210<br>5.33  | —             | Brass               | 1217507-1 <sup>2</sup> |
|      | 20-16                | 0.5-1.4                | —                      | .016<br>0.41    | .360<br>9.14 | .185<br>4.70  | —             | —             | Brass               | 63930-1 <sup>2</sup>   |
|      |                      |                        |                        |                 |              |               |               | —             | Brass               |                        |
|      |                      |                        |                        |                 |              |               |               | —             | Brass               |                        |
| F    | 18-14                | 0.8-2.0                | .110-.160<br>2.79-4.06 | .016<br>0.41    | .255<br>6.48 | .775<br>19.69 | .355<br>9.02  | —             | Brass               | 61390-1                |

<sup>1</sup> Tab lock crimp.

<sup>2</sup> Carbon brush application equipment available.

## Miscellaneous Terminals

### Button Contacts



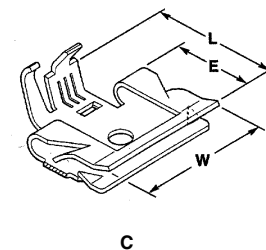
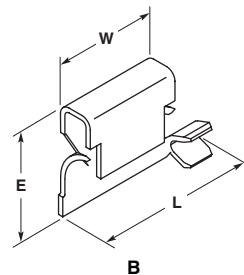
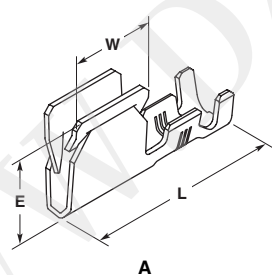
| Type | Wire Range |                 | Insul. Dia.            | Stock Thickness | Dimensions   |              |                           | Material         | Part Number           |
|------|------------|-----------------|------------------------|-----------------|--------------|--------------|---------------------------|------------------|-----------------------|
|      | AWG        | mm <sup>2</sup> |                        |                 | W            | L            | E                         |                  |                       |
| A    | 20-16      | 0.5-1.4         | .090-.120<br>2.29-3.05 | .016<br>0.41    | .195<br>4.95 | .240<br>6.10 | —                         | Brass            | 42218-3 <sup>1</sup>  |
|      |            |                 |                        |                 | .195<br>4.95 |              |                           | Brass            | 61165-1 <sup>2</sup>  |
|      |            |                 |                        |                 |              |              |                           | Tin Plated Brass | 61165-2 <sup>2</sup>  |
| B    | 20-16      | 0.5-1.4         | .090-.125<br>2.29-3.18 | .016<br>0.41    |              | .310<br>7.87 | —                         | Brass            | 61039-1               |
|      |            |                 |                        |                 |              |              |                           | Tin Plated Brass | 505034-1              |
|      |            |                 |                        |                 | .240<br>6.10 |              |                           | Tin Plated Brass | 505034-2 <sup>2</sup> |
| C    | 20-16      | 0.5-1.4         | —                      | .016<br>0.41    | .195<br>4.95 | .235<br>5.97 | —                         | Brass            | 61280-1               |
|      |            |                 |                        |                 |              |              |                           | Brass            | 61280-2 <sup>2</sup>  |
| D    | 20-16      | 0.5-1.4         | —                      | .020<br>0.51    | .230<br>5.84 | .175<br>4.45 | .060 <sup>3</sup><br>1.52 | Brass            | 40662 <sup>3</sup>    |

<sup>1</sup> fits .150 [3.81] dia hole

<sup>2</sup> alternate reeling direction for mini applicator compatibility

<sup>3</sup> tab bent down in applicator

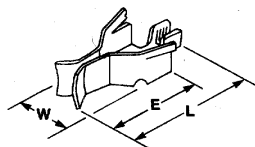
### Grounding Clips



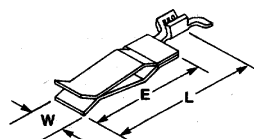
| Type | Wire Range |                 | Insul. Dia. Range      | Application Panel Thk. | Stock Thk.   | Dimensions    |               |               | Material                | Part Number |
|------|------------|-----------------|------------------------|------------------------|--------------|---------------|---------------|---------------|-------------------------|-------------|
|      | AWG        | mm <sup>2</sup> |                        |                        |              | W             | L             | E             |                         |             |
| A    | 18-14      | 0.8-2.0         | .090-.125<br>2.29-3.18 | .020-.030<br>0.51-0.76 | .020<br>0.51 | .140<br>3.56  | .730<br>18.54 | .382<br>9.70  | Stainless Steel         | 63895-1     |
|      |            |                 |                        | .047-.057<br>1.19-1.45 | .020<br>0.51 | .190<br>4.83  | .730<br>18.54 | .382<br>9.70  | Stainless Steel         | 1217012-1   |
| B    | 22-18      | 0.3-0.8         | —                      | .020-.040<br>0.51-1.02 | .020<br>0.51 | .140<br>3.56  | .620<br>15.75 | .440<br>11.18 | Tin Plated Steel        | 63733-1     |
|      |            |                 |                        | .020-.040<br>0.51-1.02 | .020<br>0.51 | .140<br>3.56  | .620<br>15.75 | .440<br>11.18 | Tin Plated Phos. Bronze | 63733-2     |
| C    | 18-14      | 0.8-2.0         | .100-.140<br>2.54-3.56 | .019-.071<br>0.48-1.80 | .020<br>0.51 | .615<br>15.62 | .675<br>17.10 | .440<br>11.18 | Stainless Steel         | 63575-1     |

## Miscellaneous Terminals

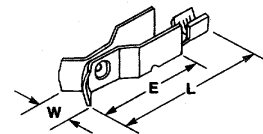
### Tab Receptacles — Special



**A**  
Twist Lock Receptacle



**B**  
Receptacle, 250 Series

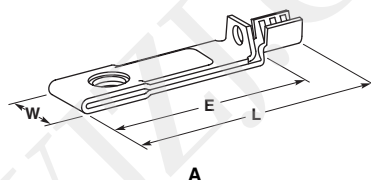


**C**  
Receptacle

| Type | Wire Range |                 | Insul. Dia. | Stock Thickness | Dimensions   |                |               | Material              | Part Number          |
|------|------------|-----------------|-------------|-----------------|--------------|----------------|---------------|-----------------------|----------------------|
|      | AWG        | mm <sup>2</sup> |             |                 | W            | L              | E             |                       |                      |
| A    | 20-16      | 0.5-1.4         | —           | .025<br>0.64    | .320<br>8.13 | .905<br>23.00  | .665<br>16.89 | Tin Plated Phos Bz    | 63035-1              |
|      | 18-14      | 0.8-2.0         |             |                 |              |                |               | Tin Plated Phos Bz    | 63863-1              |
|      |            |                 |             |                 |              |                |               | Silver Plated Phos Bz | 63863-2              |
| B    | 20-16      | 0.5-1.4         | —           | .025<br>0.64    | .200<br>5.08 | .995<br>25.27  | .790<br>20.06 | Brass                 | 62281-1              |
| C    | 20-16      | 0.5-1.4         | —           | .025<br>0.64    | .270<br>6.86 | 1.000<br>25.40 | .750<br>19.05 | Tin Plated Steel      | 62727-1              |
|      |            |                 |             |                 |              |                |               | Tin Plated Steel      | 63723-1 <sup>1</sup> |
|      |            |                 |             |                 |              |                |               | Tin Plated Phos Bz    | 63723-2 <sup>1</sup> |

<sup>1</sup> Includes locking feature similar to style A.

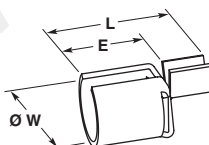
### Plug Blade



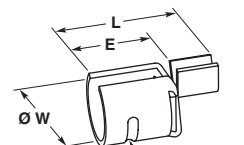
**A**

| Type | Wire Range |                 | Insul. Dia. | Stock Thickness | Dimensions   |               |               | Material | Part Number |
|------|------------|-----------------|-------------|-----------------|--------------|---------------|---------------|----------|-------------|
|      | AWG        | mm <sup>2</sup> |             |                 | W            | L             | E             |          |             |
| A    | 20-18      | 0.5-0.9         | —           | .020<br>0.51    | .250<br>6.35 | .995<br>25.27 | .845<br>21.46 | Brass    | 156523-1    |

### Fuse Receptacles — .250 [6.35] Dia.



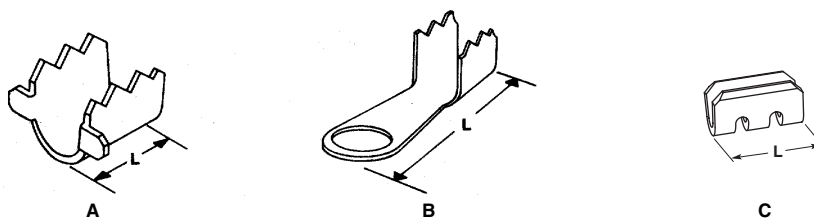
**A**



**B**

| Type | Wire Range |                 | Insul. Dia. | Stock Thickness | Dimensions   |               |              | Material         | Part Number |
|------|------------|-----------------|-------------|-----------------|--------------|---------------|--------------|------------------|-------------|
|      | AWG        | mm <sup>2</sup> |             |                 | W            | L             | E            |                  |             |
| A    | 22-18      | 0.3-0.9         | —           | .020<br>0.51    | .250<br>6.35 | .475          | .310<br>7.87 | Tin Plated Brass | 505020-2    |
|      | 16-14      | 1.3-2.0         |             |                 |              | 12.07         |              | Tin Plated Brass | 40626       |
|      | 12-10      | 3.0-6.0         |             |                 |              | .495<br>12.57 |              | Tin Plated Brass | 62587-1     |
| B    | 22-18      | 0.3-0.9         | —           | .020<br>0.51    | .250<br>6.35 | .475<br>12.07 | .310<br>7.87 | Brass            | 1217881-1   |
|      | 16-14      | 1.3-2.0         |             |                 |              |               |              | Tin Plated Brass | 60654-1     |
|      |            |                 |             |                 |              |               |              | Brass            | 60654-2     |

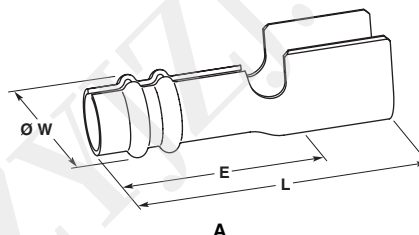
**Miscellaneous Terminals** (Continued)

**Wire Strain Relief Clamps**


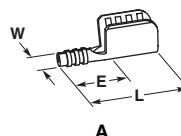
| Type | Wire Range |                 | Insul. Dia.            | Stock Thickness | Dimensions    |               |   | Material         | Part Number            |
|------|------------|-----------------|------------------------|-----------------|---------------|---------------|---|------------------|------------------------|
|      | AWG        | mm <sup>2</sup> |                        |                 | W             | L             | E |                  |                        |
| A    | —          | —               | .180-.230<br>4.57-5.84 | .025<br>0.64    | .575<br>14.60 | .405<br>10.29 | — | Aluminum         | 42412-5                |
|      |            |                 | .150-.200<br>3.81-5.08 | .028<br>0.71    | .500<br>12.70 | .250<br>6.35  | — | Tin Plated Steel | 61831-1                |
|      |            |                 | .290-.310<br>7.37-7.87 | —               | .640<br>16.26 | —             | — | Tin Plated Steel | 61987-1                |
| B    | —          | —               | .180-.230<br>4.57-5.84 | .025<br>0.64    | .285<br>7.24  | .750<br>19.05 | — | Aluminum         | 61520-1 <sup>1</sup>   |
| C    | —          | —               | —                      | .030<br>0.76    | —             | .345<br>8.76  | — | Phosphor Bronze  | 1217440-8 <sup>2</sup> |

<sup>1</sup> Ring .200 [5.08] hole diameter.

<sup>2</sup> Strain relief for .045 [1.14] dia. stranded steel cable.

**Spark Plug Receptacle —  
.250 [6.35] Dia.**


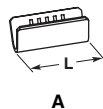
| Type | Wire Range |                 | Insul. Dia.  | Stock Thickness | Dimensions   |                |               | Material            | Part Number |
|------|------------|-----------------|--------------|-----------------|--------------|----------------|---------------|---------------------|-------------|
|      | AWG        | mm <sup>2</sup> |              |                 | W            | L              | E             |                     |             |
| A    | —          | —               | .275<br>7.00 | .018<br>0.46    | .320<br>8.13 | 1.155<br>29.34 | .745<br>18.92 | Nickel Plated Steel | 40800       |

**Thermal Protector Crimp Pin**


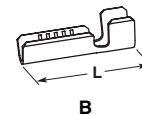
| Type | Wire Range |                 | Insul. Dia. | Stock Thickness | Dimensions   |              |              | Material         | Part Number            |
|------|------------|-----------------|-------------|-----------------|--------------|--------------|--------------|------------------|------------------------|
|      | AWG        | mm <sup>2</sup> |             |                 | W            | L            | E            |                  |                        |
| A    | 16-14      | 1.3-2.0         | —           | .016<br>0.41    | .050<br>1.27 | .375<br>9.53 | .175<br>4.45 | Tin Plated Brass | 1217569-1 <sup>1</sup> |

<sup>1</sup> Pin is crimped in thermal protector wire barrel.

**Miscellaneous Terminals** (Continued)

**Wire Pins**


A



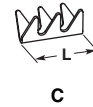
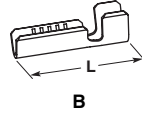
B

| Type | Wire Range |                 | Insul. Dia.            | Stock Thickness | Dim. L        | Material and Finish         | Part Number             |
|------|------------|-----------------|------------------------|-----------------|---------------|-----------------------------|-------------------------|
|      | AWG        | mm <sup>2</sup> |                        |                 |               |                             |                         |
| A    | 20-17      | 0.5-1.0         | —                      | .013<br>0.32    | .276<br>7.00  | Brass                       | 926823-1                |
|      |            |                 |                        |                 |               | Pre-Tin Plated Brass        | 926823-2                |
|      |            |                 |                        |                 |               | Brass                       | 926823-3 <sup>1</sup>   |
|      |            |                 |                        |                 |               | Pre-Tin Plated Brass        | 926823-4 <sup>1</sup>   |
|      | 20-17      | 0.5-1.0         | —                      | .013<br>0.32    | .276<br>7.00  | Phos. Bronze                | 926823-5                |
|      |            |                 |                        |                 |               | Pre-Tin Plated Phos. Bronze | 926823-6                |
|      |            |                 |                        |                 |               | Phos. Bronze                | 926823-7 <sup>1</sup>   |
|      |            |                 |                        |                 |               | Pre-Tin Plated Phos. Bronze | 926823-8 <sup>1</sup>   |
|      | 17-13½     | 1.0-2.5         | —                      | .013<br>0.32    | .276<br>7.00  | Brass                       | 926824-1                |
|      |            |                 |                        |                 |               | Pre-Tin Plated Brass        | 926824-2                |
|      |            |                 |                        |                 |               | Brass                       | 926824-3 <sup>1</sup>   |
|      |            |                 |                        |                 |               | Pre-Tin Plated Brass        | 926824-4 <sup>1</sup>   |
|      | 17-13½     | 1.0-2.5         | —                      | .013<br>0.32    | .276<br>7.00  | Phos. Bronze                | 926824-5                |
|      |            |                 |                        |                 |               | Pre-Tin Plated Phos. Bronze | 926824-6                |
|      |            |                 |                        |                 |               | Phos. Bronze                | 926824-7 <sup>1</sup>   |
|      |            |                 |                        |                 |               | Pre-Tin Plated Phos. Bronze | 926824-8 <sup>1</sup>   |
|      | 17-13½     | 1.0-2.5         | —                      | .013<br>0.32    | .276<br>7.00  | Nickel Plated Brass         | 926824-9 <sup>1</sup>   |
|      |            |                 |                        |                 |               | Nickel Plated Brass         | 1-926824-0              |
| B    | 22-18      | 0.30-0.82       | .079-.098<br>2.00-2.50 | .013<br>0.32    | .429<br>10.90 | Brass                       | 925667-1                |
|      |            |                 |                        |                 |               | Pre-Tin Plated Brass        | 925667-2                |
|      | 22-18      | 0.30-0.82       | .079-.098<br>2.00-2.50 | .013<br>0.32    | .429<br>10.90 | Nickel Plated Steel         | 925667-4                |
|      |            |                 |                        |                 |               | Brass                       | 925667-5 <sup>1</sup>   |
|      | 22-18      | 0.30-0.82       | .079-.098<br>2.00-2.50 | .013<br>0.32    | .429<br>10.90 | Pre-Tin Plated Brass        | 925667-6 <sup>1</sup>   |
|      |            |                 |                        |                 |               | Nickel Plated Steel         | 925667-8 <sup>1</sup>   |
|      | 20-17      | 0.5-1.0         | .071-.130<br>1.80-3.30 | .013<br>0.32    | .429<br>10.90 | Brass                       | 925552-1                |
|      |            |                 |                        |                 |               | Pre-Tin Plated Brass        | 925552-2                |
|      | 20-17      | 0.5-1.0         | .071-.130<br>1.80-3.30 | .013<br>0.32    | .429<br>10.90 | Nickel Plated Steel         | 925552-4                |
|      |            |                 |                        |                 |               | Brass                       | 925552-5 <sup>1</sup>   |
|      | 20-17      | 0.5-1.0         | .071-.130<br>1.80-3.30 | .013<br>0.32    | .429<br>10.90 | Pre-Tin Plated Brass        | 925552-6 <sup>1</sup>   |
|      |            |                 |                        |                 |               | Nickel Plated Steel         | 925552-8 <sup>1</sup>   |
|      | 20-17      | 0.5-1.0         | .071-.130<br>1.80-3.30 | .013<br>0.32    | .429<br>10.90 | Pre-Tin Plated Phos. Bronze | 1-925552-0              |
|      |            |                 |                        |                 |               | Tin Plated Brass            | 1-925552-1              |
|      | 20-17      | 0.5-1.0         | .071-.130<br>1.80-3.30 | .013<br>0.32    | .429<br>10.90 | Tin Plated Brass            | 1-925552-2 <sup>1</sup> |
|      |            |                 |                        |                 |               | Brass                       | 926866-1                |
|      | 20-15½     | 0.5-1.5         | .071-.130<br>1.80-3.30 | —               | .630<br>16.00 | Pre-Tin Plated Brass        | 926866-2                |
|      |            |                 |                        |                 |               | Brass                       | 926866-3 <sup>1</sup>   |
|      |            |                 |                        |                 |               | Pre-Tin Plated Brass        | 926866-4 <sup>1</sup>   |

<sup>1</sup> Splice Free.

**Miscellaneous Terminals** (Continued)

**Wire Pins** (Continued)

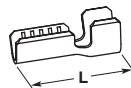


| Type | Wire Range |                 | Insul. Dia.            | Stock Thickness | Dim. L        | Material and Finish         | Part Number             |
|------|------------|-----------------|------------------------|-----------------|---------------|-----------------------------|-------------------------|
|      | AWG        | mm <sup>2</sup> |                        |                 |               |                             |                         |
| B    | 20-15½     | 0.5-1.5         | .098-.150<br>2.50-3.80 | .013<br>0.32    | .311<br>7.90  | Brass                       | 141093-1                |
|      |            |                 |                        |                 |               | Tin Plated Brass            | 141093-2                |
|      | 20-15½     | 0.5-1.5         | .091-.126<br>2.30-3.20 | .016<br>0.40    | .216<br>5.50  | Brass                       | 160644-1                |
|      |            |                 |                        |                 |               | Silver Plated Brass         | 160644-2                |
|      |            |                 |                        |                 |               | Tin Plated Brass            | 160644-3                |
|      |            |                 |                        |                 |               | Silver Plated Brass         | 160644-4 <sup>1</sup>   |
|      | 20-15½     | 0.5-1.5         | .091-.126<br>2.30-3.20 | .016<br>0.40    | .216<br>5.50  | Nickel Plated Steel         | 160644-6 <sup>1</sup>   |
|      |            |                 |                        |                 |               | Tin Plated Brass            | 160644-7 <sup>1</sup>   |
|      | 20-15½     | 0.5-1.5         | .091-.126<br>2.30-3.20 | .016<br>0.40    | .216<br>5.50  | Brass                       | 160644-8                |
|      |            |                 |                        |                 |               | Nickel Plated Brass         | 160644-9                |
|      |            |                 |                        |                 |               | Tin Plated Brass            | 1-160644-0 <sup>1</sup> |
|      |            |                 |                        |                 |               | Brass                       | 925553-1                |
|      | 17-13½     | 1.0-2.5         | .098-.150<br>2.50-3.80 | .013<br>0.32    | .429<br>10.90 | Pre-Tin Plated Brass        | 925553-2                |
|      |            |                 |                        |                 |               | Phos. Bronze                | 925553-3                |
|      | 17-13½     | 1.0-2.5         | .098-.150<br>2.50-3.80 | .013<br>0.32    | .429<br>10.90 | Pre-Tin Plated Phos. Bronze | 925553-4                |
|      |            |                 |                        |                 |               | Nickel Plated Steel         | 925553-6                |
|      | 17-13½     | 1.0-2.5         | .098-.150<br>2.50-3.80 | .013<br>0.32    | .429<br>10.90 | Brass                       | 925553-7 <sup>1</sup>   |
|      |            |                 |                        |                 |               | Pre-Tin Plated Brass        | 925553-8 <sup>1</sup>   |
|      | 17-13½     | 1.0-2.5         | .098-.150<br>2.50-3.80 | .013<br>0.32    | .429<br>10.90 | Phos. Bronze                | 925553-9 <sup>1</sup>   |
|      |            |                 |                        |                 |               | Pre-Tin Plated Phos. Bronze | 1-925553-0 <sup>1</sup> |
|      | 17-13½     | 1.0-2.5         | .098-.150<br>2.50-3.80 | .013<br>0.32    | .429<br>10.90 | Nickel Plated Steel         | 1-925553-2 <sup>1</sup> |
|      |            |                 |                        |                 |               | Brass                       | 926867-1                |
| C    | 13½-10     | 2.5-6.0         | .177<br>4.50 Max.      | .013<br>0.32    | .630<br>16.00 | Pre-Tin Plated Brass        | 926867-2                |
|      |            |                 |                        |                 |               | Brass                       | 926867-3 <sup>1</sup>   |
|      |            |                 |                        |                 |               | Pre-Tin Plated Brass        | 926867-4 <sup>1</sup>   |
|      |            |                 |                        |                 |               | Pre-Tin Plated Brass        | 926933-1                |
|      | 18½-17     | 0.75-1.0        | —                      | .010<br>0.25    | .236<br>6.00  | Brass                       | 926933-2                |
|      |            |                 |                        |                 |               | Pre-Tin Plated Brass        | 926933-3                |
|      |            |                 |                        |                 |               | Brass                       | 926933-4                |
|      |            |                 |                        |                 |               | Pre-Tin Plated Phos. Bronze | 926933-5                |
|      | 18½-17     | 0.75-1.0        | —                      | .010<br>0.25    | .236<br>6.00  | Phos. Bronze                | 926933-6                |
|      |            |                 |                        |                 |               | Pre-Tin Plated Phos. Bronze | 926933-7                |
|      | 18½-17     | 0.75-1.0        | —                      | .010<br>0.25    | .236<br>6.00  | Phos. Bronze                | 926933-8                |
|      |            |                 |                        |                 |               | Copper Nickel               | 926933-9                |
|      | 15½-13½    | 1.5-2.5         | —                      | .010<br>0.25    | .276<br>7.00  | Pre-Tin Plated Brass        | 925856-1                |
|      |            |                 |                        |                 |               | Brass                       | 925856-2                |
|      | 15½-13½    | 1.5-2.5         | —                      | .010<br>0.25    | .276<br>7.00  | Phos. Bronze                | 925856-3                |
|      |            |                 |                        |                 |               | Pre-Tin Plated Phos. Bronze | 925856-4                |

<sup>1</sup> Splice Free.

## Miscellaneous Terminals (Continued)

### AMPLIVAR Wire Pins with Insulation Support



A

| Type | Wire Range |                 | Insul.<br>Dia.         | Stock<br>Thickness | Dim.<br>L    | Material             | Part<br>Number          |
|------|------------|-----------------|------------------------|--------------------|--------------|----------------------|-------------------------|
|      | CMA        | mm <sup>2</sup> |                        |                    |              |                      |                         |
| A    | 27-19      | 0.10-0.60       | .055-.087<br>1.40-2.20 | .016<br>0.40       | .272<br>6.90 | Brass                | 141075-1                |
|      |            |                 |                        |                    |              | Tin Plated Brass     | 141075-2                |
|      |            |                 |                        |                    |              | Brass                | 141175-1 <sup>1</sup>   |
|      | 27-19      | 0.10-0.60       | .098-.150<br>2.50-3.80 | .016<br>0.40       | .311<br>7.90 | Tin Plated Brass     | 141175-2 <sup>1</sup>   |
|      |            |                 |                        |                    |              | Brass                | 1-141175-1 <sup>2</sup> |
|      |            |                 |                        |                    |              | Brass                | 737060-1                |
|      | 18-13      | 0.70-2.50       | .098-.150<br>2.50-3.80 | .016<br>0.40       | .319<br>8.10 | Tin Plated Brass     | 737060-2                |
|      |            |                 |                        |                    |              | Pre-Tin Plated Brass | 737060-3                |

<sup>1</sup> Reeled "U-up".

<sup>2</sup> Reeled "U-down".

## Application Tooling

### AMP-O-LECTRIC Model G Terminating Machines, 354500-1, -9, -11



A totally new design of our most popular machine for bench-top operation. It features a quiet and highly-reliable direct motor drive, electronic controls for ease of setup and operation, and improved guarding and lighting for operator convenience and safety. All versions also include either manual or automatic precision adjustment for crimp height. For use with miniature style applicators only.

(Shown with optional Crimp Quality Monitor [CQM].)

#### Specifications

**Weight** — Approximately 240 lb [110 kg]

**Width** — 18.7-25.3 [475-643] depending on type of applicator used

**Depth** — 21.5-28.1 [546-713] depending on type of applicator used

**Height** — 20 [508] without reel

**Electrical** — 120 or 220 VAC, 50 or 60 Hz

**Air** — 90-110 psi [6.21-7.59 bar] when required for use with air-feed applicators

**Wire Range** — 26-10 AWG [0.12-6.0 mm<sup>2</sup>] solid or stranded, depending on product applied

For more information, request Catalog **65828**.

### AMP 3K/40 and AMP 5K/40 Terminating Machines



The AMP 3K/40 and AMP 5K/40 Terminators are designed for customers that require the increased output and quality of a semiautomatic machine at a competitive price. By incorporating the most commonly requested features as standard and offering a long list of optional equipment, these terminators offer flexibility to meet the specific needs of various applications at the lowest possible cost.

- 3,000 lb [1361 kg] max. crimp force (AMP 3K/40)
- 5,000 lb [2268 kg] max. crimp force (AMP 5K/40)

- Tool-less removal of applicators and guards
- Jog capability
- Quiet, fast operation — 80/76 dBA and cycle time less than 0.400 seconds
- Accepts Heavy Duty Mini style applicators
- Wide range of optional equipment such as tool-less precision crimp height adjust, batch counter, CQM capability and work light
- Order Catalog 1654856 for specs and part numbers

#### Specifications

**Height** — 20 [510] (without reel support)

**Weight** — Approx. 150 lb [68 kg]

#### Capacity

AMP 3K/40 — 3,000 lb [1361 kg] max. crimp force; AMP 5K/40 — 5,000 lb [2268 kg] max. crimp force

**Noise** — 76 dBA maximum at 3,000 lb [1361 kg] full capacity; 80 dBA maximum at 5,000 lb [2268 kg] full capacity

**Electrical** — 100-240 VAC, 50/60 Hz (6A) • Average <1 A at 120 VAC when used as a bench-top unit at 2 000 cycles per hour operating rate

**Air** — 90-100 psi [6.21-6.90 bar], 6 scfm [0.00282 m<sup>3</sup>/s] (when required for use with air-feed applicators)

*Note: Optional Air Feed Valve Assembly required.*

## Application Tooling (Continued)

### Optional Stripping Module for the AMP 3K/40, AMP 5K/40 and AMP-O-LECTRIC Model G Terminating Machines



The combination of the Stripping Module with the AMP 3K/40, AMP 5K/40 or the AMP-O-LECTRIC Model G terminating machines provides our customers with an economic and proficient method of stripping the wire and crimping terminals on the same machine. No longer is a special machine needed for just stripping the wire. The wires are stripped moments before crimping, which means that there is virtually no chance of dam-

aging the wire conductors during handling or storage. Wire placement accuracy is also improved because once the wire is fed into the start sensor, the Stripping Module does the rest.

#### Specifications

**Wire Range Base Module** — 32-14 AWG [0.03 mm<sup>2</sup> - 2.5 mm<sup>2</sup>] (30-32 AWG may require special kit.)

**Max. Insulation** — .200 [5.08]

**Cable Breakout** — > 1.1 [29]

**Strip Length** — .100 - .400 [2.5 - 10.16]

**Noise** — Less than 82 dBA (Typical at operator position with standard mechanical feed applicator)

**Weight** — 10 lb [4.53 Kilograms]

**Height** — 5 [127]

**Electrical** — 100-240 VAC, 50/60 Hz, single phase current, obtains power from the terminator

**Air** — 90-100 psi [620-760 kPa], 6 scfm [2.83 liters/sec]

**Wire Sensor** — Gold plated contacts with laser etched target

For more information, request Catalog **1309085**.

### Crimp Quality Monitor (CQM)



This unique system provides 100% on-the-fly crimp inspection. It measures the crimp height of each termination, and evaluates the quality of each crimp. If a crimp is questionable, the monitor alerts the operator with both visual and audible alarms. It also provides ports for printing and networking.

When used with AMP-O-LECTRIC Model "G" Termination Machines, the monitor is mounted to the machine. When used with AMPOMATOR CLS IV Lead Making Machines, it is integrated into the machine's operating system, with the information displayed on the machine's touch screen.

#### Specifications

**Width** — 8.5 [216]

**Depth** — 9 [229]

**Height** — 4.5 [114]

**Electrical** — 120 VAC, 50 or 60 Hz, or 220 VAC, 50 or 60 Hz

**Printer Port** — Serial Interface

For more information, request Catalog **82275**.

### 5-Ton Machine, Part Number 565433-4



This machine is used with special standard style applicators to apply splices and terminals requiring crimping forces greater than the maximum output of AMP-O-LECTRIC Termination Machines.

The machine is a modification of a Fixed Bed Gap mechanical clutch press manufactured by Benchmaster Products, Inc.

#### Specifications

**Width** — 29 [737]

**Depth** — 25.4 [645]

**Height** — 35.5 [902] without reel

**Weight** — Approximately 250 lb [113 kg]

**Electrical** — 120 VAC, 60 Hz, 6 A

**Air** — 90-100 psi [6.21-7.59 bar] when required for use with air-feed applicators

### Carbon Brush Machine, Part Number 459248-2



This machine is a modified AMP-O-LECTRIC Model "K" Termination Machine equipped with a mechanism that compresses the spring and pulls the shunt wire through the spring over the terminal.

The machine can terminate shunt wires ranging from .812-4.78 [20.6-121] in length depending on the type of terminal used. It can accept springs with an inside diameter of .130-.427 [3.30-10.8]

#### Specifications

**Width** — 27 [68.6]

**Depth** — 27 [68.6]

**Height** — 28 [71.1] without reel

**Weight** — Approximately 250 lb [113 kg]

**Electrical** — 120 VAC, 60 Hz, 6 A

**Air** — 80-100 psi [5.51-6.89 bar]

## Application Tooling (Continued)

### AMPOMATOR CLS IV+ Lead-Making Machines, 356500-1, -2



Fully-automatic machines that measure, cut, strip and terminate single leads. Microprocessor-controlled, and programmed and operated using an easy-to-follow, menu-driven touch-screen. Features include direct-drive terminating units with precision crimp height adjustment, fully programmable setups, wire runout and splice detection, and motorized pre-feed with wire straightener. Crimp Quality Monitoring is also available.

#### Specifications

**Width** — 159 [4 040]

**Depth** — 68 [1 730]

**Height** — 86 [2 185] with 24 [610] dia. reel

**Weight** — 2 000 lb [907 kg]

**Electrical** — 220 VAC, 50 or 60 Hz, single phase, 25 A, with neutral and ground

**Air** — 90 psi [6.21 bar], 15 scfm [0.0071 m<sup>3</sup>/s] sustained

**Wire Range** — 26-10 AWG [0.12-6 mm<sup>2</sup>] stranded, 26-16 AWG [0.12-1.4 mm<sup>2</sup>] solid

**Lead Lengths** — 3-90 [76.2-2 285], 90-1 000 [2 285-25 400] with long lead conveyors

For more information, request Catalog 124324.

### Applicators



#### End- and Side-Feed Heavy-Duty Miniature (HDM) Applicators

Tyco Electronics applicators are designed to exacting specifications to produce consistent, high-quality terminations.

HDM applicators are quickly interchangeable and easily repaired. They feature simple dial-in settings for adjusting crimp height for terminating different wire combinations within the designated CMA range.

These applicators are used with both bench machines and fully-automatic lead makers. They can also be used for crimp quality monitoring on systems equipped with the CQM G-Adapter. Call the Tooling Assistance Hotline at 1-800-722-1111 for further information.



#### Standard (STD) Applicators

Standard style applicators are generally used for long production runs using dedicated equipment, or when splicing a coil, for example, that needs to be positioned close to the crimping area in the applicator. The crimp height can be adjusted by raising or lowering the base mount.



#### Standard Style Applicator for Large CMA Splice, Part Number 566372-2

This applicator was designed specifically to apply AMP 5 000-16 000 CMA Splice, Part Number 63625-1. It features a highly-visible, close-up crimp area—less than 1 [25] from the front of the guard. You can easily splice multiple wires by simply rotating them down through the front of the guard into the crimp area.

It is an air-feed applicator, and can be used with AMP-O-ELECTRIC Model K termination machine Part Number 1-471273-2 or 1-471273-3.

## Part Number Index

**Note:** This index lists all cataloged parts by base no. only. Complete part nos. (with prefixes and/or suffixes) are shown on the page(s) indicated.

| Part No. | Page |
|----------|------|
| 34578    | 16   |
| 34812    | 16   |
| 34839    | 16   |
| 34848    | 16   |
| 40509    | 28   |
| 40517    | 16   |
| 40521    | 24   |
| 40523    | 17   |
| 40524    | 17   |
| 40552    | 28   |
| 40577    | 24   |
| 40593    | 16   |
| 40594    | 16   |
| 40595    | 16   |
| 40604    | 14   |
| 40605    | 14   |
| 40626    | 64   |
| 40652    | 54   |
| 40660    | 11   |
| 40661    | 11   |
| 40662    | 63   |
| 40668    | 16   |
| 40696    | 17   |
| 40697    | 9    |
| 40698    | 9    |
| 40702    | 16   |
| 40705    | 24   |
| 40723    | 11   |
| 40724    | 11   |
| 40725    | 11   |
| 40749    | 16   |
| 40763    | 22   |
| 40764    | 25   |
| 40765    | 25   |
| 40766    | 25   |
| 40771    | 29   |
| 40777    | 16   |
| 40796    | 17   |
| 40797    | 18   |
| 40800    | 65   |
| 40808    | 22   |
| 40810    | 16   |
| 40811    | 16   |
| 40812    | 16   |
| 40816    | 16   |
| 40862    | 28   |
| 40868    | 28   |
| 40884    | 16   |
| 40888    | 10   |
| 40891    | 24   |
| 40894    | 10   |
| 40951    | 17   |
| 40952    | 28   |
| 40955    | 10   |
| 40960    | 14   |
| 40973    | 14   |
| 40976    | 16   |

| Part No. | Page |
|----------|------|
| 40977    | 17   |
| 40979    | 16   |
| 40990    | 61   |
| 41006    | 16   |
| 41013    | 9    |
| 41090    | 17   |
| 41108    | 30   |
| 41124    | 15   |
| 41125    | 15   |
| 41126    | 15   |
| 41215    | 28   |
| 41276    | 30   |
| 41282    | 30   |
| 41294    | 14   |
| 41330    | 12   |
| 41332    | 12   |
| 41333    | 12   |
| 41341    | 17   |
| 41343    | 22   |
| 41346    | 16   |
| 41356    | 17   |
| 41376    | 19   |
| 41397    | 28   |
| 41406    | 10   |
| 41409    | 19   |
| 41443    | 20   |
| 41456    | 10   |
| 41459    | 28   |
| 41461    | 24   |
| 41471    | 10   |
| 41472    | 10   |
| 41473    | 24   |
| 41495    | 24   |
| 41499    | 16   |
| 41558    | 11   |
| 41559    | 12   |
| 41560    | 12   |
| 41579    | 9    |
| 41580    | 9    |
| 41581    | 9    |
| 41582    | 9    |
| 41589    | 22   |
| 41590    | 22   |
| 41604    | 14   |
| 41627    | 28   |
| 41698    | 56   |
| 41711    | 9    |
| 41765    | 47   |
| 41766    | 47   |
| 41770    | 47   |
| 41808    | 15   |
| 41809    | 15   |
| 41854    | 54   |
| 41870    | 54   |
| 41899    | 47   |
| 41900    | 47   |
| 41904    | 47   |
| 41911    | 17   |
| 41933    | 25   |
| 41974    | 28   |
| 41975    | 28   |
| 41989    | 58   |

| Part No. | Page |
|----------|------|
| 41996    | 28   |
| 42023    | 19   |
| 42036    | 9    |
| 42037    | 9    |
| 42054    | 17   |
| 42065    | 11   |
| 42076    | 47   |
| 42101    | 55   |
| 42110    | 17   |
| 42111    | 17   |
| 42113    | 24   |
| 42119    | 47   |
| 42142    | 57   |
| 42160    | 22   |
| 42164    | 9    |
| 42168    | 23   |
| 42169    | 23   |
| 42185    | 16   |
| 42187    | 25   |
| 42188    | 25   |
| 42189    | 20   |
| 42190    | 20   |
| 42191    | 20   |
| 42192    | 47   |
| 42204    | 16   |
| 42218    | 63   |
| 42308    | 55   |
| 42318    | 24   |
| 42329    | 28   |
| 42339    | 25   |
| 42349    | 61   |
| 42412    | 65   |
| 42425    | 17   |
| 42428    | 53   |
| 42429    | 53   |
| 42508    | 9    |
| 42519    | 59   |
| 42531    | 57   |
| 42547    | 9    |
| 42555    | 17   |
| 42581    | 57   |
| 42627    | 29   |
| 42639    | 14   |
| 42673    | 18   |
| 42700    | 57   |
| 42716    | 17   |
| 42721    | 11   |
| 42722    | 15   |
| 42745    | 55   |
| 42749    | 57   |
| 42751    | 14   |
| 42752    | 14   |
| 42765    | 59   |
| 42776    | 47   |
| 42778    | 47   |
| 42779    | 47   |
| 42780    | 47   |
| 42827    | 54   |
| 42863    | 15   |
| 42864    | 15   |
| 42865    | 56   |
| 42868    | 57   |

| Part No. | Page |
|----------|------|
| 42869    | 54   |
| 42890    | 17   |
| 42891    | 57   |
| 42899    | 15   |
| 42913    | 15   |
| 42920    | 61   |
| 42933    | 11   |
| 42938    | 14   |
| 42946    | 15   |
| 42947    | 15   |
| 60007    | 9    |
| 60017    | 57   |
| 60024    | 12   |
| 60115    | 52   |
| 60123    | 9    |
| 60124    | 22   |
| 60177    | 55   |
| 60187    | 23   |
| 60234    | 25   |
| 60250    | 17   |
| 60251    | 22   |
| 60252    | 58   |
| 60312    | 58   |
| 60319    | 21   |
| 60320    | 21   |
| 60321    | 21   |
| 60322    | 21   |
| 60323    | 21   |
| 60348    | 53   |
| 60372    | 27   |
| 60373    | 53   |
| 60376    | 55   |
| 60389    | 22   |
| 60390    | 22   |
| 60394    | 11   |
| 60422    | 19   |
| 60432    | 58   |
| 60433    | 12   |
| 60436    | 58   |
| 60440    | 54   |
| 60442    | 59   |
| 60445    | 22   |
| 60469    | 53   |
| 60470    | 28   |
| 60477    | 58   |
| 60485    | 14   |
| 60501    | 22   |
| 60505    | 17   |
| 60524    | 58   |
| 60546    | 11   |
| 60553    | 9    |
| 60555    | 9    |
| 60581    | 61   |
| 60625    | 12   |
| 60654    | 64   |
| 60660    | 56   |
| 60700    | 11   |
| 60725    | 22   |
| 60733    | 54   |
| 60744    | 12   |
| 60752    | 21   |
| 60766    | 56   |

**Part Number Index** (Continued)

| Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page |
|----------|------|----------|------|----------|------|----------|------|
| 60770    | 12   | 61588    | 10   | 62344    | 52   | 63575    | 63   |
| 60771    | 12   | 61616    | 58   | 62352    | 58   | 63594    | 54   |
| 60772    | 12   | 61622    | 53   | 62357    | 28   | 63602    | 13   |
| 60772    | 13   | 61624    | 14   | 62358    | 52   | 63610    | 23   |
| 60773    | 22   | 61652    | 9    | 62382    | 29   | 63612    | 21   |
| 60774    | 22   | 61653    | 9    | 62399    | 58   | 63615    | 58   |
| 60775    | 22   | 61674    | 52   | 62402    | 54   | 63621    | 48   |
| 60793    | 56   | 61710    | 21   | 62405    | 54   | 63628    | 12   |
| 60798    | 57   | 61764    | 10   | 62416    | 56   | 63640    | 13   |
| 60799    | 57   | 61769    | 27   | 62419    | 29   | 63649    | 21   |
| 60806    | 29   | 61777    | 13   | 62503    | 29   | 63676    | 16   |
| 60812    | 62   | 61793    | 13   | 62505    | 52   | 63678    | 12   |
| 60884    | 54   | 61794    | 13   | 62516    | 29   | 63698    | 14   |
| 60885    | 53   | 61795    | 13   | 62587    | 64   | 63701    | 61   |
| 60891    | 59   | 61802    | 56   | 62589    | 58   | 63707    | 14   |
| 60900    | 58   | 61813    | 58   | 62612    | 15   | 63721    | 9    |
| 60908    | 54   | 61831    | 65   | 62613    | 15   | 63723    | 64   |
| 60932    | 28   | 61844    | 15   | 62616    | 52   | 63733    | 63   |
| 60933    | 28   | 61853    | 19   | 62638    | 9    | 63750    | 12   |
| 60997    | 28   | 61855    | 23   | 62670    | 48   | 63797    | 9    |
| 60998    | 23   | 61857    | 23   | 62686    | 16   | 63834    | 28   |
| 61008    | 28   | 61863    | 13   | 62691    | 15   | 63863    | 64   |
| 61012    | 55   | 61866    | 15   | 62700    | 13   | 63865    | 57   |
| 61013    | 52   | 61867    | 13   | 62720    | 54   | 63872    | 11   |
| 61021    | 29   | 61868    | 15   | 62727    | 64   | 63895    | 63   |
| 61039    | 63   | 61891    | 56   | 62739    | 56   | 63925    | 56   |
| 61074    | 47   | 61904    | 10   | 62754    | 27   | 63930    | 62   |
| 61142    | 17   | 61933    | 62   | 62755    | 21   | 63989    | 56   |
| 61165    | 63   | 61941    | 58   | 62759    | 27   | 63997    | 13   |
| 61166    | 48   | 61987    | 65   | 62786    | 13   | 109451   | 14   |
| 61238    | 22   | 62000    | 46   | 62787    | 13   | 109452   | 12   |
| 61263    | 61   | 62001    | 46   | 62795    | 23   | 109453   | 9    |
| 61280    | 63   | 62002    | 46   | 62820    | 52   | 109454   | 9    |
| 61283    | 10   | 62008    | 62   | 62827    | 61   | 141075   | 68   |
| 61289    | 15   | 62009    | 62   | 62829    | 56   | 141093   | 67   |
| 61299    | 27   | 62040    | 46   | 62835    | 21   | 155352   | 28   |
| 61300    | 29   | 62041    | 58   | 62975    | 13   | 155353   | 28   |
| 61312    | 9    | 62044    | 48   | 63020    | 62   | 155386   | 61   |
| 61336    | 14   | 62062    | 61   | 63035    | 64   | 156523   | 64   |
| 61352    | 15   | 62074    | 52   | 63053    | 25   | 160102   | 10   |
| 61359    | 13   | 62134    | 61   | 63130    | 27   | 160108   | 10   |
| 61385    | 25   | 62153    | 61   | 63147    | 21   | 160644   | 67   |
| 61386    | 10   | 62157    | 46   | 63182    | 62   | 350010   | 62   |
| 61388    | 56   | 62160    | 54   | 63183    | 62   | 350053   | 52   |
| 61390    | 62   | 62185    | 53   | 63243    | 16   | 350080   | 14   |
| 61397    | 13   | 62194    | 48   | 63268    | 23   | 350199   | 14   |
| 61412    | 57   | 62200    | 46   | 63374    | 22   | 350436   | 13   |
| 61424    | 15   | 62201    | 46   | 63381    | 54   | 350502   | 22   |
| 61436    | 10   | 62214    | 62   | 63391    | 58   | 350509   | 10   |
| 61443    | 20   | 62281    | 64   | 63399    | 21   | 350568   | 23   |
| 61454    | 58   | 62295    | 46   | 63431    | 48   | 350571   | 21   |
| 61463    | 16   | 62303    | 46   | 63432    | 28   | 350981   | 14   |
| 61489    | 58   | 62304    | 46   | 63446    | 21   | 485003   | 9    |
| 61492    | 28   | 62305    | 46   | 63457    | 16   | 485015   | 18   |
| 61498    | 25   | 62306    | 46   | 63482    | 13   | 485016   | 27   |
| 61505    | 19   | 62307    | 46   | 63506    | 55   | 485020   | 28   |
| 61519    | 25   | 62308    | 46   | 63514    | 11   | 485029   | 13   |
| 61520    | 65   | 62309    | 46   | 63518    | 14   | 485030   | 13   |
| 61524    | 62   | 62310    | 46   | 63526    | 24   | 485043   | 27   |
| 61546    | 18   | 62311    | 46   | 63561    | 47   | 485044   | 21   |
| 61547    | 53   | 62318    | 28   | 63562    | 47   | 485064   | 29   |
| 61556    | 10   | 62341    | 48   | 63564    | 47   | 485073   | 23   |

**Part Number Index** (Continued)

| Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page |
|----------|------|----------|------|----------|------|----------|------|
| 485079   | 21   | 1601511  | 37   | 1601618  | 37   | 1601719  | 41   |
| 505020   | 64   | 1601513  | 37   | 1601619  | 37   | 1601721  | 37   |
| 505033   | 29   | 1601514  | 35   | 1601620  | 35   | 1601722  | 37   |
| 505034   | 63   | 1601520  | 34   | 1601623  | 35   | 1601723  | 37   |
| 505038   | 56   | 1601528  | 36   | 1601625  | 35   | 1601726  | 36   |
| 626034   | 12   | 1601529  | 36   | 1601628  | 35   | 1601729  | 36   |
| 640007   | 14   | 1601531  | 36   | 1601629  | 35   | 1601730  | 36   |
| 640008   | 11   | 1601532  | 36   | 1601630  | 35   | 1601731  | 36   |
| 640009   | 15   | 1601538  | 42   | 1601631  | 35   | 1601733  | 36   |
| 640011   | 14   | 1601539  | 42   | 1601632  | 33   | 1601750  | 41   |
| 640012   | 15   | 1601540  | 42   | 1601633  | 33   | 1601754  | 36   |
| 640051   | 13   | 1601542  | 38   | 1601635  | 38   | 1601755  | 36   |
| 640052   | 13   | 1601545  | 38   | 1601637  | 42   | 1601761  | 41   |
| 640082   | 11   | 1601546  | 38   | 1601639  | 41   | 1601764  | 36   |
| 640102   | 14   | 1601547  | 38   | 1601640  | 37   | 1601765  | 36   |
| 640189   | 19   | 1601548  | 37   | 1601642  | 36   | 1601766  | 36   |
| 640204   | 10   | 1601549  | 37   | 1601644  | 42   | 1601768  | 34   |
| 640212   | 21   | 1601550  | 34   | 1601646  | 42   | 1601769  | 33   |
| 640216   | 15   | 1601551  | 34   | 1601647  | 42   | 1601771  | 33   |
| 640249   | 15   | 1601553  | 34   | 1601649  | 38   | 1601793  | 42   |
| 640253   | 14   | 1601555  | 38   | 1601650  | 37   | 1601794  | 41   |
| 640257   | 18   | 1601559  | 42   | 1601651  | 37   | 1601795  | 38   |
| 640260   | 25   | 1601560  | 42   | 1601652  | 37   | 1601797  | 34   |
| 640271   | 10   | 1601562  | 38   | 1601654  | 37   | 1601798  | 34   |
| 737060   | 68   | 1601564  | 38   | 1601655  | 35   | 1601800  | 42   |
| 925552   | 66   | 1601566  | 37   | 1601656  | 35   | 1601807  | 34   |
| 925553   | 67   | 1601569  | 37   | 1601658  | 35   | 1601808  | 37   |
| 925667   | 66   | 1601571  | 37   | 1601660  | 35   | 1601809  | 37   |
| 925856   | 67   | 1601572  | 34   | 1601661  | 35   | 1601810  | 37   |
| 926823   | 66   | 1601573  | 34   | 1601664  | 35   | 1601811  | 35   |
| 926824   | 66   | 1601575  | 33   | 1601665  | 35   | 1601814  | 41   |
| 926866   | 66   | 1601577  | 33   | 1601667  | 35   | 1601818  | 35   |
| 926867   | 67   | 1601578  | 33   | 1601668  | 35   | 1601819  | 35   |
| 926933   | 67   | 1601580  | 38   | 1601669  | 34   | 1601820  | 35   |
| 964156   | 46   | 1601582  | 38   | 1601675  | 42   | 1601823  | 41   |
| 1217012  | 63   | 1601583  | 38   | 1601677  | 41   | 1601824  | 41   |
| 1217070  | 57   | 1601584  | 38   | 1601678  | 41   | 1601825  | 38   |
| 1217074  | 57   | 1601586  | 37   | 1601680  | 36   | 1601827  | 37   |
| 1217104  | 56   | 1601587  | 35   | 1601681  | 36   | 1601828  | 35   |
| 1217142  | 56   | 1601588  | 35   | 1601682  | 36   | 1601829  | 35   |
| 1217160  | 12   | 1601591  | 35   | 1601683  | 42   | 1601832  | 42   |
| 1217185  | 56   | 1601593  | 33   | 1601687  | 37   | 1601833  | 41   |
| 1217330  | 14   | 1601596  | 38   | 1601689  | 36   | 1601835  | 41   |
| 1217384  | 47   | 1601597  | 37   | 1601691  | 36   | 1601837  | 37   |
| 1217440  | 65   | 1601599  | 37   | 1601693  | 36   | 1601841  | 36   |
| 1217507  | 62   | 1601600  | 37   | 1601694  | 36   | 1601842  | 41   |
| 1217510  | 61   | 1601601  | 35   | 1601695  | 36   | 1601844  | 42   |
| 1217569  | 65   | 1601603  | 35   | 1601705  | 41   | 1601845  | 42   |
| 1217698  | 62   | 1601604  | 42   | 1601706  | 41   | 1601846  | 41   |
| 1217881  | 64   | 1601606  | 42   | 1601707  | 41   | 1601847  | 41   |
| 1217967  | 27   | 1601607  | 41   | 1601709  | 36   | 1601848  | 41   |
| 1375622  | 29   | 1601608  | 41   | 1601710  | 36   | 1601852  | 36   |
| 1438246  | 29   | 1601610  | 38   | 1601711  | 36   | 1601853  | 33   |
| 1438254  | 30   | 1601611  | 38   | 1601712  | 36   | 1601857  | 41   |
| 1601503  | 38   | 1601612  | 38   | 1601716  | 42   |          |      |
| 1601504  | 38   | 1601614  | 37   | 1601717  | 41   |          |      |
| 1601507  | 35   | 1601617  | 37   | 1601718  | 41   |          |      |

## Americas

**Argentina** – Buenos Aires  
Phone: +54-11-4733-2200  
Fax: +54-11-4733-2250

**Brasil** – São Paulo  
Phone: +55-11-3611-1311  
Fax: +55-11-3611-0397

**Canada** – Markham  
Phone: +905-475-6222  
Fax: +905-474-5520  
**Product Information Center:**  
**(Technical Support)**  
Phone: +905-470-4425  
Fax: +905-474-5525

**Colombia** – Bogota  
Phone: +57-1-240-9396  
Fax: +57-1-660-0206

**Mexico** – Mexico City  
Phone: +52-55-5-729-0425  
Fax: +52-55-5-398-1430

**United States** – Harrisburg, PA  
Phone: +717-564-0100  
Fax: +717-986-7575  
**Product Information Center:**  
**(Technical Support)**  
Phone: +800-522-6752  
Fax: +717-986-7575

**For Latin/South American Countries not shown**  
Phone: +57-1-240-9396  
Fax: +57-1-660-0206

## Asia/Pacific

**Australia** – Sydney  
Phone: +61-2-9840-8200  
Fax: +61-2-9899-5649  
**Product Information Center:**  
**(Technical Support)**  
Phone: +61-2-9554-2600  
Fax: +61-2-9502-2556

**India** – Bangalore  
Phone: +91-80-841-0200  
Fax: +91-80-841-0210

**Indonesia** – Jakarta  
Phone: +6221-526-7852  
Fax: +6221-526-7856

**Japan** – Kawasaki, Kanagawa  
Phone: +81-44-844-8079  
Fax: +81-44-844-8733  
**Product Information Center:**  
**(Technical Support)**  
Phone: +81-44-844-8013  
Fax: +81-44-812-3200  
**Raychem Products**  
Phone: +81-44-900-5102  
Fax: +81-44-5025-5027

**Korea** – Seoul  
Phone: +82-2-3274-0535  
Fax: +82-2-3274-0524/0531

**Malaysia** – Selangor  
Phone: +60-3-7053055  
Fax: +60-3-7053066

**New Zealand** – Auckland  
Phone: +64-9-634-4580  
Fax: +64-9-634-4586

**Philippines** – Makati City  
Phone: +632-867-8641  
Fax: +632-867-8661

**People's Republic of China**  
Hong Kong  
Phone: +852-2735-1628  
Fax: +852-2735-0243

Shanghai  
Phone: +86-21-6485-0602  
Fax: +86-21-6485-0728

Shunde  
Phone: +86-765-775-1368  
Fax: +86-765-775-2823

**Singapore** – Singapore  
Phone: +65-4820-311  
Fax: +65-4821-012

**Raychem Products**  
Phone: +65-4866-151  
Fax: +65-6545-514

**Taiwan** – Taipei  
Phone: +886-2-2664-9977  
Fax: +886-2-2664-9900

**Thailand** – Bangkok  
Phone: +66-2-955-0500  
Fax: +66-2-955-0505

**Vietnam** – Ho Chi Minh City  
Phone: +84-8-8232-546/7  
Fax: +84-8-8221-443

## Europe/Middle East/Africa

**Austria** – Vienna  
Phone: +43-190-560-0  
Fax: +43-190-560-1333

**Belgium** – Kessel-Lo  
Phone: +32-16-352-300  
Fax: +32-16-352-352

**Bulgaria** – Sofia  
Phone: +359-2-971-2152  
Fax: +359-2-971-2153

**Czech Republic** – Kurim  
Phone: +420-5-41-162-111  
Fax: +420-5-41-162-223

**Denmark** – Viby J  
Phone: +45-70-15-52-00  
Fax: +45-86-29-51-33

**Egypt** – Cairo  
Phone: +20-2-417-76-47  
Fax: +20-2-419-23-34

**Estonia** – Tallinn  
Phone: +372-65-05-474  
Fax: +372-65-05-470

**Finland** – Helsinki  
Phone: +358-95-12-34-20  
Fax: +358-95-12-34-250

**France** – Cergy-Pontoise  
Phone: +33-1-3420-8888  
Fax: +33-1-3420-8600  
**Product Information Center:**  
**(Technical Support)**  
Phone: +33-1-3420-8943  
Fax: +33-1-3420-8623

**France**  
**Tyco Electronics Export** – St Ouen L'Aumone  
Phone: +33-1-3440-7200  
Fax: +33-1-3440-7220 or  
+33-1-3440-7230

**Germany** – Bensheim  
Phone: +49-6251-133-0  
Fax: +49-6251-133-1600  
**Product Information Center:**  
**(Technical Support)**  
Phone: +49-6251-133-1999  
Fax: +49-6251-133-1988

**Germany** – Langen  
Phone: +49-6103-709-0  
Fax: +49-6103-709-1223

**Germany** – Speyer  
Phone: +49-6232-30-0  
Fax: +49-6232-30-2243

**Germany**  
**HTS Division** – Neunkirchen  
Phone: +49-2247-305-0  
Fax: +49-2247-305-122

**Great Britain** – Stanmore Middlesex  
Phone: +44-181-954-2356  
Fax: +44-181-954-6234  
**Product Information Center:**  
**(Technical Support)**  
Freephone GB: 0800-267-666  
Phone: +44-141 810 8967...69  
Fax: +44-141 810 8971  
**Great Britain** – Dorcan, Swindon  
**Raychem Products**  
Phone: +44-1793-528171  
Fax: +44-1793-572516

**Greece** – Athens  
Phone: +30-1-9370-396/397  
Fax: +30-1-9370-655

**Hungary** – Budapest  
Phone: +36-1-289-1000  
Fax: +36-1-289-1010

**Ireland** – Dublin  
Phone: +353-1-820-3000  
Fax: +353-1-820-9790

**Israel** – Yokneam  
Phone: +972-4-959-0508  
Fax: +972-4-959-0506

**Italy** – Collegno (Torino)  
Phone: +39-011-4012-111  
Fax: +39-011-4031-116

**Lithuania** – Vilnius  
Phone: +370-5-21-31-402  
Fax: +370-5-21-31-403

**Netherlands** – 's-Hertogenbosch  
Phone: +31-73-6246-246  
Fax: +31-73-6212-365  
**Product Information Center:**  
**(Technical Support)**  
Phone: +31-73-6246-999  
Fax: +31-73-6246-998

**Norway** – Nesbru  
Phone: +47-66-77-88-99  
Fax: +47-66-77-88-55

**Poland** – Warsaw  
Phone: +48-22-45-76-700  
Fax: +48-22-45-76-720

**Romania** – Bucharest  
Phone: +40-1-311-3479+3596  
Fax: +40-1-312-0574

**Russia** – Moscow  
Phone: +7-095-926-55-06...09  
Fax: +7-095-926-55-05

**Russia** – St. Petersburg  
Phone: +7-812-325-30-83  
Fax: +7-812-325-32-88

**Scotland** – Dundee  
**Madison Cable Products**  
Phone: +44-1382-508080  
Fax: +44-1382-505060

**Slovakia** – Banská Bystrica  
Phone: +421-48-415-20-11/12  
Fax: +421-48-415-20-13

**Slovenia** – Ljubljana  
Phone: +386-1561-3270  
Fax: +386-1561-3240

**South Africa** – Port Elizabeth  
Phone: +27-41-405-4500  
Fax: +27-41-486-1314

**Spain** – Barcelona  
Phone: +34-93-291-0330  
Fax: +34-93-201-7879  
**Product Information Center:**  
**(Technical Support):**  
Phone: +34-93-291-0330  
Fax: +34-93-200-3779

**Sweden** – Upplands Väsby  
Phone: +46-8-50-72-50-00  
Fax: +46-8-50-72-50-01

**Switzerland** – Steinach  
Phone: +41-71-447-0447  
Fax: +41-71-447-0444

**Turkey** – Istanbul  
Phone: +90-212-281-8181...3  
+90-212-282-5130/5430  
Fax: +90-212-281-8184

**Ukraine** – Kiev  
Phone: +38-044-238-6908  
Fax: +38-044-568-5740

**tyco**

*Electronics*

TYCO ELECTRONICS CORPORATION

**AMP**

