

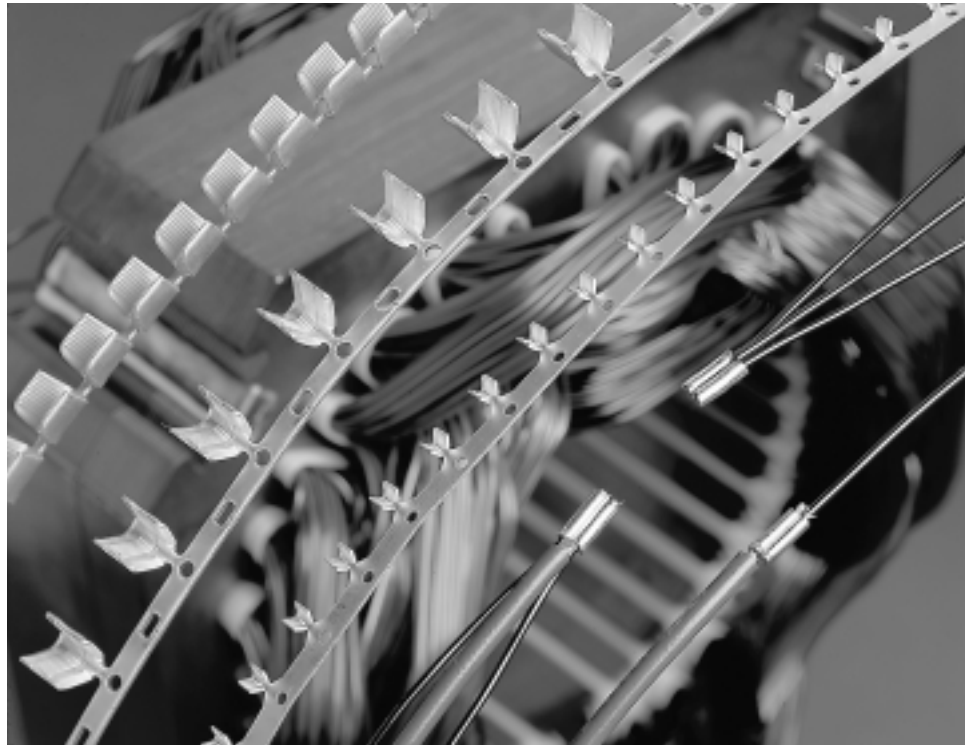
## AMPLIVAR Splices

### Product Facts

- Compression crimp eliminates cold solder points, weld burns and wire embrittlement usually connected 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 AMP 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.

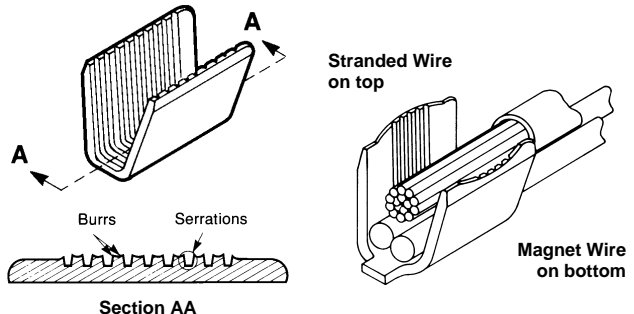
As many as three magnet wires can be terminated simultaneously in one splice. In addition, copper or aluminum magnet wire, or a combination of both, can be terminated.

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.



**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

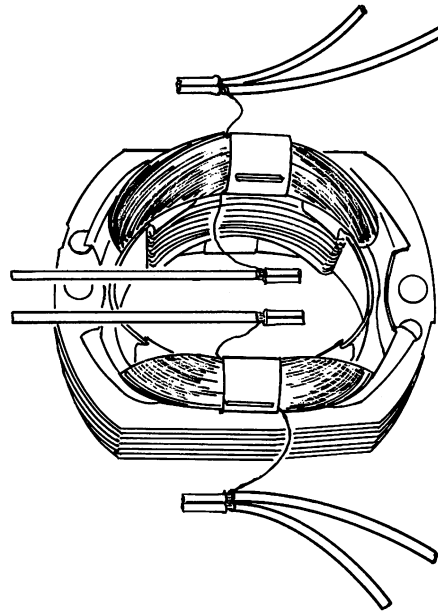
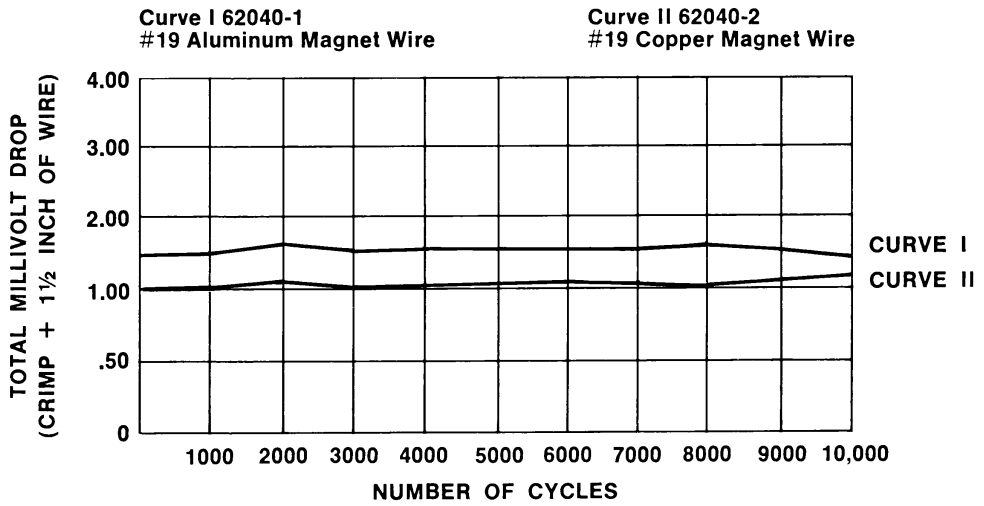
**Thermal Shock** — 25 cycles with each cycle consisting of 30 minutes at +150°C followed by 30 minutes at -65°C

**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

**TYPICAL CURRENT CYCLING TEST RESULTS**



AMPLIVAR Splices

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

Technical Support  
USA: 1-800-522-6752  
Canada: 1-905-475-6222  
Mexico: 01-800-733-8926

www.tycoelectronics.com

## AMPLIVAR Splices (Continued)

### General Application Guidelines

To assist you in obtaining the optimum AMPLIVAR 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 7-Serration Pigtail Splices	114-2006	AMPLIVAR Subminiature Pigtail Splices
114-2003	AMPLIVAR 9-Serration Pigtail Splices	114-2009	AMPLIVAR 5-Serration Thru Splices
114-2005	AMPLIVAR Subminiature Thru Splices	114-2016	AMPLIVAR Miniature 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 (see pages 94-96).
5. Calculate the total magnet wire diameters (see pages 94 and 95).
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
<b>Total</b>	<b>= 2501 CMA</b>

■ 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]
<b>Total</b>	<b>= .0402 [1.03]</b>

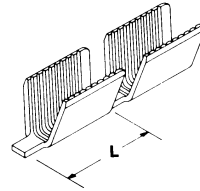
- Select a terminal for trial calculations. Splice No. 62305-2, page 49 (Procedure 6):  
CMA range = 600-3000  
Stock thickness = .016 [0.41]  
Crimp width = .110 [2.79]  
9-serration, tin plated for aluminum magnet wire (Procedure 1).  
Splice identified with asterisk [\*] for 28 AWG [0.32 mm] (Procedure 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**

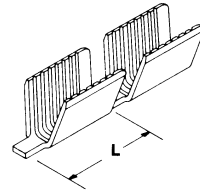
**Product Facts**  
(Plus All 7 Serration Facts)

- 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/ mm <sup>2</sup>	Wire Range Solid Dia.	Wire Range CMA	Stock Thickness	Crimp Width	Dim. L	Material	Part Number
24-18.5 0.26-0.80	<b>.020-.039</b> 0.55-1.00	400-1500	<b>.016</b> 0.41	<b>.080</b> 2.03	<b>.225</b> 5.72	Tin Plated Brass	62303-2*
22-15.5 0.38-1.54	<b>.028-.055</b> 0.70-1.40	600-3000	<b>.020</b> 0.51	<b>.110</b> 2.79	<b>.225</b> 5.72	Tin Plated Brass	62304-2
22-15.5 0.38-1.54	<b>.028-.055</b> 0.70-1.40	600-3000	<b>.016</b> 0.41	<b>.110</b> 2.79	<b>.225</b> 5.72	Tin Plated Brass	62305-2*
18.5-13.5 0.80-2.54	<b>.039-.071</b> 1.00-1.80	1500-5000	<b>.020</b> 0.51	<b>.110</b> 2.79	<b>.225</b> 5.72	Tin Plated Brass	62306-2
18.5-13.5 0.80-2.54	<b>.039-.071</b> 1.00-1.80	1500-5000	<b>.016</b> 0.41	<b>.110</b> 2.79	<b>.225</b> 5.72	Tin Plated Brass	62307-2*
15.5-12 1.54-3.46	<b>.055-.083</b> 1.40-2.10	3000-7000	<b>.020</b> 0.51	<b>.140</b> 3.56	<b>.265</b> 6.73	Tin Plated Brass	62308-2
13.5-10 2.54-4.90	<b>.071-.098</b> 1.80-2.50	5000-10,000	<b>.025</b> 0.64	<b>.180</b> 4.57	<b>.265</b> 6.73	Tin Plated Brass	62309-2
12-9 3.46-6.38	<b>.083-.112</b> 2.10-2.85	7000-13,000	<b>.025</b> 0.64	<b>.180</b> 4.57	<b>.265</b> 6.73	Tin Plated Brass	62310-2
10-6.5 4.90-9.45	<b>.098-.137</b> 2.50-3.47	10,000-22,000	<b>.030</b> 0.76	<b>.220</b> 5.59	<b>.340</b> 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/ mm <sup>2</sup>	Wire Range Solid Dia.	Wire Range CMA	Stock Thickness	Crimp Width	Dim. L	Material	Part Number
22-15.5 0.38-1.54	<b>.028-.055</b> 0.70-1.40	600-3000	<b>.020</b> 0.51	<b>.110</b> 2.79	<b>.225</b> 5.72	Brass	62000-1
22-15.5 0.38-1.54	<b>.028-.055</b> 0.70-1.40	600-3000	<b>.020</b> 0.51	<b>.110</b> 2.79	<b>.225</b> 5.72	Brass	62157-1*
22-15.5 0.38-1.54	<b>.028-.055</b> 0.70-1.40	600-3000	<b>.020</b> 0.51	<b>.110</b> 2.79	<b>.225</b> 5.72	Tin Plated Brass	62000-2
22-15.5 0.38-1.54	<b>.028-.055</b> 0.70-1.40	600-3000	<b>.020</b> 0.51	<b>.110</b> 2.79	<b>.225</b> 5.72	Tin Plated Brass	62157-2*
22-15.5 0.38-1.54	<b>.028-.055</b> 0.70-1.40	600-3000	<b>.020</b> 0.51	<b>.110</b> 2.79	<b>.225</b> 5.72	Tin Plated Brass	62200-2 <sup>1</sup>
18.5-13.5 0.80-2.54	<b>.039-.071</b> 1.00-1.80	1500-5000	<b>.020</b> 0.51	<b>.110</b> 2.79	<b>.225</b> 5.72	Brass	62040-2
18.5-13.5 0.80-2.54	<b>.039-.071</b> 1.00-1.80	1500-5000	<b>.020</b> 0.51	<b>.110</b> 2.79	<b>.225</b> 5.72	Tin Plated Brass	62040-1
18.5-13.5 0.80-2.54	<b>.039-.071</b> 1.00-1.80	1500-5000	<b>.020</b> 0.51	<b>.110</b> 2.79	<b>.225</b> 5.72	Phosphor Bronze	964156-1
15.5-12 1.54-3.46	<b>.055-.083</b> 1.40-2.10	3000-7000	<b>.020</b> 0.51	<b>.140</b> 3.56	<b>.225</b> 5.72	Brass	62001-1
15.5-12 1.54-3.46	<b>.055-.083</b> 1.40-2.10	3000-7000	<b>.020</b> 0.51	<b>.140</b> 3.56	<b>.225</b> 5.72	Tin Plated Brass	62001-2
15.5-12 1.54-3.46	<b>.055-.083</b> 1.40-2.10	3000-7000	<b>.020</b> 0.51	<b>.140</b> 3.56	<b>.225</b> 5.72	Tin Plated Brass	62201-2 <sup>1</sup>
12-10 2.10-6.0	<b>.085-.110</b> 2.10-2.85	7000-12,000	<b>.025</b> 0.64	<b>.250</b> 6.35	<b>.225</b> 5.72	Tin Plated Brass	62295-1
12-10 2.10-6.0	<b>.085-.110</b> 2.10-2.85	7000-12,000	<b>.025</b> 0.64	<b>.250</b> 6.35	<b>.225</b> 5.72	Brass	62295-2
12-9 2.10-6.38	<b>.085-.115</b> 2.10-3.47	7000-13,000	<b>.025</b> 0.64	<b>.180</b> 4.57	<b>.225</b> 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

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

Technical Support  
USA: 1-800-522-6752  
Canada: 1-905-475-6222  
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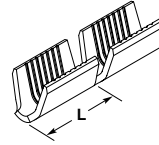
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**AMPLIVAR Splices** (Continued)

**7 Serrations —  
Thru Type**

**Product Facts**

- Crimp bellmouth provides retention in circular cavity slot in bobbin



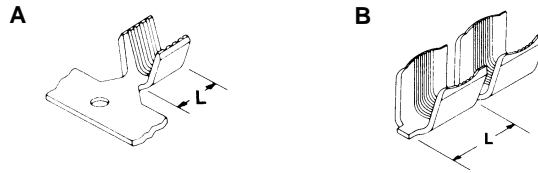
AWG/ mm <sup>2</sup>	Wire Range Solid Dia.	Wire Range CMA	Stock Thickness	Crimp Width	Dim. L	Material	Part Number
22-15.5 0.38-1.54	<b>.028-.055</b> 0.70-1.40	600-3000	<b>.020</b> 0.51	<b>.110</b> 2.79	<b>.225</b> 5.72	Tin Plated Brass	1217384-1*

\*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



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

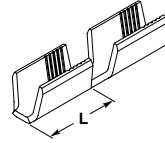
\* These splices are recommended for applications using wire size 26 AWG [0.40 mm] or smaller.

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

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

## AMPLIVAR Splices (Continued)

### 5 Serrations — Pigtail Type



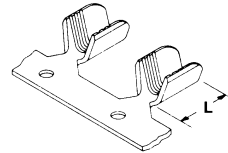
#### Product Facts

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

\*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

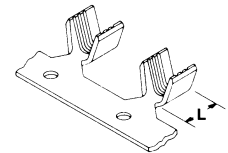


#### Product Facts

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

### Subminiature Splice — Thru or Pigtail Type



#### Product Facts

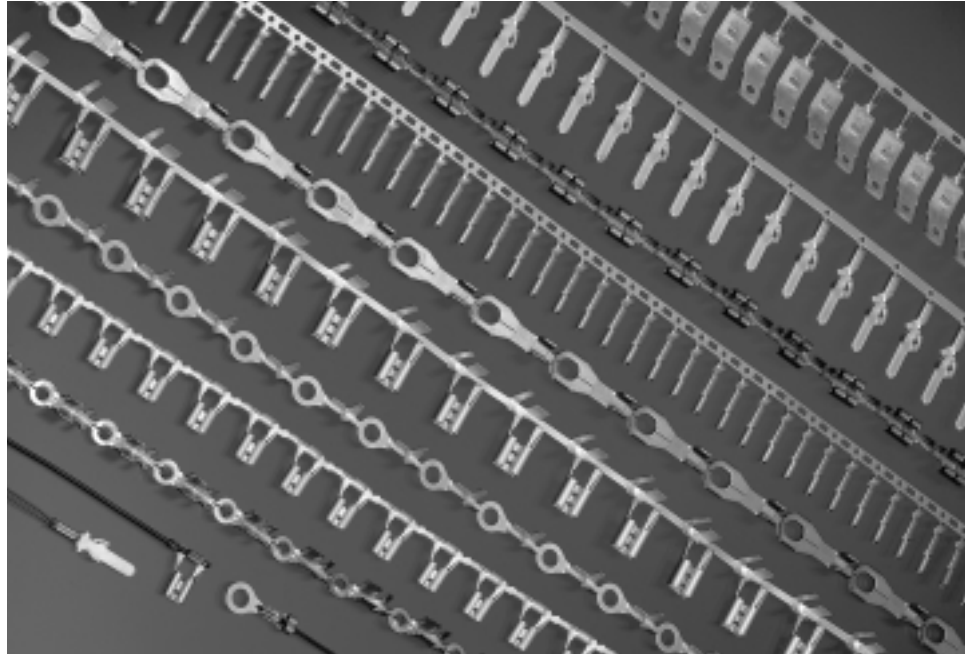
- The compactness of these splices makes them ideal for use in small subfractional motors, transformers, relays, solenoids, indicator lamps and small appliance terminations
- These splices provide the same reliability as the larger AMPLIVAR splices

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

## AMPLIVAR Terminals

### Products Facts

- Ring tongue terminals available for 2 to 3/8 stud diameters
- FASTON Tab terminals accept .125 [3.18], .187 [4.75] and .250 [6.35] receptacle terminals
- FASTON Receptacle terminals accept .187 [4.75] and .250 [6.35] tab terminals
- FASTON Stator Receptacle accept .250 x .032 [6.35 x 0.81] tab terminal
- Pin receptacle terminals accept .062 [1.57] and .090 [2.29] diameter pins



### Applications

- Motor windings
- Transformers
- Power supplies
- Starters and alternators

AMPLIVAR magnet wire terminals are designed to terminate copper and/or aluminum magnet wire.

Terminals are insulation displacing; therefore, magnet wires do not require a separate prestripping operation.

The unique wire barrel design, with serrations and burrs, produces a superior metal-to-metal compression crimp with excellent tensile strength.

Terminals are available in a variety of ring tongue, FASTON straight, flag and stator receptacles and tab quick-disconnect style terminals.

Direct connection to magnet wire eliminates the need for separate stranded wire terminal connection to input/output devices.

Matched with AMP automated application tooling allows high production rates for strip-form terminals.

**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.

- 108-16000 — AMPLIVAR Ring Tongue Terminals
- 108-1718 — AMPLIVAR .125 Blade Terminals [Type A]

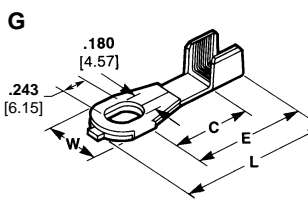
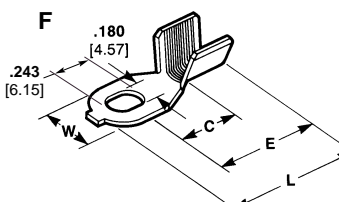
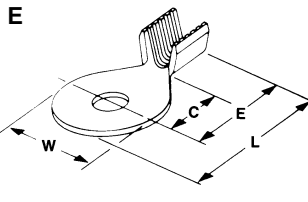
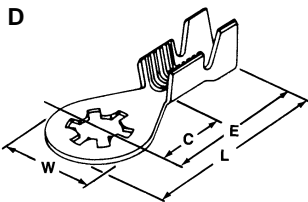
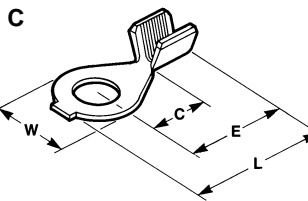
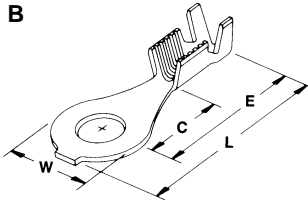
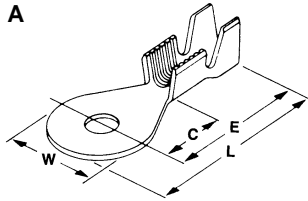
### Technical Documents

**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.

114-2145	AMPLIVAR .125 Blade Terminals	114-2144	AMPLIVAR FASTON Series .250 Straight Receptacle Terminals	114-2080	AMPLIVAR Pin Receptacle Terminals [Type A]
114-2146	AMPLIVAR FASTIN-FASTON Series 187 Tab Terminals	114-2152	AMPLIVAR Flag FASTON Series 187 & 250 Receptacle Terminal	114-2128	AMPLIVAR Stator Receptacle with FASTON Mating End
114-2070	AMPLIVAR FASTON Series 250 Tab Terminals				

## AMPLIVAR Terminals (Continued)

### Ring Tongue Terminals



#### Wire Size Range 29–22 AWG [0.287–0.643 mm]

Type	Insulation Dia. Range	Hole Dia.	Stud Size	Stock Thk.	Material	Dimensions				Part Number
						W	L	E	C	
B	.040-.060 1.02-1.52	.197 5	10	.020 0.51	Tin Plated Brass	.342 8.69	.833 21.16	.662 16.81	.312 7.92	63399-1

#### Wire Size Range 23–19 AWG [0.574–0.912 mm]

Type	Insulation Dia. Range	Hole Dia.	Stud Size	Stock Thk.	Material	Dimensions				Part Number
						W	L	E	C	
B	.100-.140 2.54-3.56	.171 4.34	8	.020 0.51	Tin Plated Brass	.342 8.69	.833 21.16	.662 16.81	.312 7.92	60321-2
A	.125-.165 3.18-4.19	.171 4.34	8	.020 0.51	Tin Plated Brass	.300 7.62	.700 17.78	.550 13.97	.230 5.84	60323-2
B	.100-.140 2.54-3.56	.197 5	10	.020 0.51	Tin Plated Brass	.342 8.69	.833 21.16	.662 16.81	.312 7.92	60319-2
A	.125-.165 3.18-4.19	.197 5	10	.020 0.51	Tin Plated Brass	.300 7.62	.695 17.65	.545 13.84	.230 5.84	60325-2

#### Wire Size Range 22–18 AWG [0.643–1.024 mm]

Type	Insulation Dia. Range	Hole Dia.	Stud Size	Stock Thk.	Material	Dimensions				Part Number
						W	L	E	C	
B	.125-.165 3.18-4.19	.265 6.73	1/4	.025 0.64	Tin Plated Brass	.420 10.67	.872 22.15	.662 16.81	.312 7.92	63612-1
E	—	.145 3.58	6	.025 0.64	Tin Plated Brass	.290 7.37	.500 12.7	.355 9.02	.195 4.95	63649-1
C	—	.265 6.73	1/4	.025 0.64	Tin Plated Brass	.420 10.67	.702 17.83	.492 12.5	.312 7.92	62835-1
E	—	.171 4.34	8	.025 0.64	Brass Tin Plated Brass	.290 7.37	.500 12.7	.355 9.02	.195 4.95	63446-1 63446-2

#### Wire Size Range 20–16 AWG [0.813–1.29 mm]

Type	Insulation Dia. Range	Hole Dia.	Stud Size	Stock Thk.	Material	Dimensions				Part Number
						W	L	E	C	
A	.125-.165 3.18-4.19	.171 4.34	8	.020 0.51	Tin Plated Brass	.300 7.62	.695 17.65	.545 13.84	.230 5.84	60322-2
H	—	—	8	.020 0.51	Brass	.340 8.64	1.220 30.98	.660 16.76	.500 12.7	505071-1
L	—	—	3/8	.020 0.51	Brass	.625 15.88	.939 23.85	.627 15.93	.467 11.86	505075-1
M	—	—	3/8	.020 0.51	Brass	.645 16.38	.950 24.12	.627 15.93	.467 11.86	505072-1

#### Wire Size Range 18–14 AWG [1.024–1.628 mm]

Type	Insulation Dia. Range	Hole Dia.	Stud Size	Stock Thk.	Material	Dimensions				Part Number
						W	L	E	C	
B	.100-.140 2.54-3.56	.171 4.34	8	.020 0.51	Brass	.342 8.69	.833 21.16	.662 16.81	.312 7.92	60320-1
	.100-.140 2.54-3.56	.171 4.34	8	.020 0.51	Tin Plated Brass	.342 8.69	.833 21.16	.662 16.81	.312 7.92	60320-2
D	.100-.140 2.54-3.56	.197 5	10	.020 0.51	Brass	.342 8.69	.833 21.16	.662 16.81	.312 7.92	60318-1
	.080-.120 2.03-3.05	.173 4.39	8	.028 0.71	Lu-Bronze <sup>1</sup>	.370 9.4	.915 23.24	.730 18.54	.380 9.65	485079-1
D	.080-.120 2.03-3.05	.185 4.7	8	.028 0.71	Lu-Bronze <sup>1</sup>	.365 9.27	.882 22.4	.700 17.78	.380 9.65	485044-1

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

#### Wire Range 17–13.5 AWG [1.151–1.78 mm]

Type	Insulation Dia. Range	Hole Dia.	Stud Size	Stock Thk.	Material	Dimensions				Part Number
						W	L	E	C	
F	—	—	8	.020 0.51	Brass	.310 7.87	.692 17.58	.505 12.83	.312 7.92	63147-1
	—	—	8	.020 0.51	Tin Plated Brass	.310 7.87	.692 17.58	.505 12.83	.312 7.92	63147-2*

\*Available on request

#### Wire Size Range 14–12 AWG [1.628–2.05 mm] or (2) 15 AWG [1.45 mm]

Type	Insulation Dia. Range	Hole Dia.	Stud Size	Stock Thk.	Material	Dimensions				Part Number
						W	L	E	C	
G	—	—	8	.025 0.64	Brass	.342 8.69	.945 24.00	.750 19.05	.570 14.48	62755-1

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

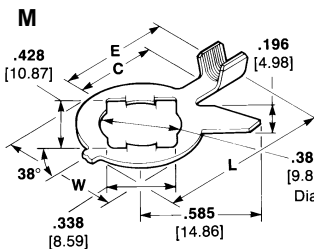
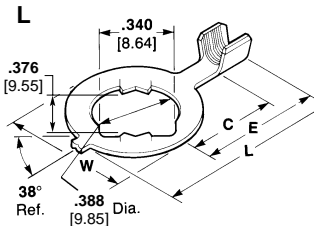
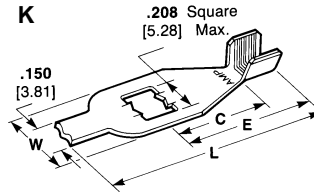
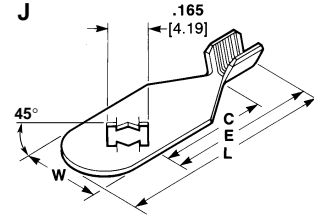
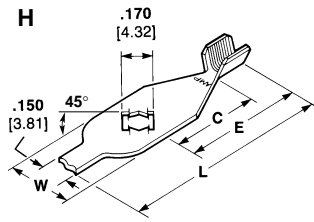
Dimensions are shown for reference purposes only. Specifications subject to change.

Technical Support  
USA: 1-800-522-6752  
Canada: 1-905-475-6222  
Mexico: 01-800-733-8926

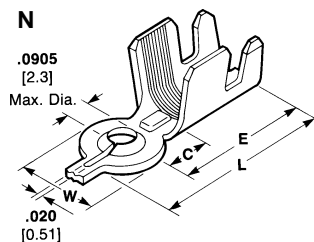
www.tycoelectronics.com

## AMPLIVAR Terminals (Continued)

### Stud Retaining Terminals



### Alternator Eyelet Terminal



### Wire Size Range 13–11 AWG [1.83–2.3 mm]

Type	Insulation Dia. Range	Hole Dia.	Stud Size	Stock Thk.	Material	Dimensions				Part Number
						W	L	E	C	
A	.085-.150 2.16-3.81	.180 4.57	8	.025 0.64	Brass	.342 8.69	.833 21.16	.662 16.81	.312 7.92	61710-1
C	—	.180 4.57	8	.025 0.64	Tin Plated Brass	.342 8.69	.665 16.89	.495 12.57	.312 7.92	350571-1
		.197 5.00	10	.025 0.64	Tin Plated Brass	.342 8.69	.665 16.89	.495 12.57	.312 7.92	640212-1

### Wire Range (1) 18 AWG [1.024 mm] and (1) 20.5 AWG [0.768 mm]

Type	Insulation Dia. Range	Hole Dia.	Stud Size	Stock Thk.	Material	Dimensions				Part Number
						W	L	E	C	
J	—	—	8	.020 0.51	Brass	.340 8.64	.955 24.26	.660 16.76	.500 12.7	505044-1

### Wire Range (2) 17 AWG [1.51 mm] or (2) 15 AWG [1.45 mm]

Type	Insulation Dia. Range	Hole Dia.	Stud Size	Stock Thk.	Material	Dimensions				Part Number
						W	L	E	C	
B	.150-.190 or (2) .115 3.18-4.83 or (2) 2.92	.171 4.34	8	.025 0.64	Tin Plated Brass	.342 8.69	.827 21.01	.656 16.66	.312 7.92	60752-2
		.197 5.00	10	.025 0.64	Tin Plated Brass	.342 8.69	.827 21.01	.656 16.66	.312 7.92	61151-1

### Wire Range 16–13.5 AWG [1.29–1.78 mm]

Type	Insulation Dia. Range	Hole Dia.	Stud Size	Stock Thk.	Material	Dimensions				Part Number
						W	L	E	C	
K	—	—	10	.020 0.51	Brass	.340 8.64	1.220 30.99	.660 16.76	.500 12.7	505079-1

### Wire Range 14.5 AWG [1.539 mm]

Type	Insulation Dia. Range	Hole Dia.	Stud Size	Stock Thk.	Material	Dimensions				Part Number
						W	L	E	C	
N	—	—	2	.025 0.64	Tin Plated Brass	.240 6.1	.620 15.75	.500 12.7	.165 4.19	505036-1
			2	.025 0.64	Brass	.240 6.1	.620 15.75	.500 12.7	.165 4.19	505036-3

### Wire Range (2) 13 AWG [1.83 mm]

Type	Insulation Dia. Range	Hole Dia.	Stud Size	Stock Thk.	Material	Dimensions				Part Number
						W	L	E	C	
B	.150-.190 3.81-4.83	.171 4.34	8	.025 0.64	Tin Plated Brass	.342 8.69	.827 21.00	.656 16.66	.312 7.92	63864-1

### AMPLIVAR Terminals (Continued)

#### 125 Series Blade

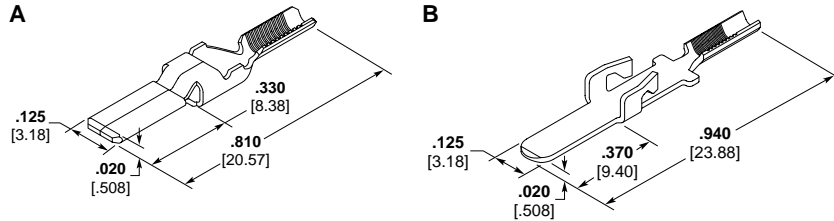
##### Stock Thickness

A = .013 [0.33]  
B = .020 [0.51]

Mates with Power Blade Receptacle terminals 61603-1, 61604-1, 770642-1 and 1217039-1

##### Housings

Contact Tyco Electronics Engineering for housing options available



Type	Magnet Wire Range				Material	Material Thickness	Part Number
	AWG	mm <sup>2</sup>	Solid Dia.	CMA			
A	27-20.5	0.10-0.45	.015-.030 0.35-0.75	200-850	Tin Plated Brass	.013 0.33	63871-1
	24-18	0.2-0.8	.020-.040 0.50-1.00	400-1600	Tin Plated Brass	.013 0.33	63889-1
	18.5-13.5	0.75-2.5	.040-.070 0.50-1.80	1500-5000	Tin Plated Brass	.016 0.41	63870
B	27-20.5	0.10-0.45	.015-.030 0.35-0.75	200-850	Tin Plated Brass	.013 0.33	1217072-1
	24-18	0.2-0.8	.020-.040 0.50-1.00	400-1600	Tin Plated Brass	.020 0.51	1217029-1
	18.5-13.5	0.75-2.5	.040-.070 0.50-1.80	1500-5000	Tin Plated Brass	.020 0.51	1217073-1

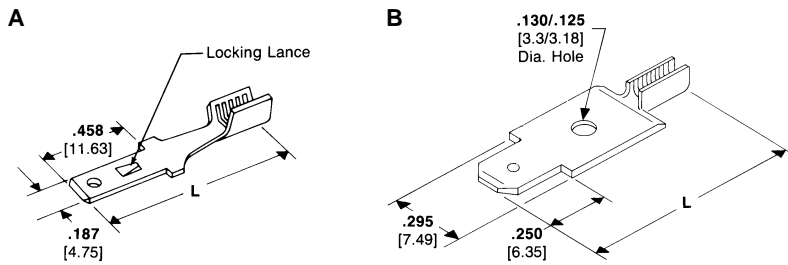
#### 187 Series FASTON Tabs<sup>1</sup>

##### Board Thickness

A = .062-.072 [1.57-1.83]

##### Stock Thickness

A = .020 [0.51]  
B = .032 [0.81]



Type	Wire Range		Material	Dim. L	Part Number
	AWG	mm <sup>2</sup>			
B	27-23	0.1-0.2	Tin Plated Brass	.935 23.75	63484-1 <sup>2</sup>
	24-21	0.2-0.4	Tin Plated Brass	.935 23.75	61440-3 <sup>†</sup>
A	22-16	0.3-1.4	Tin Plated Brass	1.015 25.78	62447-1
	15-13	1.6-2.6	Tin Plated Brass	.935 23.75	61442-3 <sup>†</sup>
	15-12	1.6-3.0	Tin Plated Brass	1.015 25.78	62445-1

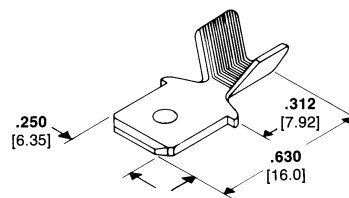
<sup>2</sup> Varnish resist coating.

<sup>†</sup> These part numbers are available upon special request, contact Tyco Electronics Engineering for details.

#### 250 Series FASTON Tabs<sup>1</sup>

##### Stock Thickness

.032 [0.81]



Wire Range	Material	Part Number	Quick-Change Applicator <sup>3</sup>
14-12	Tin Plated Brass	62922-1 <sup>2</sup>	466510-1

<sup>2</sup> Varnish resist coating.

<sup>3</sup> Quick-Change Applicator for AMP-O-LECTRIC Machine 565435-5. For AMPOMATOR Machine and other machines not listed, contact Tyco Electronics.

<sup>1</sup>Mates with FASTON receptacles. See AMP Catalog 82004.

**AMPLIVAR Terminals** (Continued)

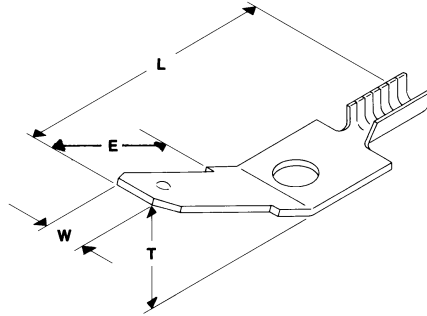
**250 Series FASTON Tabs<sup>1</sup>**

(Continued)

**Stock Thickness**

.032 [0.81]

<sup>1</sup> Mates with FASTON receptacles.  
See AMP Catalog 82004.



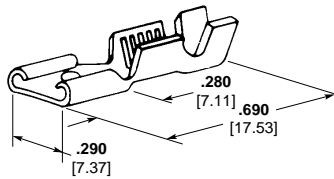
Wire Range		Material	Dimensions				Part Number
AWG	mm <sup>2</sup>		W	L	E	T	
28-23.5	0.08-0.2	Tin Plated Brass	.250 6.35	.580 14.73	.342 8.69	45°	63136-1
25-19.5	0.16-0.6	Tin Plated Brass	.250 6.35	.650 16.51	.450 11.43	30°	63140-1
23-19	0.2-0.6	Tin Plated Brass	.250 6.35	.225 5.72	.583 14.81	15°	63165-1

**250 Series FASTON Receptacles<sup>1</sup>**

**Stock Thickness**

.016 [0.41]

<sup>1</sup> Mates with FASTON tabs.  
See AMP Catalog 82004.



Magnet Wire Range		Insulation Diameter	Mating Tab Thk.	Material	Material Thickness	Part Number	Applicator No.
CMA	mm <sup>2</sup> Dia.						
24-19	0.51-0.98	.050-.080 1.30-2.00	.020 0.51	Brass Tin Plated Brass	.016 0.41	63623-1 <sup>1</sup> 63623-2 <sup>1</sup>	567451-2 <sup>2</sup>
23-19 or (2) 24 or (2) 26	0.60-0.98 or (2) 0.57 or (2) 0.45	.050-.100 1.30-2.55	.025 0.64	Brass	.016 0.41	62069-1	567343-2 <sup>2</sup>
20-16 or (2) 23 or (2) 20	0.85-1.37 or (2) 0.63 or (2) 0.88	.100-.140 or (2) .060 Max. 2.55-3.55	.032 [0.81]	Brass Tin Plated Brass	.016 0.41	60384-1 60384-2	466010-1 <sup>2</sup>
20-16	0.85-1.37	.100-.140 2.55-3.55	.020 0.51	Brass	.016 0.41	62080-1	466010-1 <sup>2</sup>
18-14 or (2) 17	1.02-1.71	.120-.170 or (2) .060 Max. 3.05-4.30	.032 [0.81]	Tin Plated Brass	.016 0.41	60385-2	466816-1 <sup>2</sup>
18-14 or (2) 19	1.02-1.71	.120-.170 3.05-4.30	.020 0.51	Brass	.016 0.41	63622-1 <sup>1</sup>	466816-1 <sup>2</sup>
18-14 or (2) 19	1.02-1.71	.120-.170 3.05-4.30	.020 0.51	Brass	.016 0.41	1217835-1 <sup>1</sup>	466816-1 <sup>2</sup>

<sup>1</sup> Low insertion force

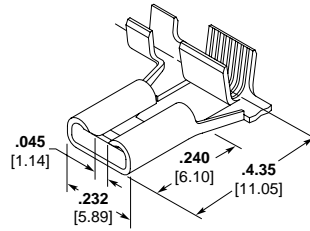
<sup>2</sup> Quick-Change Applicator for AMP-O-LECTRIC Machine 565435-5.

**AMPLIVAR Terminals** (Continued)

**187 Series FASTON Flag Receptacles**

**Stock Thickness**

.016 [0.41]



Magnet Wire Range		Insulation Diameter	Mating Tab Thk.	Material	Material Thickness	Part Number	Applicator No.
CMA	mm <sup>2</sup> Dia.						
500-960	0.56-0.79	.020-.040 0.51-1.02	.020 0.51	Tin Plated Brass	.016 0.41	63942-1	566411-11
24-20 AWG	0.51-0.81	.020-.040 0.51-1.02	.032 0.81	Tin Plated Brass	.016 0.41	1217624-1	566411-11
1500-2350	0.99-1.22	.020-.040 0.51-1.02	.020 0.51	Tin Plated Brass	.016 0.41	63941-1	566410-11
2000-4050	1.14-1.63	.020-.040 0.51-1.02	.020 0.51	Tin Plated Brass	.016 0.41	63940-1	680353-3 <sup>2</sup>
2000-4050	1.14-1.63	.020-.040 0.51-1.02	.032 0.81	Tin Plated Brass	.016 0.41	1217417-1	680353-3 <sup>2</sup>

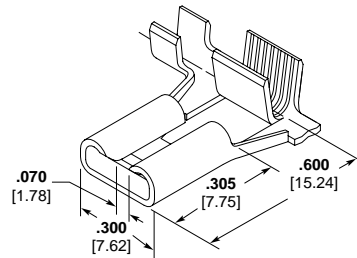
<sup>1</sup> Standard Applicator for "G" Splice Terminator No. 356462-2.

<sup>2</sup> Quick-Change Applicator for "G" Splice Terminator No. 356462-1.

**250 Series FASTON Flag Receptacles**

**Stock Thickness**

.018 [0.45]



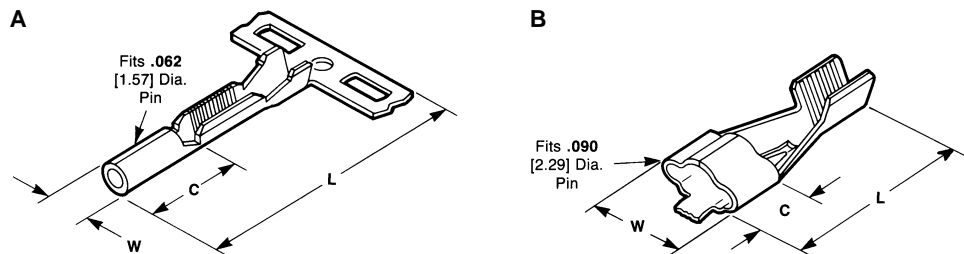
Magnet Wire Range		Insulation Diameter	Mating Tab Thk.	Material	Material Thickness	Part Number	Applicator No.
CMA	mm <sup>2</sup> Dia.						
16-12	1.29-2.13	.120-.170 3.05-4.32	.032 0.81	Tin Plated Phos Bronze	.018 0.45	63944-1	680421-3 <sup>1</sup>

<sup>1</sup> Quick-Change Applicator for "G" Splice Terminator No. 356462-1.

**Pin Receptacles**

**Stock Thickness**

.016 [0.41]



Type	Wire Range		Insulation Dia. Range	Material	Dimensions			Part Number
	AWG	mm <sup>2</sup>			W Max.	L	C	
A	29-22	0.07-0.3	.040-.060 1.02-1.52	Tin Plated Brass	.084 2.13	.590 14.99	.195 4.95	63506-1
B	21-16	0.4-1.4	—	Tin Plated Phos. Bronze	.235 5.97	.660 16.76	.250 6.35	60177-2

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

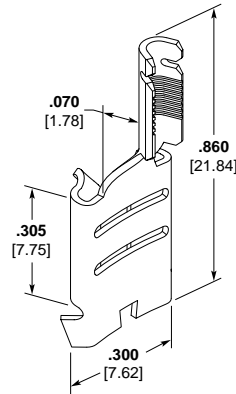
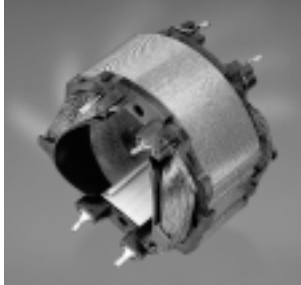
Dimensions are shown for reference purposes only. Specifications subject to change.

Technical Support  
USA: 1-800-522-6752  
Canada: 1-905-475-6222  
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**AMPLIVAR Terminals** (Continued)

**250 Series Stator Receptacles — 7 Serrations**



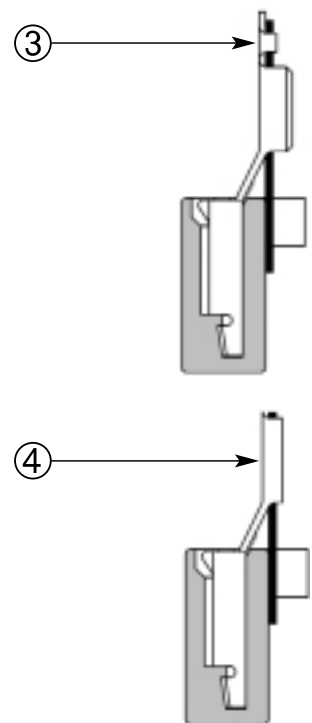
AWG	Magnet Wire Range		CMA	Mating Tab Thickness	Stock Thickness	Crimp Width	Material	Part Number
	mm <sup>2</sup>	Solid Dia.						
27-22	0.10-0.3	<b>.014-.026</b> 0.35-0.66	200-700	<b>.032</b> 0.81	<b>.018</b> 0.44	<b>.070</b> 1.77	Tin Plated Brass	63480-1
21-15	0.4-1.6	<b>.028-.060</b> 0.71-1.52	800-3600	<b>.032</b> 0.81	<b>.018</b> 0.44	<b>.110</b> 2.79	Tin Plated Brass	62381-1
22-15.5	0.3-1.5	<b>.053-.086</b> 1.35-2.18	2800-7400	<b>.032</b> 0.81	<b>.018</b> 0.44	<b>.155</b> 3.94	Tin Plated Brass	63964-1

**Stator Terminal — Receptacle .250 x .032 [6.35 x 0.81]**

- ① **Stator Terminal** with Receptacle .250 x .032 [6.35 x 0.81]
- ② **Plastic Cavity**  
Production only according to Tyco Electronics Specifications (Contact Tyco Electronics Engineering for details).  
For design and material selection Tyco Electronics Engineering **has to be** contacted before decision.  
The terminal is separated from the strip and placed automatically into the cavity.



- ③ **Wire Clamping Barrel**  
The magnet wire is positioned via posts into the AMPLIVAR crimp barrel and fixed inside clamping barrel.
- ④ **AMPLIVAR Crimp**  
The AMP application equipment crimps the AMPLIVAR connection and cuts the extending clamping barrel in one operation.

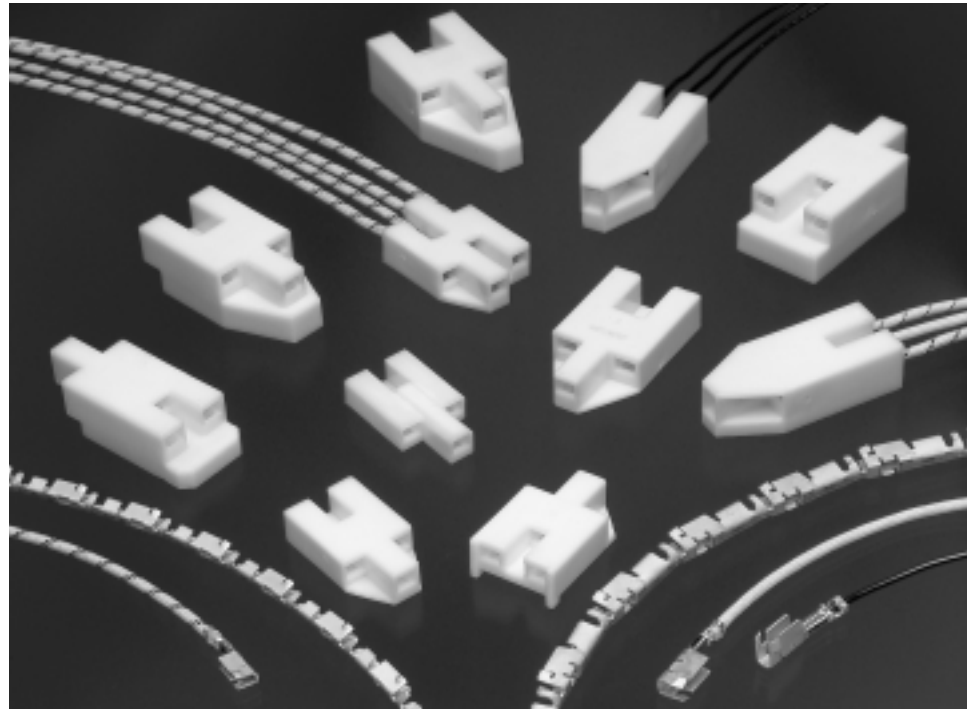


**Additional versions upon request.**  
**Application Tooling for Production Line Integrating available upon request.**

## Cluster Blocks

### Product Facts

- Pin receptacle terminals available in tin-plated phosphor bronze
- Versions available to accept .090 [2.29] and .125 [3.18] header pins
- Accepts wire range 18–16 AWG [0.8–1.4 mm<sup>2</sup>] and 14–12 AWG [2.0–3.0 mm<sup>2</sup>]
- Thermoplastic polyester housing
- Impervious to many oils and refrigerants
- Insulation compatibility
- Housings available to accept standard and reversed header pin layouts
- High-performance electrical and mechanical contact
- High-impact resistance housings
- Assemblies accept pins from one side only to prevent reversed polarity
- High-speed application of pin receptacle terminals with AMP automatic terminating machines and quick-change applicators for high volume production rates at the lowest installed cost
- Pin receptacle terminals are easily removed from the housing for maintenance and repair
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476

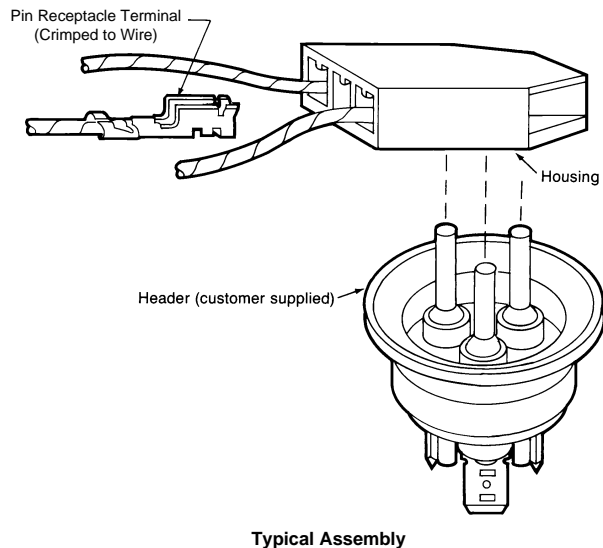


Tyco Electronics features AMP Cluster Blocks that offer manufacturers of air conditioning and refrigeration products a low-cost, fully insulated, quick-connect means for electrically connecting sealed hermetic header pins on compressors. Cluster Blocks feature high impact resistance to shock and abuse, and long-life performance in the presence of oils and refrigerants. Since the connectors accept pins from only one side, the danger of reversing polarity at the time of installation is prevented.



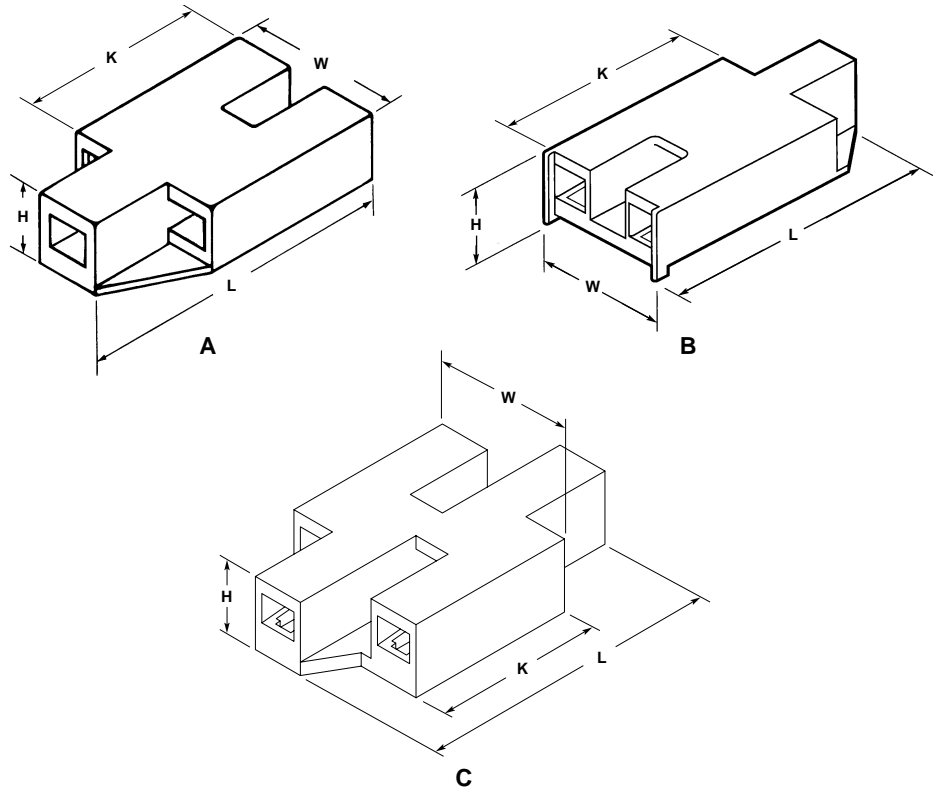
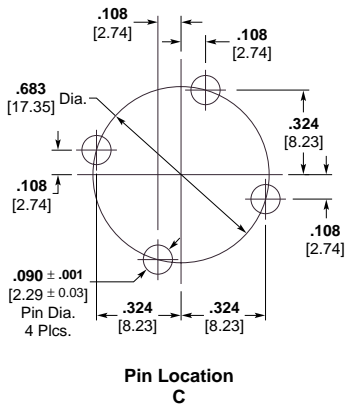
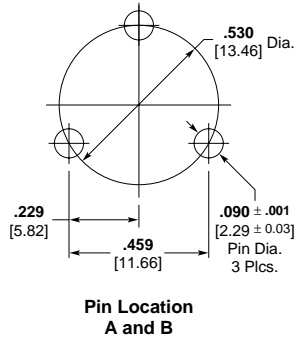
The one-piece housings are molded from thermoplastic polyester. The connector accepts .090 [2.29] and .125 [3.18] diameter pin sizes in either standard or reverse pin layouts. Housings accept both lead wire and AMPLIVAR direct connect pin receptacle

terminals made from phosphor bronze material. These are precision formed and available on reels for high-speed application. High retention pin receptacle terminals are available to provide optimum terminal retention in housings.



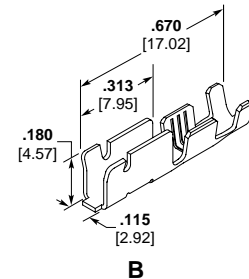
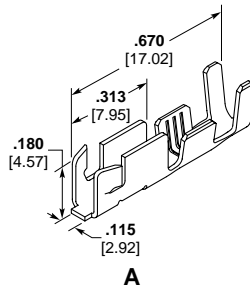
**Cluster Blocks .090 [2.29] Pin Size (Lead Wire)**

**Housings**



Type	Center Pin Position	Header Pin Circle Dia.	Dim. L	Dim. W	Dim. H	Dim. K	Material	Part Number
A	Forward	.530 13.46	1.245 31.60	.710 18.05	.355 9.00	.850 21.60	PBT Polyester 15% Glass Reinforced	1217263-1
	Forward	.530 13.46	1.240 31.50	.710 18.05	.320 8.15	.840 21.35	PBT Polyester 15% Glass Reinforced	360050-1
	Forward	.530 13.46	1.220 31.00	.695 17.65	.260 6.60	.820 20.85	PBT Polyester 15% Glass Reinforced	521078-1
B	Back	.530 13.46	1.225 31.10	.810 20.55	.320 8.15	.840 21.35	PBT Polyester 15% Glass Reinforced	360033-1
	Back	.530 13.46	1.200 30.50	.695 17.65	.310 7.85	.805 20.40	PBT Polyester Non-Reinforced	281006-0
C	—	.683 17.35	1.490 37.85	.900 22.85	.355 9.00	.845 21.45	PBT Polyester 15% Glass Reinforced	1217262-1

**Pin Receptacles**



Type	AWG/ mm <sup>2</sup>	Wire Range Solid Dia.	CMA	Crimp Width	Insulation Diameter	Crimp Width	Stock Thickness	Material	Part Number
A	22-14	.025-.065	—	.100	.080-.150	.130	.016	Tin Plated Phos Bronze	1217264-1
	0.3-2.0	0.65-1.65	—	2.54	2.00-3.80	3.30	0.41		
B	18-16	.040-.050	—	.110	.060-.100	.140	.016	Tin Plated Phos Bronze	62131-3
	0.8-1.4	1.00-1.30	—	2.79	1.50-2.55	3.56	0.41		
B	18-16	.040-.050	—	.110	.090-.170	.180	.016	Tin Plated Phos Bronze	63448-1
	0.8-1.4	1.00-1.30	—	2.79	2.30-4.30	4.57	0.41		

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

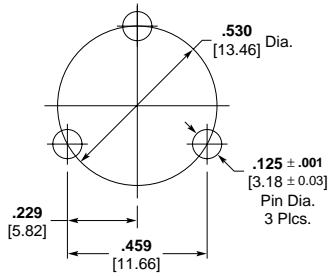
Dimensions are shown for reference purposes only. Specifications subject to change.

Technical Support  
USA: 1-800-522-6752  
Canada: 1-905-475-6222  
Mexico: 01-800-733-8926

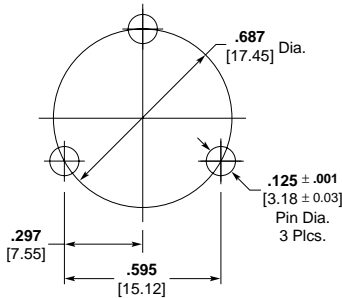
www.tycoelectronics.com

**Cluster Blocks .125 [3.18] Pin Size (Lead Wire and Direct Connect)**

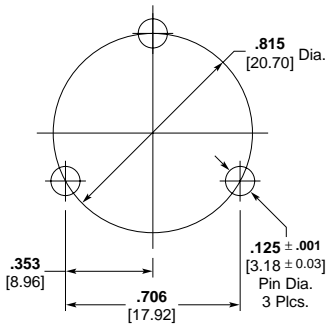
Housings



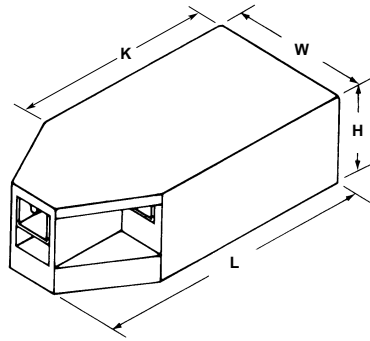
Pin Location  
A and D



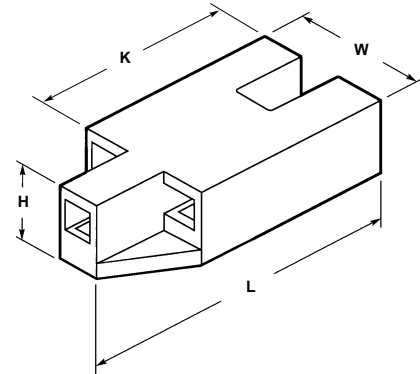
Pin Location  
B



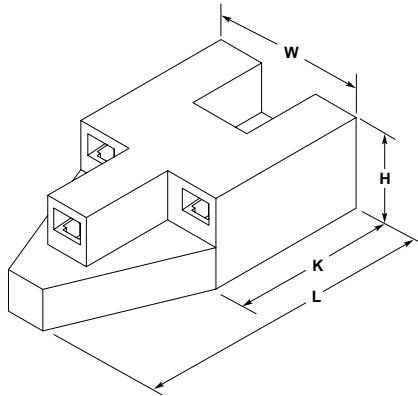
Pin Location  
C



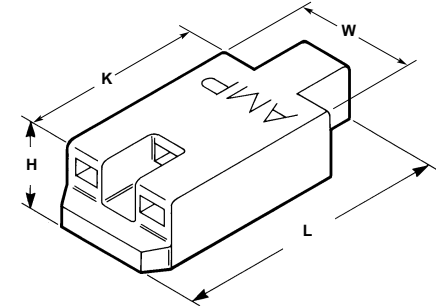
A



B



C



D

Type	Center Pin Position	Header Pin Circle Dia.	Dim. L	Dim. W	Dim. H	Dim. K	Material	Part Number
A	Forward	.530 13.46	1.755 44.60	.765 19.45	.525 13.35	1.230 31.25	PBT Polyester 15% Glass Reinforced	1217181-1
	Forward	.530 13.46	1.755 44.60	.765 19.45	.470 11.95	1.230 31.25	PBT Polyester 15% Glass Reinforced	360052-1
B	Forward	.687 17.45	1.730 43.95	.895 22.75	.615 15.60	1.080 27.45	PBT Polyester 15% Glass Reinforced	1217186-1
	Forward	.687 17.45	1.595 40.50	.895 22.75	.380 9.65	1.080 27.45	PBT Polyester 15% Glass Reinforced	520995-1
C	Forward	.815 20.70	1.975 50.15	1.015 25.80	.590 15.00	1.050 26.65	PBT Polyester Non-Reinforced	1217261-1
	Back	.530 13.46	1.860 47.25	.765 19.45	.525 13.35	1.225 31.10	PBT Polyester 15% Glass Reinforced	1217200-1
D	Back	.530 13.46	1.755 44.60	.765 19.45	.470 11.95	1.225 31.10	PBT Polyester 15% Glass Reinforced	360051-1
	Back	.687 17.45	1.850 47.00	.895 22.75	.615 15.60	1.225 31.10	PBT Polyester 15% Glass Reinforced	1217187-1

Cluster Blocks

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

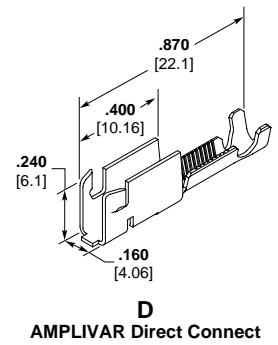
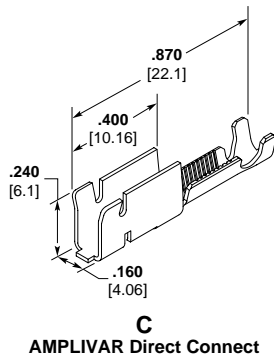
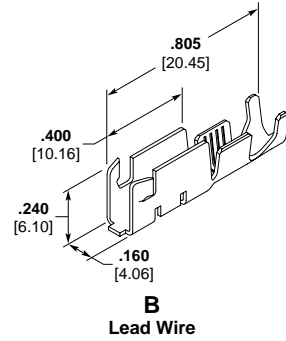
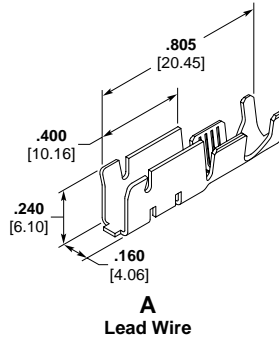
Dimensions are shown for reference purposes only. Specifications subject to change.

Technical Support  
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Canada: 1-905-475-6222  
Mexico: 01-800-733-8926

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**Cluster Blocks .125 [3.18] Pin Size (Lead Wire and Direct Connect)** (Continued)

Pin Receptacles



Type	AWG/ mm <sup>2</sup>	Wire Range Solid Dia.	CMA	Crimp Width	Insulation Diameter	Crimp Width	Stock Thickness	Material	Part Number
A	18-16 0.8-1.4	.040-.050 1.00-1.30	—	.110 2.79	.090-.130 2.30-3.30	.155 3.94	.020 0.51	Tin Plated Phos Bronze	62244-3
	18-16 0.8-1.4	.040-.050 1.00-1.30	—	.110 2.79	.090-.130 2.30-3.30	.155 3.94	.020 0.51	Phos Bronze	62244-5
B	14-10 2.0-6.0	.065-.100 1.60-2.60	—	.140 3.56	.130-.170 3.30-4.30	.180 4.57	.020 0.51	Tin Plated Phos Bronze	62243-3
	18-16 0.8-1.4	.040-.050 1.00-1.30	—	.110 2.79	.090-.130 2.30-3.30	.155 3.94	.020 0.51	Tin Plated Phos Bronze	1217176-1
C	14-10 2.0-6.0	.065-.100 1.60-2.60	—	.140 3.56	.130-.170 3.30-4.30	.170 4.32	.020 0.51	Tin Plated Phos Bronze	1217175-1
	—	.020-.040 0.50-1.00	400-1600	.090 2.27	.060-.100 1.50-2.55	.140 3.56	.020 0.51	Tin Plated Phos Bronze	63908-1
D	—	.020-.040 0.50-1.00	400-1600	.090 2.27	.060-.100 1.50-2.55	.140 3.56	.020 0.51	Tin Plated Phos Bronze	63453-1
	—	.040-.065 1.00-1.65	1500-4200	.110 2.79	.075-.125 1.90-3.20	.155 3.94	.020 0.51	Tin Plated Phos Bronze	63907-1
A	—	.040-.065 1.00-1.65	1500-4200	.110 2.79	.075-.125 1.90-3.20	.155 3.94	.020 0.51	Tin Plated Phos Bronze	63454-1
	—	.065-.090 1.65-2.30	4000-8500	.140 3.56	.090-.170 2.30-4.30	.170 4.32	.020 0.51	Tin Plated Phos Bronze	63906-1
B	—	.065-.090 1.65-2.30	4000-8500	.140 3.56	.090-.170 2.30-4.30	.170 4.32	.020 0.51	Tin Plated Phos Bronze	63455-1
	—	.065-.090 1.65-2.30	4000-8500	.160 4.06	.090-.170 2.30-4.30	.170 4.32	.020 0.51	Tin Plated Phos Bronze	1217122-1
C	—	.020-.040 0.50-1.00	400-1600	.090 2.27	.060-.100 1.50-2.55	.140 3.56	.020 0.51	Tin Plated Phos Bronze	1217670-1
	—	.020-.040 0.50-1.00	400-1600	.090 2.27	.060-.100 1.50-2.55	.140 3.56	.020 0.51	Tin Plated Phos Bronze	1217172-1
D	—	.040-.065 1.00-1.65	1500-4200	.110 2.79	.075-.125 1.90-3.20	.155 3.94	.020 0.51	Tin Plated Phos Bronze	1217671-1
	—	.040-.065 1.00-1.65	1500-4200	.110 2.79	.075-.125 1.90-3.20	.155 3.94	.020 0.51	Tin Plated Phos Bronze	1217174-1
A	—	.065-.090 1.65-2.30	4000-8500	.140 3.56	.090-.170 2.30-4.30	.170 4.32	.020 0.51	Tin Plated Phos Bronze	1217672-1
	—	.065-.090 1.65-2.30	4000-8500	.140 3.56	.110-.150 2.80-3.80	.170 4.32	.020 0.51	Tin Plated Phos Bronze	1217173-1

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

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Mexico: 01-800-733-8926

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## AMPLIVAR and Cluster Blocks 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

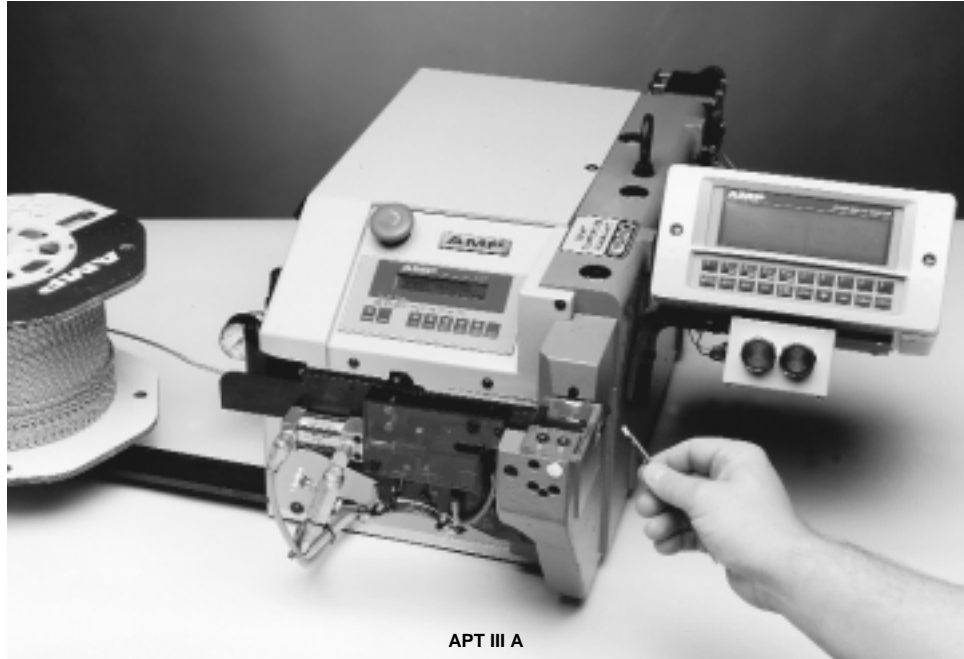
**Width** — 38 [965] with CQM and product reel

**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 splices or direct connection of contacts to 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 or contact, simply place the wires in the target area and depress the foot switch. The machine automatically shears the splice or contact from the strip, crimps it, shears off excess wire, and advances the next splice or contact 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.

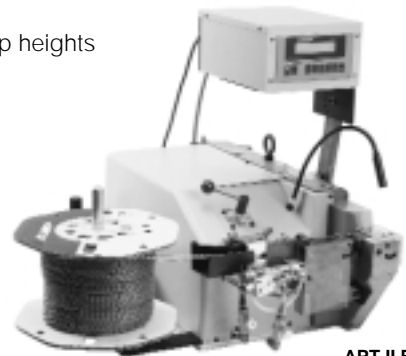
For operations with multiple wire sizes, the APT IIIA provides programmable sequencing of different crimp-height settings, and it can store up to 2,000 different programs of 7 different settings each. The maximum time to auto-adjust between programmed crimp heights is 2 seconds.

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 or contact, an optional stuffer (part no. 679323-1 for APT IIIA, part no. 679323-2 for APT IIE.) inserts a stuffer wire into the splice or contact 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

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

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## AMPLIVAR and Cluster Blocks 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	Direct Connect Contact
Manual	Not included	Not included	APT IIE**	□-1338906-□	□-1338907-□
Automatic	Included	Included	APT IIIA	□-679453-□	□-679457-□

\*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

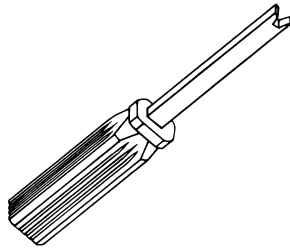
(Aluminum base 679984-1 not included)

Pigtail-type Splice Base Number	Crimp Width	120/240 VAC IIE Machine □-1338906-□	120/240 VAC IIIA Machine □-679453-□
42775			
42776	.110 [2.79]	1-( )-1	3-( )-7
42777			
42778	.110 [2.79]	1-( )-2	3-( )-8
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			
62200	.110 [2.79]	1-( )-2	3-( )-8
62295	.250 [6.35]	( )-1	2-( )-7
62303	.080 [2.03]	1-( )-3	3-( )-9
62304			
62305	.110 [2.79]	1-( )-2	3-( )-8
62306	.140 [3.56]	1-( )-0	3-( )-6
62306			
62307	.110 [2.79]	1-( )-1	3-( )-7
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

### AMPLIVAR Direct Connect Contact Suffix and Prefix Dash Numbers

(Aluminum base 679984-1 included)

Direct Connect Contact Base Number	Crimp Width	120/240 VAC IIE Machine □-1338907-□	120/240 VAC IIIA Machine □-679457-□
63453	.090 [2.286]	( )-3	( )-8
63454	.110 [2.79]	( )-2	( )-7
63455	.140 [3.56]	( )-1	( )-6
63548	.090 [2.286]	( )-5	1-( )-0
63549	.110 [2.79]	( )-4	( )-9
63906	.140 [3.56]	( )-1	( )-6
63907	.110 [2.79]	( )-2	( )-7
63908	.090 [2.286]	( )-3	( )-8
1217122	.160 [4.064]	1-( )-1	1-( )-2
1217172	.090 [2.286]	( )-3	( )-8
1217173	.140 [3.56]	( )-1	( )-6
1217174	.110 [2.79]	( )-2	( )-7
1217670	.090 [2.286]	( )-3	( )-8
1217671	.110 [2.79]	( )-2	( )-7
1217672	.140 [3.56]	( )-1	( )-6



Extraction Tool  
Part No. 274186-1

**AMPLIVAR and Cluster Blocks Application Tooling** (Continued)

**AMP-O-LECTRIC Termination Machines**



**Model "G"**

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.)

**Specifications**

- Weight** — Approximately 240 lb [110 kg]
- Height** — 20 [508] without reel
- 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
- 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

For complete information, request Catalog 65828.



**Model "K"**

These machines are used with standard style applicators, generally to apply one size and type of terminal without the need for frequent changeovers of applicators or adjustment of crimp height. The basic model is Part Number 1-471273-2. Part Number 1-471273-3 is equipped with a mechanical feed assembly for applicators requiring this type of feed for advancing the terminal strip.

**Specifications**

- Weight** — Approximately 230 lb [104 kg]
- Height** — 24 [610] without reel
- Width** — 21 [533]
- Depth** — 20 [508]
- Electrical** — 120 VAC, 60 Hz, 6 A
- Air** — 90-110 psi [6.21-7.59 bar] when required for use with air-feed applicators

**Crimp Quality Monitor**



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**

- Height** — 4.5 [114]
- Width** — 8.5 [216]
- Depth** — 9 [229]
- Electrical** — 120 VAC, 50 or 60 Hz, or 220 VAC, 50 or 60 Hz
- Printer Port** — Serial Interface

For further information, request Catalog 82275.

**AMPLIVAR and Cluster Blocks Application Tooling** (Continued)

**Model G Splice Terminating Machine, P/N 356462-2 & Applicator**



**Semiautomatic bench machine** crimps reeled splice product. Uses Standard G Splice Applicators to provide access to both sides of the splice product. Features a quiet, reliable motor drive, microprocessor controls for ease of setup and operation and guarding and lighting designed for operator convenience. Manual precision crimp height adjust is standard and machine-mounted sensors are available for crimp quality monitoring.

**Specifications**  
**AMP-O-LECTRIC Model "G" Thru Splice Terminator**

**Capacity** — 5 000 lb [2 224 N] max. crimp force

**Deflection** — .003 [0.076] max. per 1 000 lb [445 N] crimp force

**Noise** — 76 dB max. at 5 000 lb [2 224 N] full capacity

**Weight** — Approx. 240 lb [109 kg]

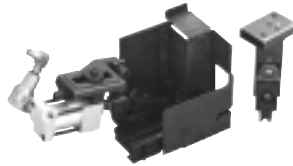
**Height** — 20 [508]

**Electrical** — 120/220 VAC, 50/60 Hz; Avg. 2.6 A at 120 VAC when used as a bench-top unit at 2 000 cycles per hour operating rate

**Air** — 90-110 psi [6.21-7.58 bar], 6 scfm [0.00283 m<sup>3</sup>/s] (when required for use with air-feed applicators)

For more information, order Catalog 889021.

**Standard G Splice Applicator**  
*Available for the AMP-O-LECTRIC Model G splice terminator only.*



**Two-piece applicator** for crimping end- or side-feed reeled splice products. Provides access to both sides of splice for increased ease of use and productivity. Applicators use an air feed mechanism.

**Entry Level Terminator (ELT), 1338600-(x)**



Semiautomatic Bench Terminator for side- and end-feed reeled terminals and contacts. The ELT uses a DC motor with gear box drive. The result is a small-footprint design that is fast and quiet. Cycle time is less than 0.400 sec. with an operation sound level of 76dBa. With a crimp force capacity of 3,000 pounds, the ELT is available for all but the highest crimp force applications. Optional equipment is also available to meet your specific application requirements.

**Specifications**

**Width**—16.8 [427]

**Depth**—20.6 [523]

**Height**—20 [510] w/o reel support

**Weight**—approx. 150 lb [68 kg]

**Electrical**—100-240 VAC, 50/60 Hz, 6 A (Note: Avg <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)

**Wire Range**—Up to 14 AWG [2.5 mm<sup>2</sup>]

For more information, request catalog 1308382.

**AMPLIVAR and Cluster Blocks Application Tooling** (Continued)

**Applicators**



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

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

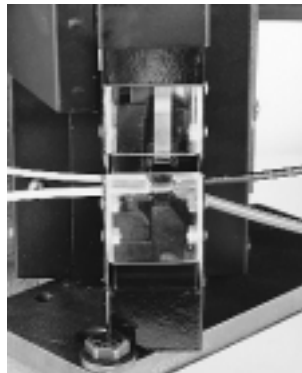
HDM applicators are quickly interchangeable and easily repaired. They feature simple dial-in settings for adjusting crimp height for terminating different wire combinations within the designated CMA range.

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 AMP Tooling Assistance Center 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 Model "K" Part Number 1-471273-3.

**AMPLIVAR and Cluster Blocks  
Application Tooling**

**AMPLIVAR and Cluster Blocks Application Tooling** (Continued)

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

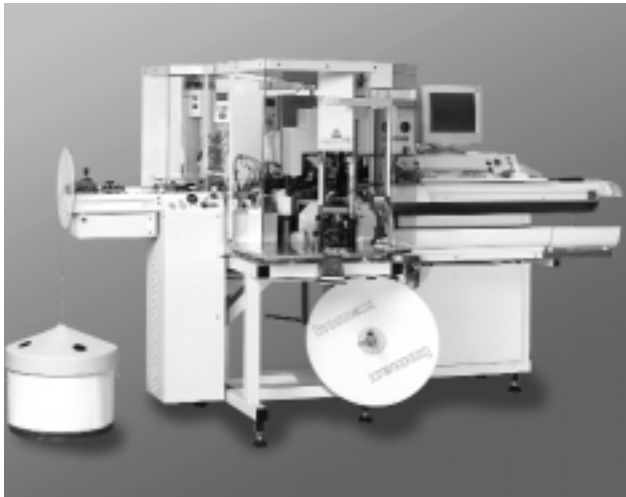


Fully-automatic machines that measure, cut, strip and terminate single leads. Microprocessor-controlled, and programmed and operated using an easy-to-follow, menu-driven touchscreen. Features include direct-drive terminating units with precision crimp height adjustment, fully programmable setups, wire 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**.

**Gamma 333 PC Lead-Making Machine, Three Stations, 1-528324-1**



With its capacity to accommodate an additional processing station on side 1, the Gamma 333 PC can perform a number of new processes. It can produce two-ended crimp leads, process double crimp connections with three different terminals or apply seals on one end of the wire. Tinning and ink jet marking are two further options. Process monitoring is integrated into the system, for accurate trimming and stripping of the wires.

**Specifications**

**Length**—125 [3137]  
**Width**—54.2 [1377]  
**Height**—70.5 [1790]  
**Length Range**— 2.36 in-32.8 ft [60-10,000] (optional 30mm)  
**Cross-Section Range** — AWG 26-AWG 10 [0.125mm<sup>2</sup>-5mm<sup>2</sup>]  
**Noise Level**—<76dB (without crimping modules)  
**Electrical**—3x208 - 480V, 50-60Hz: 6kVA  
**Compressed Air**—5-6 bar  
**Air Consumption**—6.5m<sup>3</sup>/h  
**Weight**—1850 lbs [840 kg] with two crimping modules  
 For more information, request Catalog **1307901**.