

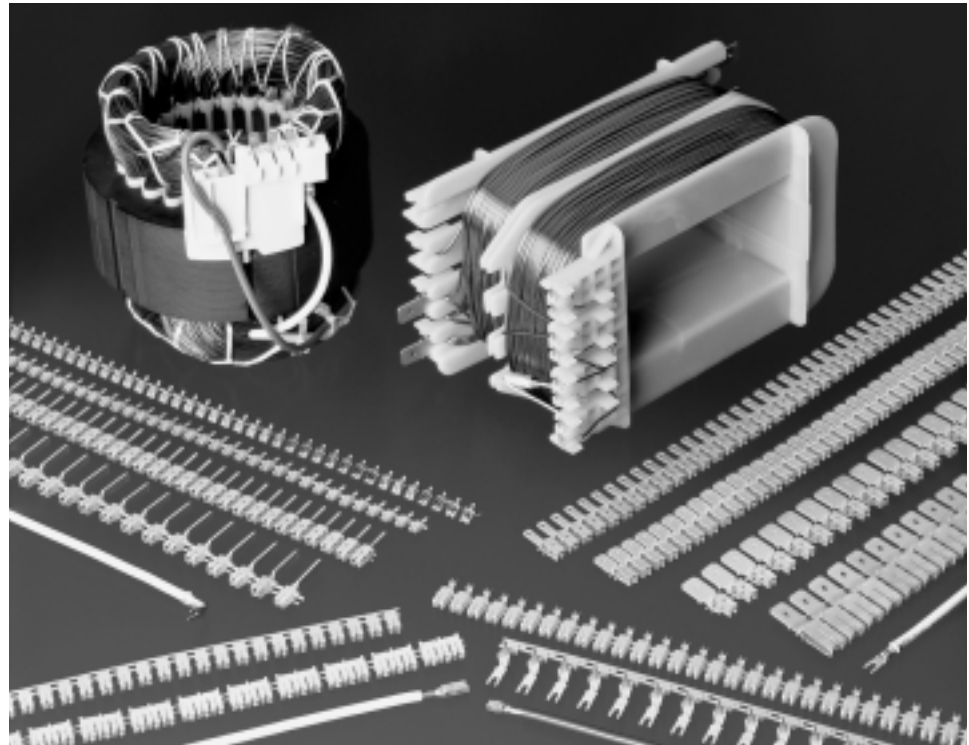
Standard MAG-MATE Terminals

Product Facts

- Terminates all magnet wire film insulations
- Eliminates need for pre-stripping conductors
- Eliminates need to post insulate termination
- Excess magnet wire is automatically trimmed during the termination process
- Simultaneously terminates two magnet wires of the same size in one terminal (for splicing or bi-filing)
- Various lead wire attachment options available
- Available in strip form for semi-automatic or fully automatic insertions
- Available in loose piece form for hand tool insertions
- Varnish resist tab terminals are available for special applications
- High speed, fully automated integrated systems provide uniform terminations reliability at the lowest possible applied cost
- Clean metal-to-metal interface produces stable, gas-tight electrical terminations free of oxides and other contaminants
- Recognized under the Component Recognition Program of Underwriters Laboratories Inc., File No. E13288 

Applications

- Motor windings and connections
- Coil connections
- Transformer windings and connections
- Bobbin connections
- Lighting ballasts
- Power supplies

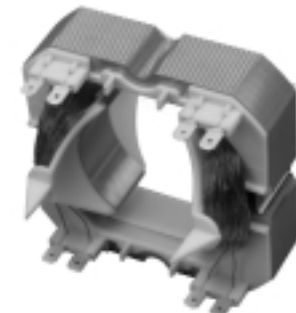


Tyco Electronics offers a full selection of AMP Standard MAG-MATE Insulation Displacement Crimp (IDC) terminals for magnet wire terminations.

MAG-MATE terminals are available in poke-in, poke-in tab, splice, crimp wire barrel, solder post, quick connect tab, pin and receptacle styles.

Standard MAG-MATE terminates magnet wire ranging from 34-12 AWG [0.16 -2.05 mm].

Each IDC slot terminates up to four consecutive magnet wire ranges.



Two magnet wires with the same diameter can be terminated in one terminal down to 23 AWG [0.57 mm].

According to Tyco Electronics specifications MAG-MATE cavities are either integrated into coil bodies or especially designed cavity housings. The magnet wires are precisely positioned in the "U" shaped designed termination slots.

The MAG-MATE Inserter cuts the terminals from the strip and places the terminals over the magnet wire into the plastic cavities.

During this operation the small stripping devices penetrate the film insulation from the magnet wire.

Residual spring energy in the terminal causes the side walls of each IDC slot to function as opposing cantilever beams.

This constant pressure results in an intimate metal-to-metal interface, providing a reliable, long-term connection.

The wiping action between the wire and terminals removes oxides or other contaminants present on both the conductor and the terminal slot side walls, producing a clean, stable, gas-tight electrical termination.

The AMP MAG-MATE Inserter may be used as a semi-automatic bench machine or integrated in production lines for fully-automatic applications.

Standard MAG-MATE Terminals (Continued)

Typical Plastic Cavities

Manufacture only according to Tyco Electronics Specification.

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.

114-2050—Poke-In Tab
MAG-MATE
Terminals

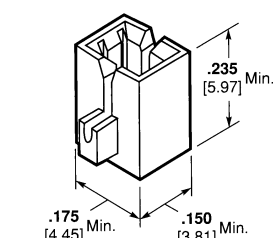
114-2069—Standard
MAG-MATE .187
[4.75] Box Height
Terminals

114-2046—Standard
MAG-MATE .300
[7.62] Box Height
Terminals

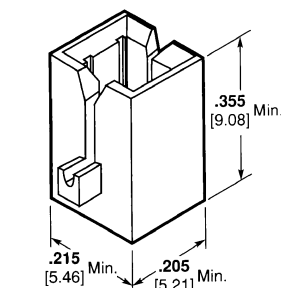
114-2066—Standard
MAG-MATE .500
[12.7] Box Height
Terminals

114-2067—Standard
MAG-MATE .300
[7.62] Box Height
Latch-In Terminals
Narrow Body

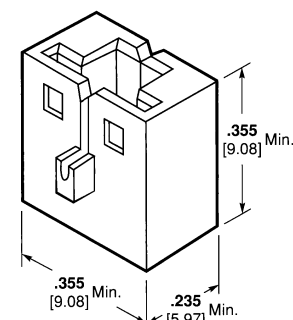
114-2094—Standard
MAG-MATE .300
[7.62] Box Height
Latch-In Terminals
Wide Body



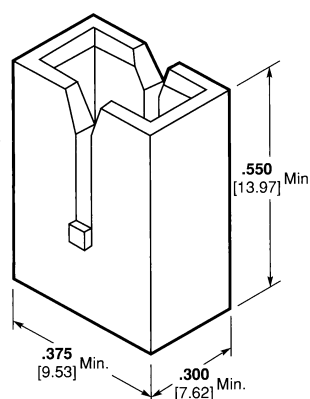
**Cavity Size 1,
.187 [4.75] Box Height MAG-MATE
(Reference Application
Spec. 114-2069)**



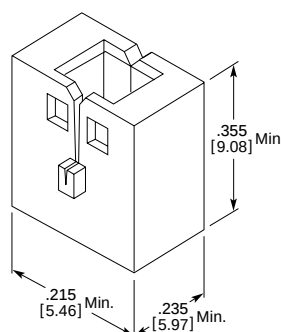
**Cavity Size 2,
.300 [7.62] Box Height MAG-MATE
(Reference Application
Spec. 114-2046)**



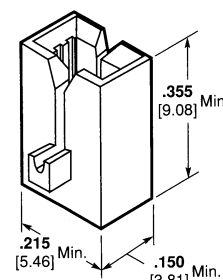
**Cavity Size 3,
.300 [7.62] Box Height
Latch-In MAG-MATE, Wide Body
(Reference Application
Spec. 114-2094)**



**Cavity Size 4,
.500 [12.70] Box Height
MAG-MATE
(Reference Application
Spec. 114-2066)**



**Cavity Size 5,
.300 [7.62] Box Height
Latch-In MAG-MATE, Narrow
Body
(Reference Application
Spec. 114-2067)**



**Cavity Size 6,
.300 [7.62] Box Height
MAG-MATE
(Reference Application
Spec. 114-2046)**

Note: MAG-MATE typical plastic cavities are not for design; Tyco Electronics will supply required dimensions of cavity for each customer application.

Plastic cavities, designed to Tyco Electronics specifications, may be molded as part of the coil bobbin or attached to a lamination stack in the area of the magnet wire coil.

Each cavity is a rectangular box with two narrow slots on opposing walls and a plastic post or anvil extending upward from the bottom surface.

During or after the winding process, the magnet wire is placed across the plastic cavities and into the slots,

either manually or by coil winding equipment.

Unraveling is prevented by a slight friction fit, suitable bend or by wrapping the magnet wire around a tie-off post.

During insertion, two insulation displacing terminal slots strip the film insulation from the magnet wire producing a stable electrical termination.

The plastic anvil supports the magnet wire, helping to prevent it from being dragged down when the terminal is inserted.

Terminal retention is secured in the plastic cavities by either locking barbs or locking latches in addition to locking barbs for

quick disconnect FASTON tab terminals.

Excess magnet wire is trimmed flush with the outside of the plastic cavity by a shear blade traveling with the terminal insertion ram.

The sheared wire end can be tucked inside the plastic cavity, if necessary, by cutting the wire off before the terminal is fully seated allowing the terminal to drag the severed end of the wire into the pocket inside the cavity.

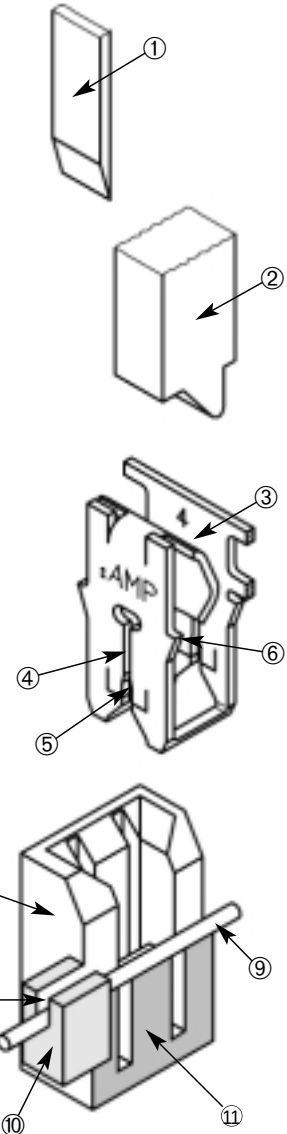
Tyco Electronics will provide design and mold engineering resources to manufacture any specifically designed MAG-MATE cavity housing.

Standard MAG-MATE Terminals (Continued)

Standard MAG-MATE Interconnection System

How the System Operates

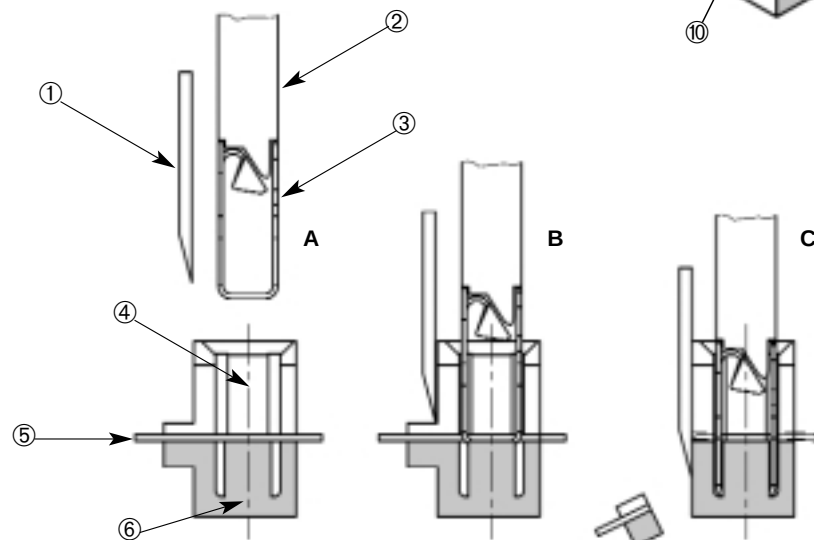
- ① **Wire Cutter**
This part cuts off the excess magnet wire and the wire support at the front of the cavity.
- ② **Insertion Finger**
The insertion finger is part of the MAG-MATE Inserter. It pushes the terminal that was sheared from the carrier strip through the inserter "tube" into the positioned cavity.
- ③ **Contact**
Various wire attachments in three different sizes, .187, .300, .500 cavity height (see tables).
- ④ **IDC Slot**
In different sizes for magnet wire diameters from 34-12 AWG [0.16-2.05 mm]. Strain relief slots available for high vibration applications.
- ⑤ **Stripping Shoulders**
During the insertion process, these shoulders strip the film insulation from the magnet wire in four areas.
- ⑥ **Locking Barbs**
Terminal retention is secured in the cavity by four locking barbs.
- ⑦ **Plastic Cavity**
Production must be in accordance with Tyco Electronics Application Specifications. **Consulting Tyco Electronics is required for design in.**
- ⑧ **Cavity Slot for Wire**
The width has to be in accordance with the wire size (see Application Specification).
- ⑨ **Magnet Wire**
The magnet wire is positioned in the "U" slot.
- ⑩ **Wire Support Block**
The block supports the magnet wire during the cutting process. The magnet wire is cut flush to the cavity front side.
- ⑪ **Anvil**
The anvil supports the wire during the insertion process.



Termination Sequence

- A = Prepare
B = Insert
C = Finish

- ① Post Trim Blade
- ② Insertion Finger
- ③ Poke-In Contact
- ④ MAG-MATE Cavity
- ⑤ Magnet Wire
- ⑥ Support Anvil



Standard MAG-MATE Terminals (Continued)

Test Results

Standard and Slim Line MAG-MATE products have been submitted to the following tests without significant millivolt increase:

Current Cycling —
480 cycles with each cycle consisting of 15 minutes "ON" followed by 15 minutes "OFF"

Thermal Shock —
25 cycles with each cycle consisting of 30 minutes at 125°C followed by 30 minutes at -65°C

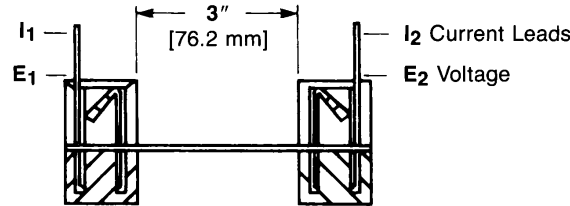
Humidity —
Temperature Cycling
10 cycles between 25°C and 65°C at 95% RH

Heat Age —
33 days at 118°C

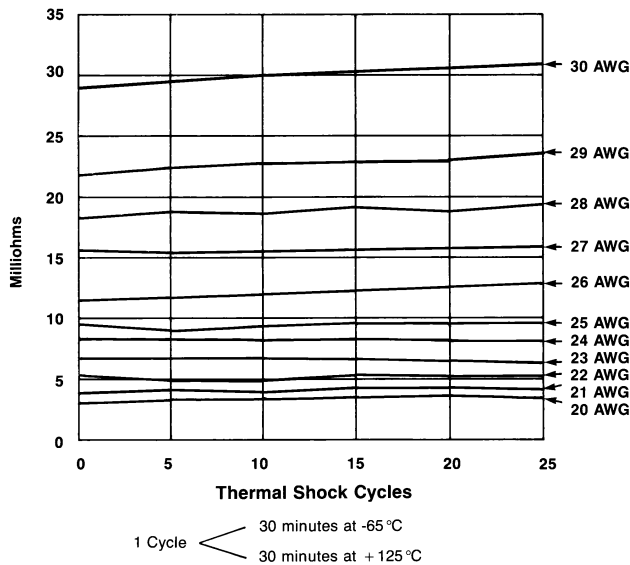
Mini MAG-MATE products have been submitted to the following tests in addition to those listed without significant millivolt increase:

Vibration —
10-55-01- Hz traversed in 1 minute at .06 inches total excursion; 2 hours in each of 3 mutually perpendicular directions.

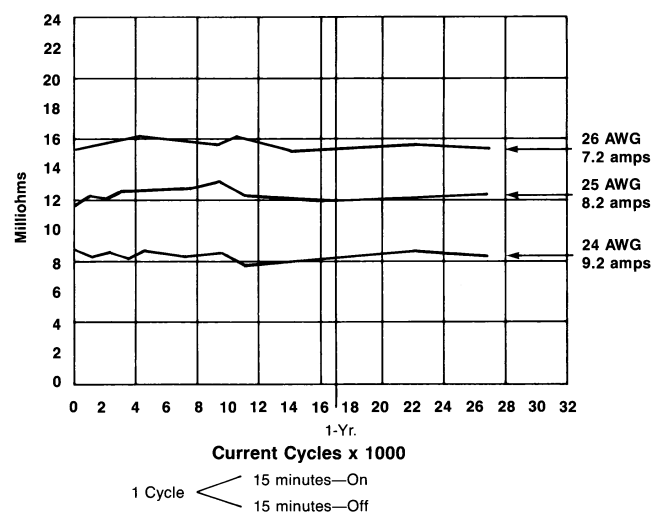
Industrial Gas with Chlorine —
1000 exposure to 200 ppb each of sulphur dioxide, nitrogen dioxide, hydrogen sulphide and 50 ppb chlorine.



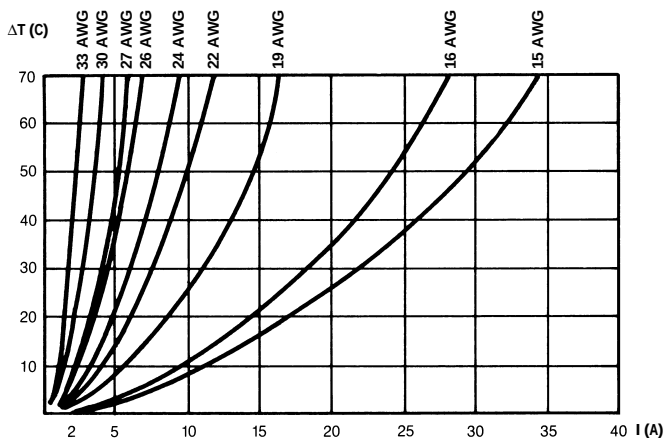
Resistance vs Thermal Shock (Copper Wire)



Resistance vs Current Cycles (Copper Wire)



Test Current produces 100°C Magnet Wire Operating Temperature



Current Rating Curves

The diagram shows the temperature rise of the contact, depending on the magnet wire size being applied.

Product Specifications

describe technical performance characteristics and verification tests. They are intended for the Design, Test and Quality Engineer.

108-2012 Standard .187 and .300 MAG-MATE Terminals

108-2053 Standard .500 Box MAG-MATE Terminals

108-1484 Slim Line MAG-MATE Terminals

108-2016 Mini MAG-MATE Terminals

Note: For all applications, Tyco Electronics recommends that samples of the magnet wire to be used be submitted for engineering evaluation.

Standard MAG-MATE Terminals (Continued)

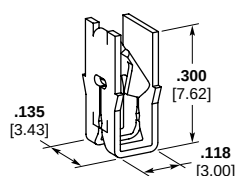
300 Box Poke-In Terminals

Material

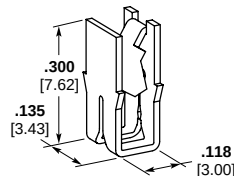
Tin plated brass

Typical Cavity Size 2

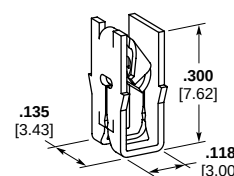
(See page 2)



A



B



C

Type	Copper Magnet Wire Range ¹		Lead Wire Range ³		Stock Thickness	Part Number*		
	AWG	mm	AWG	mm ²		Strip	L. P.	Dual L. P.
A 300 Box Standard IDC Locking Poke-In	34-33	0.16-0.18	20-18	0.5-0.9	.010 0.25	63662-1	—	—
	33-31	0.18-0.23	20-18	0.5-0.9	.010 0.25	62431-1	62527-1	—
	31-28	0.23-0.32	20-18	0.5-0.9	.012 0.30	1217234-1	—	—
	30-27	0.25-0.36	20-18	0.5-0.9	.012 0.30	62429-1 63636-1 ⁸	62526-1	63855-1
	27-23	0.36-0.57	—	—	.016 0.41	62935-1 63754-1 ⁵	63044-1	62842-1
	25-22 ²	0.45-0.64	20-18	0.5-0.9	.016 0.41	63658-1 1217084-1 ⁵	1217757-1	—
	22-20 ²	0.64-0.81	20-18	0.5-0.9	.016 0.41	62420-1 62420-4 ⁶ 1217824-1 ¹	62524-1	62841-1
	—	—	—	—	—	63725-1 ⁵	—	—
	20 ²	0.81	20-18	0.5-0.9	.016 0.41	63591-1	—	—
	19-17 ²	0.91-1.15	20-18	0.5-0.9	.016 0.41	62833-1	62912-1	1217736-1 [†]
B ⁴ 300 Box Standard IDC w/ Strain Relief Slot Locking Poke-In	30	0.25	20-18	0.5-0.9	.012 0.30	63786-1 [†]	—	—
	29-28 ²	0.29-0.32	20-18	0.5-0.9	.012 0.30	1217011-1	—	—
	28-26 ²	0.32-0.40	20-18	0.5-0.9	.012 0.30	1217368-1	—	—
	27-23 ²	0.36-0.57	20-18	0.5-0.9	.016 0.41	63789-1	—	—
	31-28	0.23-0.32	—	—	.012 0.30	1217026-1	—	—
C 300 Box Standard IDC Non-Locking Poke-In	30-27	0.25-0.36	—	—	.012 0.30	63590-1 ⁷ 63590-2 63590-3 ⁶	—	—
	27-23	0.36-0.57	—	—	.016 0.41	63551-1 ⁷ 63551-2 [†] 63551-3 ⁶	—	—
	27-26	0.36-0.40	—	—	.016 0.41	1217192-1	—	—
	25.5-24	0.43-0.51	—	—	.016 0.41	1217191-1	—	—
	23.5-22 ²	0.54-0.64	—	—	.016 0.41	1217190-1	—	—
	21.5-20 ²	0.68-0.81	—	—	.016 0.41	1217189-1	—	—
	—	—	—	—	—	—	—	—

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.² Single magnet wire only; 22 AWG [0.64 mm] or larger unless otherwise noted.³ Solid or overcoated stranded lead wire only. Product will also accept Poke-In Tab Terminal shown on page 7.⁴ Strain relief slot for high vibration applications.⁵ Enhanced anti-overstress behind Poke-In feature for severe applications. Part does not accept lead wires.⁶ Finish is tin plated phosphor bronze.⁷ Finish is tin over nickel plated brass.⁸ Deep Poke-In design for enhanced lead wire retention. Special cavity design required. Contact Tyco Electronics Engineering for details.[†] Recognized under the Component Program of Underwriters Laboratories, Inc.[†] These part numbers are available upon special request; contact Tyco Electronics Engineering for details.

Preferred part numbers are printed in bold.

Chart continued on next page

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

Standard MAG-MATE Terminals (Continued)

300 Box Poke-In Terminals

(Continued)

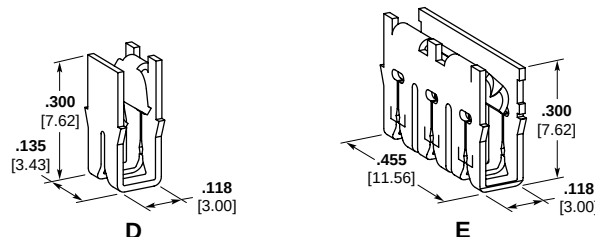
Material

Tin plated brass

Typical Cavity Size 2

(See page 2)

Note: Special cavity required for Tri-slot splice terminal. Contact Tyco Electronics Engineering for details.



Type	Copper Magnet Wire Range ¹		Stock Thickness	Strip Part Number
	AWG	mm		
D4 300 Box Standard IDC w/ Strain Relief Slot Non-Locking Poke-In	27-26	0.36-0.40	.016 0.41	1217429-1 1217691-1 ³
	25.5-24	0.43-0.51	.016 0.41	1217428-1 1217690-1 ³
	23.5-22 ²	0.54-0.64	.016 0.41	1217427-1 1217689-1 ³
	21.5-20 ²	0.68-0.81	.016 0.41	1217426-1 1217688-1 ³
E 300 Box Standard IDC Tri-Slot Non-Locking Poke-In	30-27 ²	0.25-0.36	.016 0.41	1217221-1†
	27-23 ²	0.36 -0.57	.016 0.41	63632-1
	23-20 ²	0.57-0.81	.016 0.41	1217533-1†
	27-23 ² 19-17 ² 18 ²	0.36-0.57 0.91-1.15 0.8-0.9	.016 0.41	63975-1

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.
² Single magnet wire only; 22 AWG [0.64 mm] or larger.

³ Enhanced anti-overstress behind Poke-In feature for severe applications. Part does not accept lead wires.

⁴ Strain relief slot for high vibration applications.

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

* Recognized under the Component Program of Underwriters Laboratories, Inc.

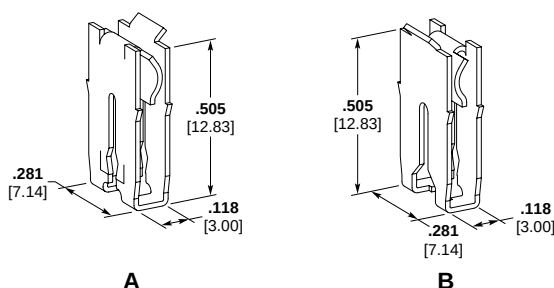
500 Box Poke-In Terminals

Material

Tin plated brass

Typical Cavity Size 4

(See page 2)



Type	Copper Magnet Wire Range ¹		Stock Thickness	Strip Part Number
	AWG	mm		
A 500 Box Standard IDC Non-Locking Poke-In	23-19.5	0.57-0.86	.016 0.41	1217069-1
	19-17	0.91-1.15	.016 0.41	1217068-1
	16-15	1.29-1.45	.016 0.41	1217067-1
	23-21.5	0.57-0.68	.016 0.41	1217358-1
B3 500 Box Standard IDC w/ Strain Relief Slot Non-Locking Poke-In	21-19.5	0.72-0.86	.016 0.41	1217357-1
	19-17	0.91-1.15	.016 0.41	1217356-1
	16-15	1.29-1.45	.016 0.41	1217355-1
	14-13 ²	1.61-1.83	.016 0.41	1217579-1 [†]

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.

² Single magnet wire only.

³ Strain relief slot for high vibration applications.

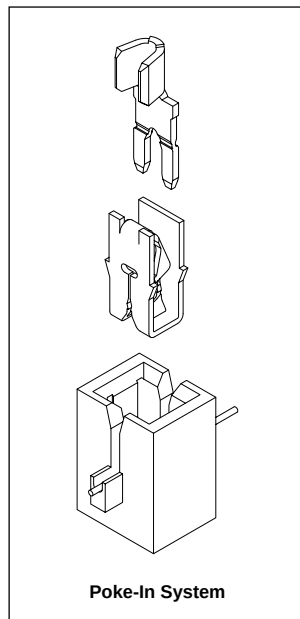
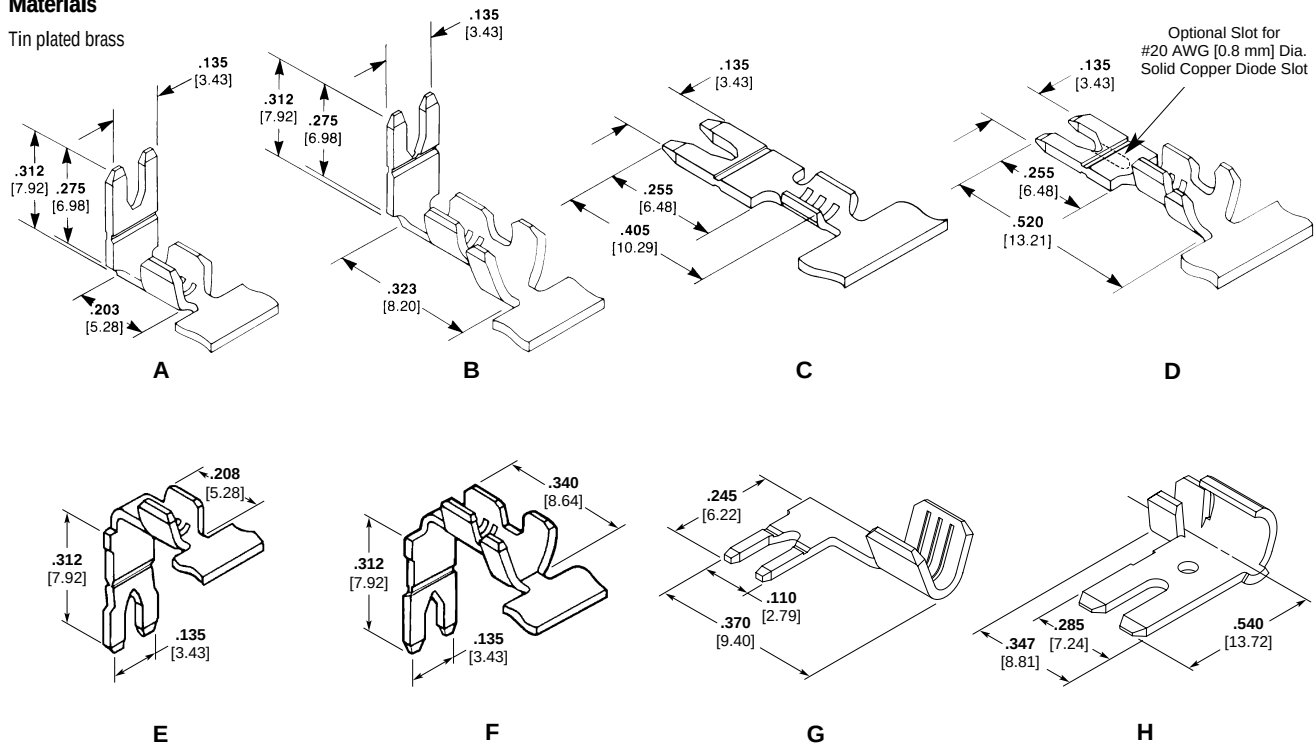
[†] These part numbers are available upon special request; contact Tyco Electronics Engineering for details.

Standard MAG-MATE Terminals (Continued)

Poke-In Tab Terminals

Materials

Tin plated brass



Type	Lead Wire Size ¹		Ins. O.D.	Stock Thickness	Strip Part Number
	AWG	mm ²			
A 90° Up	22-18	0.3-0.9	—	.018 0.46	62895-1*
				.020 0.51	63410-1
B 90° Up w/Ins. Sup.	22-18	0.3-0.9	.060-.100 1.52-2.54	.018 0.46	62896-1*
	18-14	0.8-2.0		.020 0.51	1217132-1 ² 63218-1
C Straight	22-18	0.3-0.9	—	.020 0.51	62897-1*
	18-14	0.8-2.0		.020 0.51	63775-1
D Straight w/Ins. Sup.	22-18	0.3-0.9	.060-.100 1.52-2.54	.018 0.46	62898-1* 63574-1 ³ 63631-14.†
	18-14	0.8-2.0		.020 0.51	1217470-1 ⁵ 63397-1†
E 90° Down	22-18	0.3-0.9	—	.018 0.46	63364-1
F 90° Down w/Ins. Sup.	18-14	0.8-2.0	.090-.140 2.29-3.56	.020 0.51	63458-1 1217214-1 ⁶
G Flag - 300 Box only	20-16	0.5-1.4	—	.020 0.51	1217406-1 ⁷ 1217875-1†
H Flag - 500 Box only	18-14	0.8-2.0	.080-.120 2.03-3.05	.032 0.81	1217324-1

¹ Stranded, fused stranded or solid lead wire.² Shallow tab serrations.³ Tab serration on top of tab only.⁴ No serrations on tab.⁵ Includes diode slot for 20 AWG [0.8 mm] diameter solid copper diode wire.⁶ Special serration location for deeper poke-in.⁷ Deeper poke-in. Special cavity detail required.

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

* Recognized under the Component Program of Underwriters Laboratories, Inc.

Note: All tab terminals accept stranded, fused stranded or solid lead wire.

Standard MAG-MATE Terminals (Continued)

300 Box Splice Terminals

Material

Tin plated brass

.300 [7.62] Series Box

Typical Cavity Size 2, when

"C" dimension is .120 [3.05]

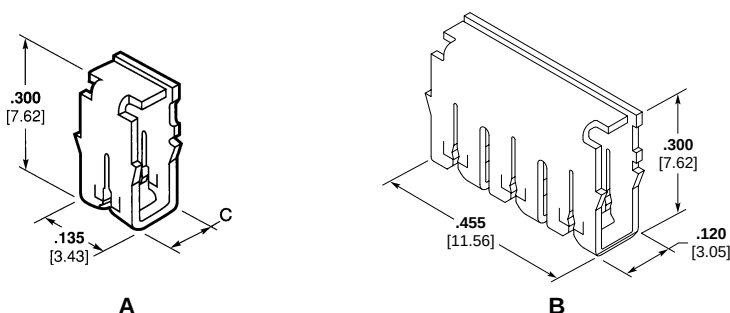
(See page 2)

Typical Cavity Size 6, when

"C" dimension is .070 [1.78]

(See page 2)

Note: Special cavity required for Tri-slot splice terminal. Contact Tyco Electronics Engineering for details.



Type	Copper Magnet Wire Range ¹		Dim. C	Stock Thickness	Part Number	
	AWG	mm			Strip	L. P.
A 300 Box Standard IDC Splice	33-31	0.18-0.23	.070 1.78	.012 0.30	—	63531-1
	31-28	0.23-0.32	.070 1.78	.012 0.30	—	63532-1
	27-24	0.36-0.50	.070 1.78	.012 0.30	—	63533-1†
	20-18 ³	0.81-1.02	.120 3.05	.020 0.51	62903-1	—
B 300 Box Standard IDC Tri-Slot Splice	28-24	0.32-0.51	—	.016 0.41	1217858-1†	—
	23-20 ²	0.57-0.81	—	.016 0.41	1217853-1†	—
	27-23	0.36-0.57	—	.016 0.41	1217613-1†	—
	18 ⁴	0.8-0.9	—	.016 0.41	1217613-1†	—
	19-17 ²	0.91-1.15	—	.016 0.41	1217613-1†	—
	25-22 ³	0.45-0.64	—	.016 0.41	1217209-1	—
	18 ⁴	0.8-0.9	—	.016 0.41	1217209-1	—
	23.5-20 ²	0.54-0.81	—	.016 0.41	1217209-1	—

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.

² Single magnet wire only; 22 AWG [0.64 mm] or larger.

³ Bare wire only.

⁴ Single solid or fused stranded lead wire only.

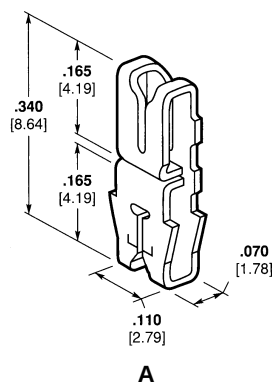
† These part numbers are available upon special request; contact Tyco Electronics Engineering for details.

Dual Connection Terminals

Material

Tin plated brass

Note: Special cavity required. Contact Tyco Electronics Engineering for details.



Type	Copper Magnet Wire Range ¹		Solid Lead Wire Range		Stock Thickness	Strip Part Number
	AWG	mm	AWG	mm		
A 165 Box Standard IDC Splice	32-31	0.20-0.23	26-24	0.40-0.51	.012 0.30	63005-1†
	30-28	0.25-0.32	26-24	0.40-0.51	.012 0.30	63087-1†
	30-27	0.25-0.36	26-24	0.40-0.51	.012 0.30	62766-1†

¹ Two magnet wires may be terminated in the same terminal lower slot if diameters are equal.

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

Standard MAG-MATE Terminals (Continued)

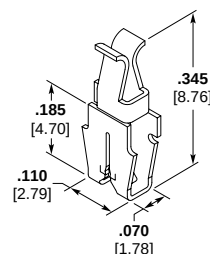
Dual Connection Terminals

(Continued)

Material

Tin plated phos. bronze

Note: Special cavity required.
Contact Tyco Electronics
Engineering for details.



B

Type	Copper Magnet Wire Range ¹		Mating Tab	Stock Thickness	Strip Part Number
	AWG	mm			
B 185 Box Standard IDC Tab Receptacle	32-31	0.20-0.23	.070 x .020 1.78 x 0.51	.010 0.25	1217538-1
	30-28	0.25-0.32	.070 x .020 1.78 x 0.51	.010 0.25	1217457-1
	29-28	0.29-0.32	.070 x .020 1.78 x 0.51	.010 0.25	1217458-1

¹ Two magnet wires may be terminated in the same slot if diameters are equal.

300 Box F-Crimp Terminals

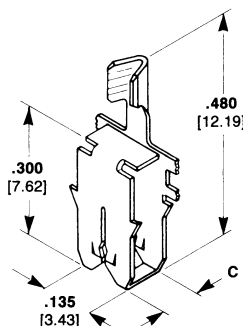
Material

Tin plated brass

.300 [7.62] Series Box

Typical Cavity Size 2, when
"C" dimension is .120 [3.05]
(See page 2)

Typical Cavity Size 6, when "C"
dimension is .070 [1.78]
(See page 2)



A

Type	Copper Magnet Wire Range ¹		Dim. C	Lead Wire Range ³		Stock Thickness	Part Number	
	AWG	mm		AWG	mm ²		Strip	L. P.
A 300 Box Standard IDC F-Crimp	33-31	0.18-0.23	.070 1.78	22-18	0.3-1.0	.012 0.30	63235-1	—
			.120 3.05	24-20	0.2-0.6	.012 0.30	63420-1†	—
	31-28	0.23-0.32	.070 1.78	22-18	0.3-1.0	.012 0.30	63236-1	—
	30-27	0.25-0.36	.120 3.05	24-20	0.2-0.6	.012 0.30	62992-1	—
	28-24	0.32-0.51	.120 3.05	24-20	0.2-0.6	.012 0.30	63641-1	—
	27-24	0.36-0.51	.070 1.78	22-18	0.3-1.0	.012 0.30	63237-1	—
	27-23	0.36-0.57	.120 3.05	24-20	0.2-0.6	.016 0.41	62459-1	62666-1†
	25-22	0.45-0.64	.070 1.78	22-18	0.3-1.0	.012 0.30	63690-1†	—
	22-20 ²	0.64-0.81	.120 3.05	24-20	0.2-0.6	.016 0.41	62458-1	62665-1†

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.

² Single magnet wire only; 22 AWG [0.64 mm] or larger.

³ Stranded, fused stranded or solid lead wire.

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

Standard MAG-MATE Terminals (Continued)

187 Box F-Crimp Terminals

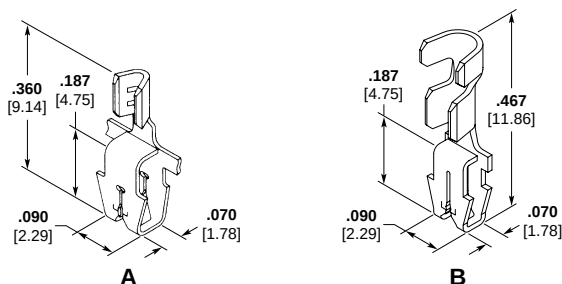
Material

Tin plated brass

.187 [4.75] Series Box

Typical Cavity Size 1

(See page 2)



Type	Copper Magnet Wire Range ¹		Lead Wire Range ³		Ins. O.D.	Stock Thickness	Strip Part Number
	AWG	mm	AWG	mm ²			
A 187 Box Standard IDC F-Crimp	33-31	0.18-0.23	26-22	0.12-0.3	—	.010 0.25	63039-1 63039-2 ^{3,5}
	30-28	0.25-0.32	26-22	0.12-0.3	—	.012 0.30	63036-1 62608-14 62608-34
	27-25	0.36-0.46	26-22	0.12-0.3	—	.012 0.30	62609-14 62609-34
	26-24	0.40-0.51	22-18	0.3-1.0	—	.012 0.30	1217146-1
	24-22 ²	0.51-0.64	26-22	0.12-0.3	—	.012 0.30	62610-14
B 187 Box F-Crimp w/ Ins Sup.	27-25	0.36-0.46	22-18	0.3-1.0	.071-.088 1.80-2.23	.012 0.30	63856-1 63856-2

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.² Single magnet wire only.³ Stranded, fused stranded or solid lead wire.⁴ Strip rereeled to feed through mini-applicator to crimp lead wire first, magnet wire termination is secondary operation.

300 Box Posted PCB Terminals

Solder Terminal

Material

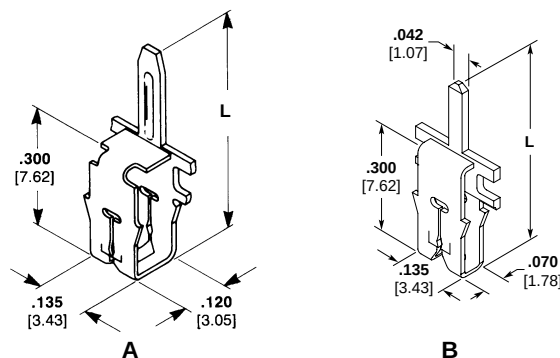
Tin over copper plated brass

Typical Cavity Size

(See page 2)

Type A—Cavity Size 2

Type B—Cavity Size 6



Type	Copper Magnet Wire Range ¹		Dim. L	Stock Thickness		Strip Part Number
	AWG	mm		Tab Section	Mag Wire	
A 300 Box Standard IDC PCB Post	33-31	0.18-0.23	.540 13.72	.010 0.25	.010 0.25	63253-1
	31-28	0.23-0.32	.540 13.72	.010 0.25	.010 0.25	62928-1*
	29-26	0.29-0.40	.540 13.72	.012 0.30	.012 0.30	62958-1*
	27-23	0.36-0.57	.460 11.68	.016 0.41	.016 0.41	63659-1
	22-20 ²	0.64-0.81	.460 11.68	.016 0.41	.016 0.41	63660-1
	19-17 ²	0.91-1.15	.460 11.68	.016 0.41	.016 0.41	63661-1
B PCB Post Shallow Box	33-31	0.18-0.23	.475 12.07	.020 0.51	.012 0.30	1217302-1

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.² Single magnet wire only.

* Recognized under the Component Program of Underwriters Laboratories, Inc.

Note: PC Board hole size .050 [1.27].

Standard MAG-MATE Terminals (Continued)

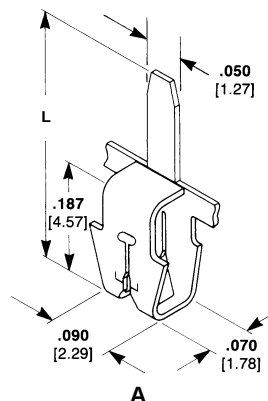
187 Box Posted PCB Terminals

Material

Tin plated brass, except where noted

Typical Cavity Size 1

(See page 2)



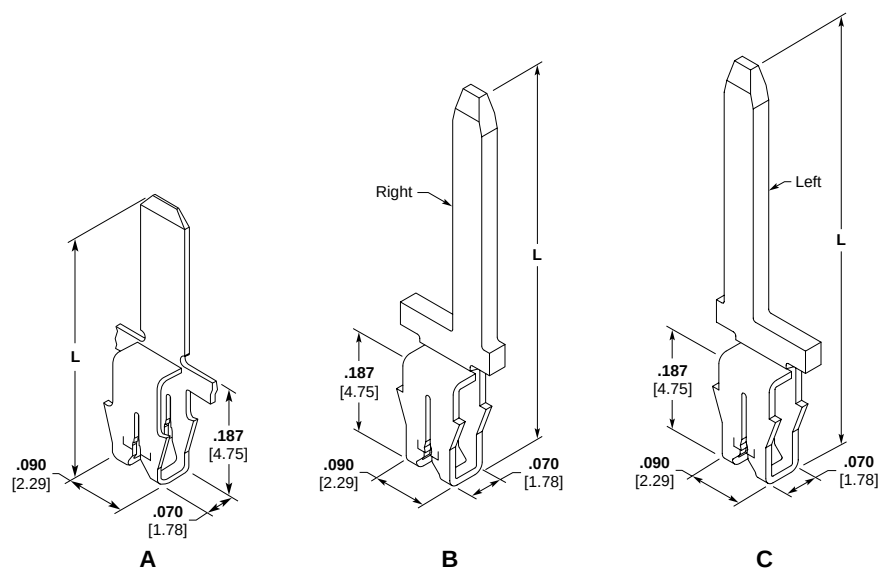
187 Box Tab Terminals

Material

Tin plated brass, except when noted

Typical Cavity Size 1

(See page 2)



Type	Copper Magnet Wire Range ¹		Dim. L	Tab Size	Stock Thickness		Strip Part Number
	AWG	mm			Tab Section	Mag Wire	
A 187 Box Standard IDC Straight Tab	30-28	0.25-0.32	.432 10.97	.110 x .020 2.79 x 0.51	.020 0.51	.012 0.30	63702-1
	29-27	0.29-0.36	.432 10.97	.110 x .020 2.79 x 0.51	.020 0.51	.012 0.30	1217196-1 ³
	30	0.25	.550 14.00	.071 x .025 1.80 x 0.63	.025 0.63	.012 0.30	1217405-1
	25-22 ²	0.46-0.64	.700 17.78	.059 x .032 1.50 x 0.81	.032 0.81	.012 0.30	1217013-1
B 187 Box Standard IDC Offset Tab-R.H.	27-25	0.36-0.45	.565 14.36	.059 x .032 1.50 x 0.81	.032 0.81	.012 0.30	1217641-1
			.700 17.78	.059 x .032 1.50 x 0.81	.032 0.81	.012 0.30	1217459-1
C 187 Box Standard IDC Offset Tab-L.H.	27-25	0.36-0.45	.565 14.36	.059 x .032 1.50 x 0.81	.032 0.81	.012 0.30	1217642-1
			.700 17.78	.059 x .032 1.50 x 0.81	.032 0.81	.012 0.30	1217460-1

¹ Two magnet wires may be terminated in the same terminal if diameters are equal.

² Single magnet wire only.

³ Finish is tin over nickel plated brass.

www.tycoelectronics.com

Standard MAG-MATE Terminals (Continued)

300 Box Tab Terminals

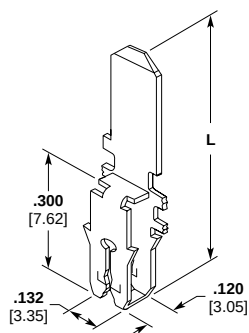
(Continued)

Material

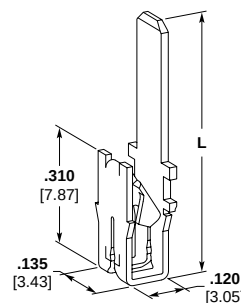
Tin plated brass

Typical Cavity Size 2

(See page 2)



F



G

Type	Copper Magnet Wire Range		Dim. L	Tab Size	Stock Thickness		Strip Part Number
	AWG	mm			Tab Section	Mag Wire	
F 300 Box Standard IDC Timer Tab	33-31	0.18-0.23	.585 14.86	.118 x .020 3.00 x 0.51	.020 0.51	.010 0.25	1217746-1†
	30-28	0.25-0.32	.585 14.86	.118 x .020 3.00 x 0.51	.020 0.51	.010 0.25	1217745-1†
	27-23	0.36-0.57	.585 14.86	.118 x .020 3.00 x 0.51	.020 0.51	.016 0.41	63973-1
			.585 14.86	.125 x .020 3.00 x 0.51	.020 0.51	.016 0.41	63489-1
	25-22 ²	0.45-0.64	.585 14.86	.118 x .020 3.00 x 0.51	.020 0.51	.016 0.41	1217596-1†
	23.5-21.5 ²	0.54-0.68	.585 14.86	.118 x .020 3.00 x 0.51	.020 0.51	.016 0.41	1217593-1†
	23-20 ²	0.57-0.81	.775 19.68	.125 x .020 3.00 x 0.51	.020 0.51	.016 0.41	63899-1
	19-17 ²	0.91-1.15	.585 14.86	.118 x .020 3.00 x 0.51	.020 0.51	.016 0.41	63972-1
	18 Lead ²	1.02	.585 14.86	.118 x .020 3.00 x 0.51	.020 0.51	.016 0.41	63974-1 63974-2 ³
G ⁴ 300 Box Standard IDC Poke-In Combination Tab	25-22 ²	0.45-0.64	.665 16.89	.118 x .020 3.00 x 0.51	.020 0.51	.016 0.41	1217210-1 1217210-2 ³
	23.5-20 ²	0.54-0.81	.665 16.89	.118 x .020 3.00 x 0.51	.020 0.51	.016 0.41	1217211-1

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.

² Single magnet wire only; 22 AWG [0.64 mm] or larger.

³ Reverse reeled version of -1.

⁴ Poke-In feature accepts 20-18 AWG [0.5-0.8 mm²] Solid or overcoated stranded lead wire or 90° Poke-In tab.

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

Standard MAG-MATE Terminals (Continued)

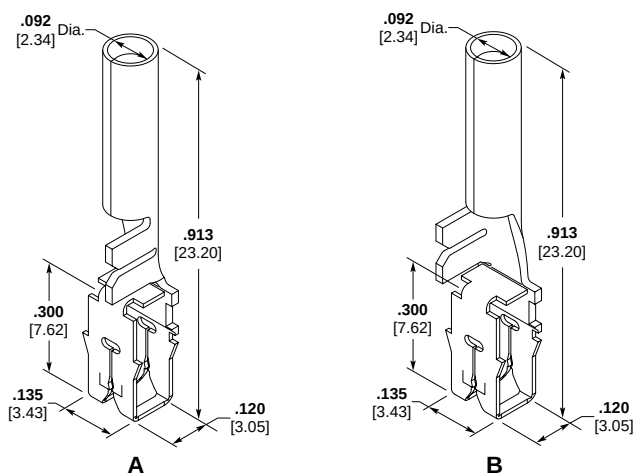
Pin Receptacle Terminals with Right or Left Hand Diode Lead Slot

Material

Tin plated brass

Typical Cavity Size 2

(See page 2)



Type	Copper Magnet Wire Range ¹		Diode Lead		Mating Pin Dia.	Stock Thickness		Strip Part Number
	AWG	mm	AWG	mm		I/O	Mag Wire	
A 300 Box Diode Offset- R.H.	32-31	0.20-0.23	22	0.64	.094 2.39	.014 0.36	.010 0.25	63208-1† 63326-1
B 300 Box Diode Offset- L.H.	31-27	0.23-0.36	22	0.64	.094 2.39	.014 0.36	.010 0.25	63209-1† 63308-1

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.

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

Pin I/O Terminals

Material

Tin plated brass

.300 [7.62] Series Box

Styles A, B and C

Typical Cavity Size 2

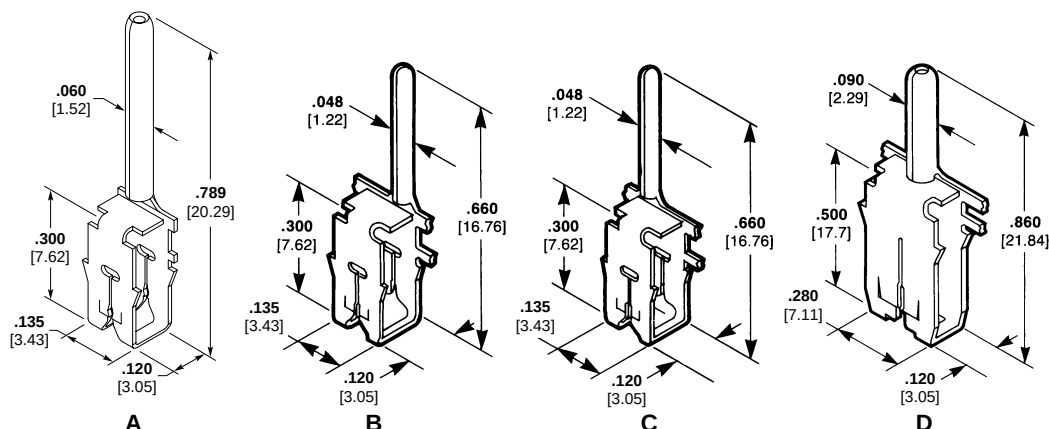
(See page 2)

.500 [12.7] Series Box

Style D

Typical Cavity Size 4

(See page 2)



Type	Copper Magnet Wire Range ¹		Pin Dia.	Stock Thickness		Part Number	
	AWG	mm		I/O	Mag Wire	Strip	L.P.
A 300 Box Straight Pin	27-23	0.36-0.57	.060 1.52	.010 0.25	.010 0.25	63722-1	—
B 300 Box Offset Pin-R.H.	33-31	0.18-0.23	.048 1.22	.010 0.25	.010 0.25	63443-1	—
	33-31	0.18-0.23	.048 1.22	.010 0.25	.010 0.25	63444-1	—
C 300 Box Offset Pin-L.H.	31-28	0.23-0.32	.048 1.22	.010 0.25	.010 0.25	63569-1	63879-1
	27-23	0.36-0.57	.048 1.22	.010 0.25	.016 0.25	63570-1	63880-1
	25-22 ²	0.45-0.64	.048 1.22	.010 0.25	.016 0.41	63788-1	—
D 500 Box Straight Pin	27-23	0.86-1.15	.090 2.29	.016 0.41	.016 0.41	63278-1 ³	—
	22-20	0.64-0.81	.090 2.29	.016 0.41	.016 0.41	63277-1 ³	—

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.

² Single magnet wire only; 22 AWG [0.64 mm] or larger.

³ Varnish resist coating.

Standard MAG-MATE Terminals (Continued)

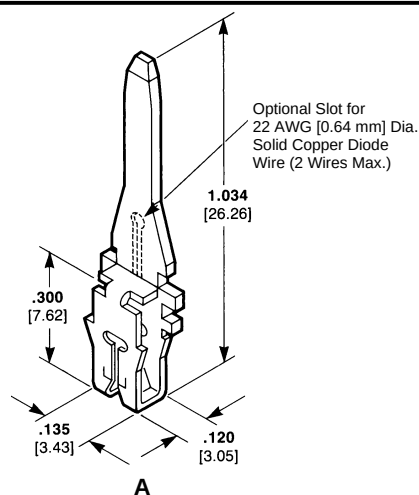
110 Series
FASTON Tab Terminals

Material

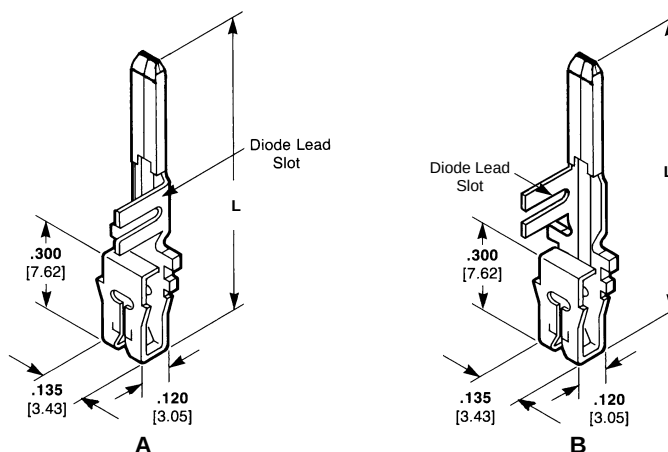
Tin plated brass

Typical Cavity Size 2

(See page 2)



Type	Copper Magnet Wire Range ¹		Diode Lead		Tab Size	Stock Thickness		Strip Part Number
	AWG	mm	AWG	mm		Tab	Mag Wire	
A 300 Box Standard IDC .110 [2.79] Tab w/ Optional Diode Slot	33-31	0.18-0.23	—	—	.110 x .025 2.79 x 0.64	.025 0.64	.010 0.25	63110-1
			22	0.64	.110 x .025 2.79 x 0.64	.025 0.64	.010 0.25	63376-1

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.

Type	Copper Magnet Wire Range ¹		Diode Lead		Tab Size	Dim. L	Stock Thickness		Part Number	
	AWG	mm	AWG	mm			Tab	Mag Wire	Strip	L.P.
A 300 Box Standard IDC .110 [2.79] FASTON w/ Diode Slot Offset-R.H.	31-27	0.23-0.36	22	0.64	.110 x .032 2.79 x 0.81	.965 24.51	.032 0.81	.010 0.25	63319-1 [†]	—
			20	0.81	.110 x .032 2.79 x 0.81	.965 24.51	.032 0.81	.010 0.25	63331-1 [†]	63434-1
	30-27	0.25-0.36	20	0.81	.110 x .032 2.79 x 0.81	.965 24.51	.032 0.81	.014 0.36	—	63529-1
			20	0.81	.110 x .032 2.79 x 0.81	.895 22.73	.032 0.81	.014 0.36	63177-1 [†]	—
B 300 Box Standard IDC .110 [2.79] FASTON w/ Diode Slot Offset-L.H.	31-27	0.23-0.36	22	0.64	.110 x .032 2.79 x 0.81	.965 24.51	.032 0.81	.010 0.25	63276-1 [†]	—
			20	0.81	.110 x .032 2.79 x 0.81	.965 24.51	.032 0.81	.010 0.25	63330-1 [†]	63433-1
	30-27	0.25-0.36	20	0.81	.110 x .032 2.79 x 0.81	.965 24.51	.032 0.81	.014 0.36	—	63530-1
			20	0.81	.110 x .032 2.79 x 0.81	.895 22.73	.032 0.81	.014 0.36	63178-1 [†]	—

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.[†] These part numbers are available upon special request; contact Tyco Electronics Engineering for details.**Note:** .110 [2.79] Tab Terminals mate with compatible FASTON receptacles.
Request AMP Catalog 82004.

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

Standard MAG-MATE Terminals (Continued)

110 Series FASTON Tab Terminals

(Continued)

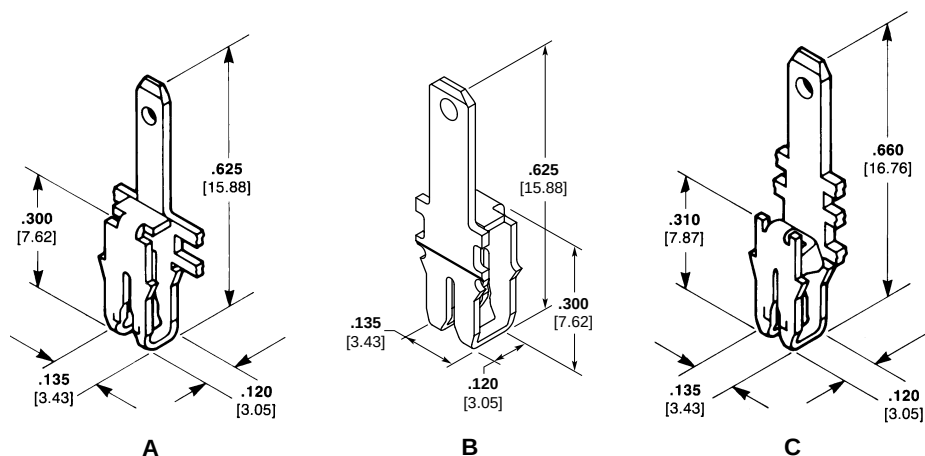
Material

Tin plated brass

Typical Cavity Size 2

(See page 2)

Note: .110 [2.79] Tab Terminals mate with compatible FASTON receptacles. Request AMP Catalog 82004.



Type	Copper Magnet Wire Range ¹		Tab Size	Stock Thickness		Part Number	
	AWG	mm		Tab	Mag Wire	Strip	L.P.
A ⁵ 300 Box Standard IDC .110 [2.79] FASTON Tab	30-27	0.25-0.36	.110 x .020 2.79 x 0.51	.020 0.51	.012 0.30	63777-1	—
	27-23	0.36-0.57	.110 x .020 2.79 x 0.51	.020 0.51	.016 0.41	63746-1	—
	23-20 ²	0.45-0.64	.110 x .020 2.79 x 0.51	.020 0.51	.016 0.41	63486-1	—
	19-17	0.91-1.15	.110 x .020 2.79 x 0.51	.020 0.51	.020 0.51	63145-1 [†]	—
B ^{5,6} 300 Box Single IDC w/ Strain Relief Slot	27-23	0.36-0.57	.110 x .020 2.79 x 0.51	.020 0.51	.016 0.41	63827-1	—
	23.5-20 ²	0.54-0.81	.110 x .020 2.79 x 0.51	.020 0.51	.016 0.41	1217783-1 [†]	—
C ^{4,5} Poke-In Combination Tab	28-24	0.32-0.51	.110 x .020 2.79 x 0.51	.020 0.51	.012 0.30	63062-1 ³	1217430-1 ³
	25-22 ²	0.45-0.64	.110 x .020 2.79 x 0.51	.020 0.51	.012 0.30	63063-1 ³ 63063-2	— —

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.

² Single magnet wire only; 22 AWG [0.64 mm] or larger.

³ Varnish resist coating.

⁴ Poke-In feature accepts 20-18 AWG [0.5-0.8 mm²] Solid or overcoated stranded lead wire or 90° Poke-In tab.

⁵ After insertion into plastic cavity, tab portion must be bent over 45°-90° or potted in to prevent pullout when mating receptacle is disconnected.

⁶ Strain relief slot for high vibration applications.

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

Standard MAG-MATE Terminals (Continued)

187 Series
FASTON Tab Terminals

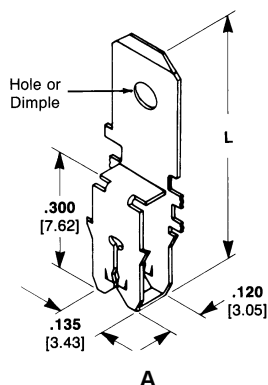
Material

Tin plated brass

Typical Cavity Sizes

(See page 2)

Type A—Cavity Size 2



Type	Copper Magnet Wire Range ¹		Dim. L	Tab Feature	Tab Size	Stock Thickness		Part Number	
	AWG	mm				Tab Section	Mag. Wire Section	Strip	L. P.
A4 300 Box Standard IDC .187 [4.75] FASTON Tab	33-31	0.18-0.23	.630 16.00	Dimple	.187 x .020 4.75 x 0.51	.020 0.51	.010 0.25	62513-1*	62663-1
			.660 16.76	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.012 0.30	63584-1	—
	30-27	0.25-0.36	.630 16.00	Dimple	.187 x .020 4.75 x 0.51	.020 0.51	.012 0.30	62512-1* 63510-1 ^{5,†}	— —
			Dimple	.187 x .032 4.75 x 0.81	.032 0.81	.012 0.30	62678-1* 1217178-1	—	
	27-23	0.36-0.57	.630 16.00	Dimple	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	62514-1* 62514-2 ^{5*}	63852-1 —
				Hole	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	63664-1 ⁵ 63664-2	— —
				—	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	63461-1 1217243-1 ⁶	— —
				.660 16.76	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	63585-1
	23	0.57	.630 16.00	—	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	63776-1	—
				Dimple	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	62511-1* 62511-2 ⁵	62661-1 —
	22-20 ²	0.64-0.81	.630 16.00	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	63663-1 ⁵ 63663-2	— —
				Dimple	.187 x .032 4.75 x 0.81	.032 0.81	.016 0.41	1217065-1	—
				Hole	.187 x .032 4.75 x 0.81	.032 0.81	.016 0.41	1217128-1	—
				Dimple	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	63293-1 [†]	—
	21-19 ³ Aluminum	0.72-0.91	.630 16.00	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	63669-1	—
				Dimple	.187 x .020 4.75 x 0.51	.020 0.51	.020 0.51	62904-1 ⁷	—
	20-18 ²	0.81-1.02	.630 16.00	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.020 0.51	63670-1	—
				Dimple	.187 x .020 4.75 x 0.51	.020 0.51	.020 0.51	63273-1 63511-1 ⁵	63829-1 —
	19-17 ²	0.91-1.15	.630 16.00	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.020 0.51	63665-1 ⁵	—
				Dimple	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	63494-1 [†]	—
18.5-16.5 ³ Aluminum	0.97-1.22	.630 16.00	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	63668-1	—	

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.² Single magnet wire only.³ Single aluminum magnet wire only.⁴ After insertion into plastic cavity, tab portion must be bent over 45°-90° or potted in to prevent pullout when mating receptacle is disconnected.⁵ Varnish resist coating.⁶ Special wide body cut off for added stability.⁷ Single bare copper wire only.

* Recognized under the Component Program of Underwriters Laboratories, Inc.

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

Note: .187 [4.75] Tab Terminals mate with compatible FASTON receptacles. Request AMP Catalog 82004.

Chart continued on next page

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

Standard MAG-MATE Terminals (Continued)

187 Series FASTON Tab Terminals

(Continued)

Material

Tin plated brass

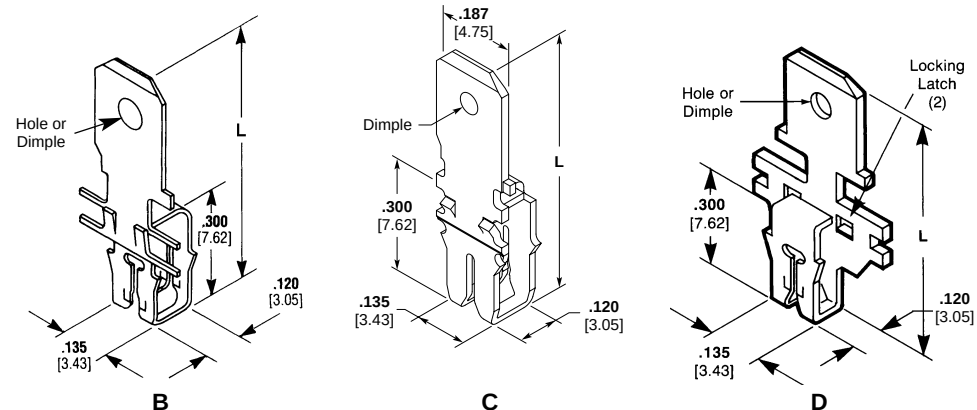
Typical Cavity Sizes

(See page 2)

Type B—Cavity Size 5

Type C—Cavity Size 5

Type D—Cavity Size 3



187 Series Combination Poke-In FASTON Terminals

Material

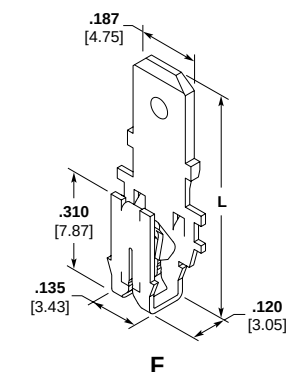
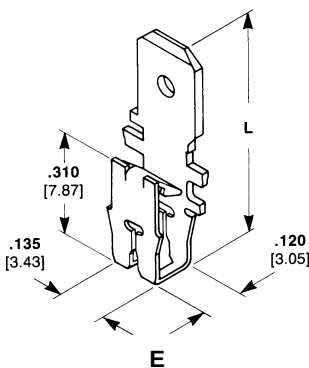
Tin plated brass

Typical Cavity Sizes

(See page 2)

Type E—Cavity Size 2

Type F—Cavity Size 3



Note: .187 [4.75] Tab Terminals mate with compatible FASTON receptacles. Request AMP Catalog 82004.

Type	Copper Magnet Wire Range ¹		Dim. L	Tab Feature	Tab Size	Stock Thickness		Strip Part Number
	AWG	mm				Tab Section	Mag. Wire Section	
B 300 Box Standard IDC Narrow Body Latch Type	33-31	0.18-0.23	.630 16.00	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.010 0.25	63108-1†
	31-28	0.23-0.32	.630 16.00	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.010 0.25	62743-1†
	30-27	0.25-0.36	.630 16.00	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.012 0.30	63109-1†
	27-23	0.36-0.57	.630 16.00	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	63107-1
	23-20 ²	0.57-0.81	.630 16.00	—	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	1217493-1
				Hole	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	63340-1
	22-20 ²	0.64-0.81	.630 16.00	—	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	1217493-1
				Hole	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	63429-1 63429-2 ⁶
	19-17 ²	0.91-1.15	.630 16.00	Dimple	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	62888-1 62888-2 ⁶
				Hole	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	63782-1
	18 lead ²	0.80-0.92 mm ²	.630 16.00	—	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	1217592-1†
	C ³ Narrow Body Latch Type w/ Strain Relief Slot	23.5-20 ²	0.54-0.81	.630 16.00	Dimple	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41
D 300 Box Standard IDC Wide Body Latch Type	33-31	0.18-0.23	.630 16.00	Dimple	.187 x .020 4.75 x 0.51	.020 0.51	.010 0.25	63255-1 63544-1†
			.730 18.54	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.010 0.25	63505-1
	31-28	0.23-0.32	.630 16.00	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.012 0.30	63760-1
	30-27	0.25-0.36	.630 16.00	Dimple	.187 x .020 4.75 x 0.51	.020 0.51	.012 0.30	63254-1† 63478-1†
			.730 18.54	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.012 0.30	63447-1
	27-23	0.36-0.57	.630 16.00	Dimple	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	63256-2
E ^{4,5} Poke-In Combination Tab	33-31	0.81-0.23	.630 16.00	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.010 0.25	63018-1
F ⁴ Poke-In Combination Tab Wide Body Latch Type	28-24	0.32-0.51	.630 16.00	Hole	.187 x .032 4.75 x 0.81	.032 0.51	.016 0.41	1217857-1†

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.

² Single magnet wire only; 22 AWG [0.64 mm] or larger.

³ Strain relief slot for high vibration applications.

⁴ Poke-In feature accepts 20-18 AWG [0.5-0.8 mm²] solid, fused stranded lead wire or 90° poke-in tab terminal.

⁵ After insertion into plastic cavity, tab portion must be bent over 45°-90° or potted in to prevent pullout when mating receptacle is disconnected.

⁶ Splice free reeling.

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

Chart continued on next page

Standard MAG-MATE Terminals (Continued)

187 Series
FASTON Tab Terminals

(Continued)

Material

Tin plated brass

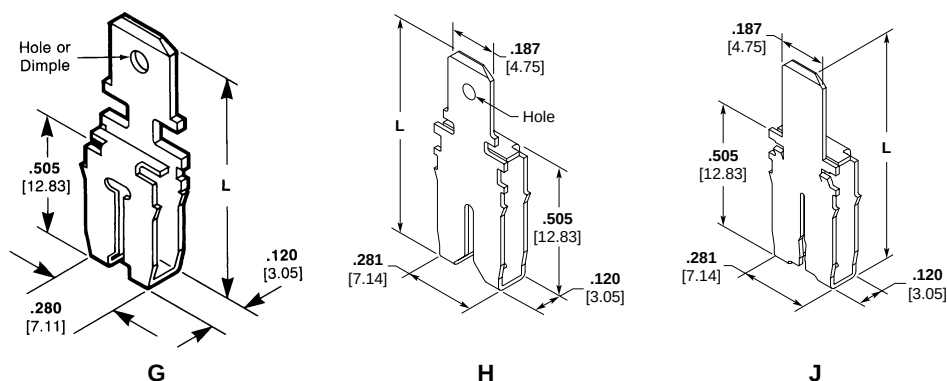
Typical Cavity Sizes

(See page 2)

Type G—Cavity Size 4

Type H—Cavity Size 4

Type J—Cavity Size 4



Type	Copper Magnet Wire Range ¹		Dim. L	Tab Feature	Tab Size	Stock Thickness		Part Number	
	AWG	mm				Tab Section	Mag. Wire Section	Strip	L. P.
G ³ 500 Box Standard IDC	22-20	0.64-0.81	.830 21.08	Dimple	.187 x .020 4.75 x 0.51	.020 0.51	.020 0.51	—	63708-14
	19-17	0.91-1.15	.830 21.08	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.020 0.51	63643-1	—
	17.5-16	1.09-1.29	.830 21.08	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.020 0.51	63667-14	63599-14
				Hole	.187 x .020 4.75 x 0.51	.020 0.51	.020 0.51	63427-1†	—
				Hole	.187 x .032 4.75 x 0.81	.032 0.81	.020 0.51	1217075-1	—
				Hole	.187 x .020 4.75 x 0.51	.020 0.51	.020 0.51	63666-14	—
	16-15	1.29-1.45	.830 21.08	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.020 0.51	63762-1	—
				Dimple	.187 x .020 4.75 x 0.51	.020 0.51	.020 0.51	63353-1	—
	14.5-13 ²	1.54-1.83	.830 21.08	Dimple	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	63428-1	—
	27-23	0.36-0.57	.830 21.08	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.020 0.51	1217042-1	—
H ^{3.5} 500 Box Single IDC w/ Strain Relief Slot	22-20	0.64-0.81	.830 21.08	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.020 0.51	63983-1	—
	19-17	0.91-1.15	.830 21.08	Hole	.187 x .032 4.75 x 0.81	.032 0.81	.020 0.51	1217339-1	—
				Hole	.187 x .020 4.75 x 0.51	.020 0.51	.020 0.51	63995-1	—
	16-15	1.29-1.45	.830 21.08	Hole	.187 x .032 4.75 x 0.81	.032 0.81	.020 0.51	1217090-1	—
				Hole	.187 x .020 4.75 x 0.51	.020 0.51	.020 0.51	63996-1	—
J 500 Box Standard IDC Latch Type	22-20	0.64-0.81	.830 21.08	—	.187 x .020 4.75 x 0.51	.020 0.51	.020 0.51	1217491-1	—
	19-17	0.91-1.15	.830 21.08	—	.187 x .020 4.75 x 0.51	.020 0.51	.020 0.51	1217492-1	—

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.² Single magnet wire only.³ After insertion into plastic cavity, tab portion must be bent over 45°-90° or potted in to prevent pullout when mating receptacle is disconnected.⁴ Varnish resist coating.⁵ Strain relief slot for high vibration applications.

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

Standard MAG-MATE Terminals (Continued)

250 Series
FASTON Tab Terminals

Material

Tin plated brass

Typical Cavity Sizes

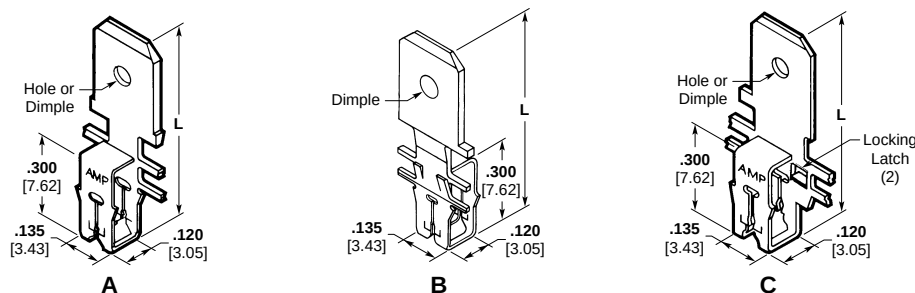
(See page 2)

Type A—Use Cavity Size 2

Type B—Use Cavity Size 5

Type C—Use Cavity Size 3

Note: .250 [6.35] tab terminals mate with compatible FASTON receptacles. Request AMP Catalog 82004.

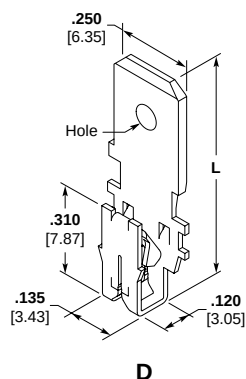
250 Series
Combination Poke-In
FASTON Tab Terminal

Material

Tin plated brass

Typical Cavity Sizes 3 (Type D)

(See page 2)



Type	Copper Magnet Wire Range ¹		Dim. L	Tab Feature	Tab Size	Stock Thickness		Part Number	
	AWG	mm				Tab Section	Mag. Wire Section	Strip	L. P.
A3 300 Box Standard IDC .250 [6.35] FASTON Tab	33-31	0.18-0.23	.750 19.05	Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.010 0.25	62600-1* 62600-27	62655-1 —
	30-27	0.25-0.36	.750 19.05	Dimple Hole Dimple & Hole	.250 x .032 6.35 x 0.81	.032 0.81	.012 0.30	62651-1* 63055-1† 63328-1	62656-1† — —
	28-24	0.32-0.51	.750 19.05	Hole	.250 x .032 6.35 x 0.81	.032 0.81	.016 0.41	63607-1	—
	27-23	0.36-0.57	.750 19.05	Dimple Dimple Dimple Hole	.250 x .032 6.35 x 0.81	.032 0.81	.016 0.41	62652-17* 62652-26.7 62939-13.4† 63920-17.9 63159-17.†	62657-1 — — — —
	22-20 ²	0.64-0.81	.750 19.05	Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.016 0.41	62653-1* 62653-27 62653-36	62658-1 1217031-17 —
	20-18 ² Bare Wire	0.81-1.02	.750 19.05	Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.020 0.51	63200-1	—
	33-31	0.18-0.23 ¹	.750 19.05	Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.010 0.25	63026-1†	—
	30-27	0.25-0.36 ¹	.750 19.05	Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.012 0.30	63027-1†	—
	27-23	0.36-0.57	.750 19.05	Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.016 0.41	1217860-1†	—
	23-20 ²	0.57-0.81	.750 19.05	Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.016 0.41	1217870-1†	—
B Narrow Body Latch Type	33-31	0.18-0.23	.750 19.05	Dimple Hole Hole Hole	.250 x .032 6.35 x 0.81	.032 0.81	.010 0.25	63133-1 63309-1 63309-27 63618-18	— — — —
	31-28	0.23-0.32	.750 19.05	Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.012 0.30	63403-2†	—
	30-28	0.25-0.32	.750 19.05	Hole	.250 x .032 6.35 x 0.81	.032 0.81	.012 0.30	1217152-1	—
	30-27	0.25-0.36	.750 19.05	Dimple Dimple Hole Hole	.250 x .032 6.35 x 0.81	.032 0.81	.012 0.30	63132-1 63132-210 63132-34 63499-1 63499-27	63203-1† — — 63898-1 —
	27-23	0.36-0.57	.750 19.05	Hole Hole Dimple Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.016 0.41	63571-1 63571-27 63128-1 63128-37	— — 63207-1† —
	22-20 ²	0.64-0.81	.750 19.05	Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.016 0.41	63601-1 63601-27	— —
	19-17 ²	0.91-1.15	.750 19.05	Hole	.250 x .032 6.35 x 0.81	.032 0.81	.016 0.41	63614-1	—
	D5 Poke-In Combination Tab Wide Body Latch Type	28-24	0.32-0.51	Hole	.250 x .032 6.35 x 0.81	.032 0.81	.016 0.41	1217856-2†	—

- ¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.
² Single magnet wire only; 22 AWG [0.64 mm] or larger.
³ After insertion into plastic holder, tab portion must be bent over 45°-90° or potted in to prevent pullout when mating receptacle is disconnected.
⁴ Varnish resist coating.
⁵ Poke-In feature accepts 20-18 AWG [0.5-0.8 mm²] solid, fused stranded lead wire or 90° Poke-In tab

- terminal.
⁶ Reverse reeled version of -1.
⁷ Half hard temper brass.
⁸ Special key hole wire slot block.
⁹ Special wide neck design.
¹⁰ Material is unplated brass.
† These part numbers are available upon special request; contact Tyco Electronics Engineering for details.
* Recognized under the Component Program of

Chart continued on next page

Standard MAG-MATE Terminals (Continued)

250 Series
FASTON Tab Terminals

(Continued)

Material

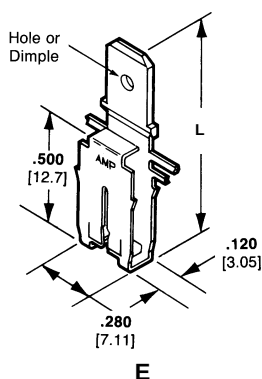
Tin plated brass

Typical Cavity Sizes

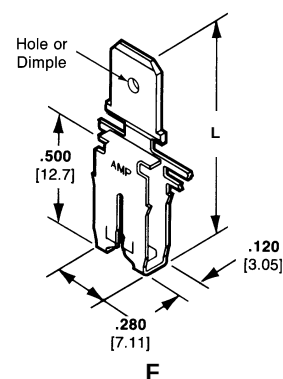
(See page 2)

Type E—Use Cavity Size 4

Type F—Use Cavity Size 4



E



F

Type	Copper Magnet Wire Range ¹		Dim. L	Tab Feature	Tab Size	Stock Thickness		Part Number	
	AWG	mm				Tab Section	Mag. Wire Section	Strip	L. P.
E3 500 Box Standard IDC Wide Neck	22-20	0.64-0.81	.952 24.18	Hole	.250 x .032 6.35 x 0.81	.032 0.81	.020 0.51	63495-14	63882-1
	19-17	0.91-1.15	.952 24.18	Hole	.250 x .032 6.35 x 0.81	.032 0.81	.020 0.51	63464-2† 63464-34	— 63598-1
	16-15	1.29-1.45	.952 24.18	Hole	.250 x .032 6.35 x 0.81	.032 0.81	.020 0.51	63459-2 63459-34	63881-1 —
	14-13 ²	1.61-1.83	.952 24.18	Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.020 0.51	63460-14,†	63883-1
				Hole	.250 x .032 6.35 x 0.81	.032 0.81	.020 0.51	— 63816-1 63816-24	1217588-1† — —
	22-20	0.64-0.81	.952 24.18	Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.020 0.51	63155-14	63336-1†
F3 500 Box Standard IDC Narrow Neck	19-17	0.91-1.15	.952 24.18	Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.020 0.51	62923-14 62923-24.5 62923-34.6	— — —
	16-15	1.29-1.45	.952 24.18	Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.020 0.51	63064-14	63263-1†
	14-13 ²	1.61-1.83	.952 24.18	Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.020 0.51	63465-1 63371-14	— —
	12 ²	2.05	.952 24.18	Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.020 0.51	63425-14	—

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.² Single magnet wire only.³ After insertion into plastic holder, tab portion must be bent over 45°-90° or potted in to prevent pullout when mating receptacle is disconnected.⁴ Varnish resist coating.⁵ Box-up reversed reel version of -1.⁶ Box-up reeled version of -1.

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

Slim Line MAG-MATE Terminals

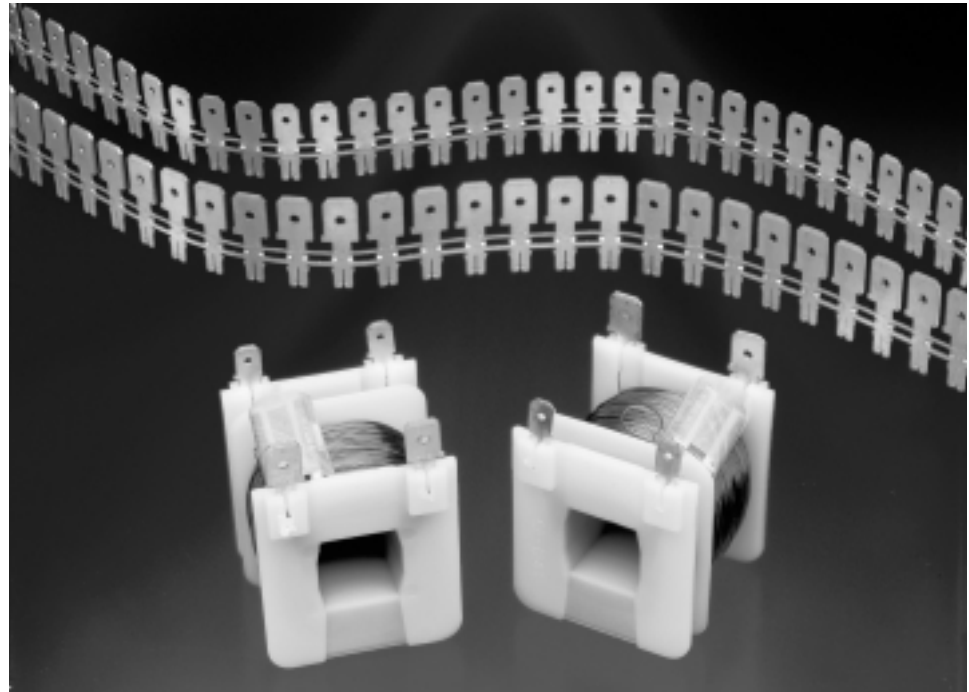
Product Facts

- Terminates all magnet wire film insulations
- Eliminates need for pre-stripping conductors
- Eliminates need to post insulate termination
- Excess magnet wire is automatically trimmed during the termination process
- Series 187 and 250 Tab terminals available
- Terminates 33-17 AWG [0.18-1.15 mm] magnet wire
- Simultaneously terminates two magnet wires of the same size in one terminal from 33-23 AWG [0.18-0.57 mm]
- Available in strip form for semi-automatic or fully automatic insertions
- Available in loose piece form for hand tool insertions
- Varnish resist tab terminals are available for special applications
- High speed, fully automated integrated systems provide uniform terminations reliability at the lowest possible applied cost
- Clean metal-to-metal interface produces stable, gas-tight electrical terminations free of oxides and other contaminants
- Recognized under the Component Recognition Program of Underwriters Laboratories Inc., File No. E13288



Applications

- Motor windings and connections
- Coil Connections
- Transformer windings and connections
- Bobbin connections
- Lighting Ballasts
- Power Supplies



Tyco Electronics offers a full selection of Series 187 and 250 Slim Line MAG-MATE Tab insulation displacement (IDC) terminals for magnet wire terminations.

Slim Line MAG-MATE Series 187 and 250 tab terminals with a single IDC slot terminate 33-17 AWG [0.18 to 1.15 mm].

Each IDC slot terminates up to four consecutive magnet wire ranges.

Two magnet wires with the same diameter can be terminated in one terminal down to 23 AWG [0.57 mm].

According to Tyco Electronics specifications MAG-MATE cavities are either integrated into coil bodies or especially designed cavity housings. The magnet wires are precisely positioned in the "U" shaped designed termination slots.

The MAG-MATE Inserter cuts the terminals from the strip and places the terminals over the magnet wire into the plastic cavities.

During this operation the small stripping devices penetrate the film insulation from the magnet wire.

Residual spring energy in the terminal causes the side walls of each IDC slot to function as opposing cantilever beams.

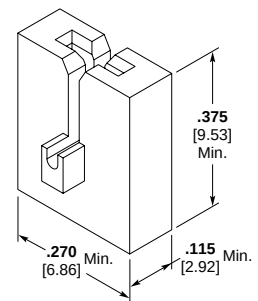
This constant pressure results in an intimate metal-to-metal interface, providing a reliable, long-term connection.

The wiping action between the wire and terminals removes oxides or other contaminants present on both the conductor and the terminal slot side walls, producing a clean, stable, gas-tight electrical termination.

The AMP MAG-MATE Inserter may be used as a semi-automatic bench machine or integrated in production lines for fully-automatic applications.

Typical Plastic Cavity

Not for design, Tyco Electronics will supply required dimensions of cavity for each customer application.



Reference Application Spec. 114-2147

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.

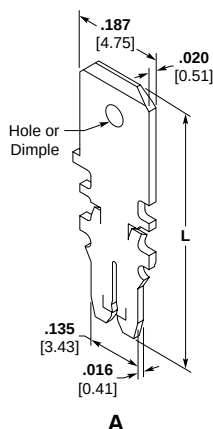
114-2140—Slim Line MAG-MATE Terminals

Slim Line MAG-MATE Terminals (Continued)

187 Series
FASTON Tab Terminals

Material

Tin Plated Brass

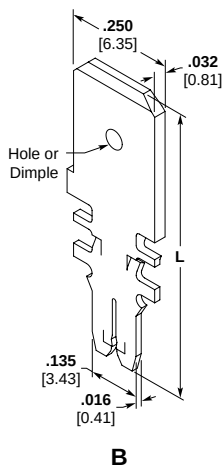


Type	Copper Magnet Wire Range ¹		Dim. L	Tab Feature	Tab Size	Stock Thickness		Part Number	
	AWG	mm				Tab Section	Mag. Wire Section	Strip	L. P.
A .187 [4.75] FASTON Tab	33-31	0.18-0.23	.630 16.00	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.012 0.30	63710-2	—
				Dimple	.187 x .032 4.75 x 0.81	.032 0.81	.012 0.30	63738-2	—
	30-28	0.25-0.32	.630 16.00	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.012 0.30	63711-2	—
				Dimple	.187 x .032 4.75 x 0.51	.032 0.51	.012 0.41	63737-2	—
	27-24	0.36-0.51	.630 16.00	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	63712-2	—
				Dimple	.187 x .032 4.75 x 0.51	.032 0.51	.016 0.41	63736-2	—
	23-20 ²	0.57-0.81	.760 19.31	Plain	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	1217497-1	—
								1217497-2 ³	—
	19-17 ²	0.91-1.15	.630 16.00	Hole	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	63713-2	1217714-1
				Dimple	.187 x .032 4.75 x 0.81	.032 0.81	.016 0.41	63735-2	—
				Hole	.187 x .020 4.75 x 0.51	.020 0.51	.016 0.41	1217516-1	—
				Dimple	.187 x .032 4.75 x 0.51	.032 0.51	.016 0.41	63714-2	—

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.² Single magnet wire only; 22 AWG [0.64] or larger.³ Reverse reeled version of -1.250 Series
FASTON Tab Terminals

Material

Tin Plated Brass



Type	Copper Magnet Wire Range ¹		Dim. L	Tab Feature	Tab Size	Stock Thickness		Strip Part Number
	AWG	mm				Tab Section	Mag. Wire Section	
B .250 [6.35] FASTON Tab	33-31	0.18-0.23	.752 19.10	Hole	.250 x .032 6.35 x 0.81	.032 0.81	.012 0.30	63716-2
				Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.012 0.30	63744-2
	30-28	0.25-0.32	.752 19.10	Hole	.250 x .032 6.35 x 0.81	.032 0.81	.012 0.30	63717-2
				Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.012 0.30	63743-2
	27-24	0.36-0.51	.752 19.10	Hole	.250 x .032 6.35 x 0.81	.032 0.81	.016 0.41	63718-2
				Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.016 0.41	63742-2
	23-20 ²	0.57-0.81	.752 19.10	Hole	.250 x .032 6.35 x 0.81	.032 0.81	.016 0.41	63719-2
				Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.016 0.41	63741-2
	19-17 ²	0.91-1.15	.752 19.10	Hole	.250 x .032 6.35 x 0.81	.032 0.81	.016 0.41	63720-2
				Dimple	.250 x .032 6.35 x 0.81	.032 0.81	.016 0.41	63740-2

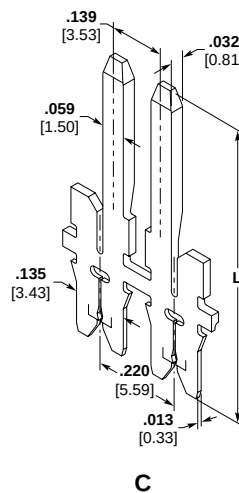
¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.² Single magnet wire only; 22 AWG [0.64] or larger.

Slim Line MAG-MATE Terminals (Continued)

Tab Terminals

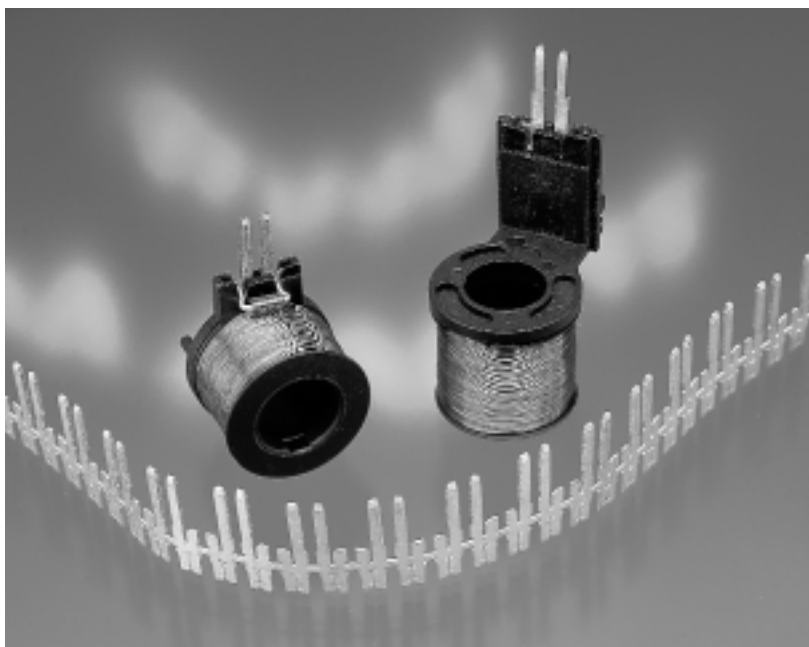
Material

Tin Plated Brass



Type	Copper Magnet Wire Range ¹		Dim. L	Diode Size	Tab Size	Stock Thickness		Strip Part Number
	AWG	mm				Tab Section	Mag. Wire Section	
C Combination Diode Slot/Tab	33-31	0.18-0.23	.725 18.42	#20 0.8	.059 x .032 1.50 x 0.81	0.032 0.81	0.012 0.30	63888-1
	33-31	0.18-0.23	.725 18.42	#22.5 0.6	.059 x .032 1.50 x 0.81	0.032 0.81	0.012 0.30	63903-1
	33-31	0.18-0.23	.760 19.29	#22.5 0.6	.059 x .032 1.50 x 0.81	0.032 0.81	0.012 0.30	1217709-1

¹ Two magnet wires may be terminated in the same terminal slot if diameters are equal.



Mini MAG-MATE Terminals

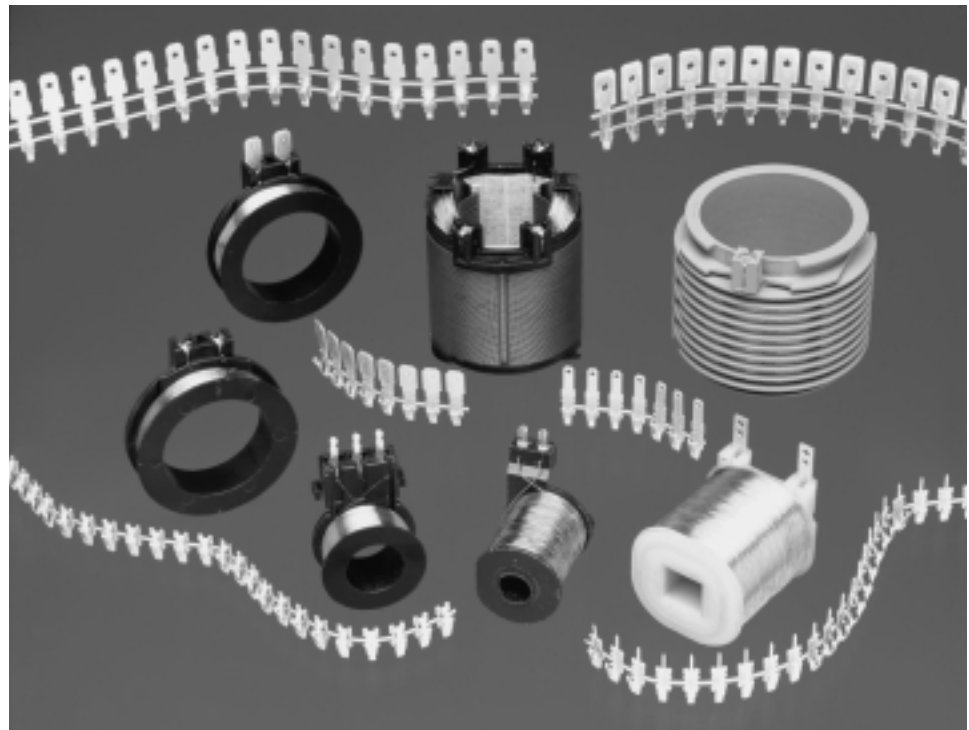
Product Facts

- Terminates all fine gauge magnet wire film insulations
- Eliminates need to pre-stripping conductors
- Eliminates need to post insulate termination
- Terminates 52-30 AWG [0.254-0.0198 mm] diameter copper magnet wire
- Poke-In leaf style accepts 22 -18 AWG [0.3-0.9 mm] overcoated stranded or solid lead wire
- Available in strip form for semi-automatic or fully automatic insertions
- Available in both open and closed cavity systems
- High speed, fully automated integrated systems provide uniform terminations reliability at the lowest possible applied cost
- Recognized under the Component Recognition Program of Underwriters Laboratories Inc, File No. E13288



Applications

- Ignition coils
- Small motors
- Synchronist timers
- Electric meter coils
- Solenoids
- Relays



Tyco Electronics offer AMP Mini MAG-MATE poke-in, crimp wire barrel, post and quick disconnect tab insulation displacement (IDC) terminals for fine gauge magnet wire terminations.

Mini MAG-MATE terminals are designed to terminate 52-30 AWG [0.254-0.198 mm] diameter copper magnet wire; poke-in leaf terminals accept 22-18 AWG [0.3-0.9 mm²] overcoated stranded or solid lead wire.

The terminal design uses the AMPLIVAR serrated burr technology to penetrate the film insulation of copper magnet wire.

Mini MAG-MATE cavity pockets, designed to Tyco Electronics specifications, include a wire receiving slot and wire tie-off post that is either integrated into coil bodies or specially designed cavity housings.

The magnet wire is wrapped around the tie-off post and placed across the cavity slot. After the coil is wound, the finish end of the magnet wire is dressed through the second cavity slot and tied to its tie-off post.

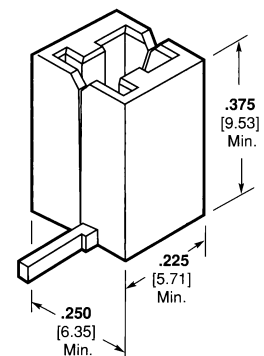
The Mini MAG-MATE Inserter shears the terminal from the carrier strip and insert the terminal into the cavity by a dual ram insertion mechanism.

As the unexpanded terminal approaches the bottom of the cavity the upper ram stops. The lower ram continues to push to a prescribed depth to expand the terminal and complete the termination process.

The fully seated terminal fits squarely into the cavity, while the serrated leg of the terminal cams against the pre-positioned magnet wire to penetrate the film insulation and provide a stable electrical termination.

Typical Plastic Cavity

Not for design, Tyco Electronics will supply required dimensions of cavity for each customer application.



Reference Application Spec. 114-2047

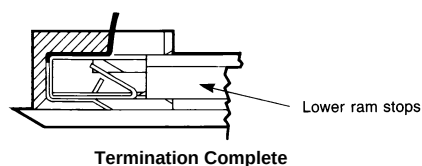
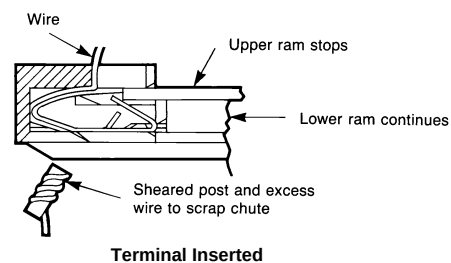
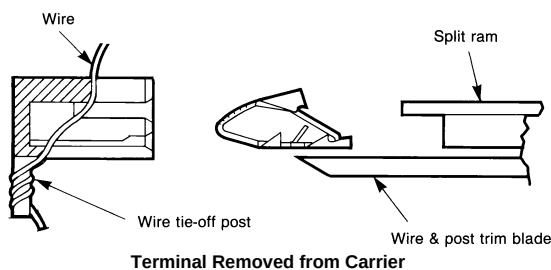
Technical Documents

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.

114-2047—Mini MAG-MATE Terminals

Mini MAG-MATE Terminals (Continued)

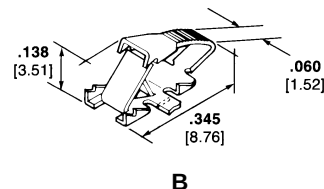
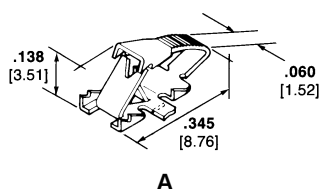
Termination Sequence



Poke-In Tab Terminal

Material

.010 [0.25] tin plated brass



Type	Copper Magnet Wire Range		Lead Wire Range ¹		Mating Tab	Stock Thickness		Strip Part Number
	AWG	mm	AWG	mm ²		Poke-In Beam	Mag Wire	
A Lead Wire Poke-In	52-42	0.02-0.06	22-18	0.3-0.9	—	.010 0.25	.010 0.25	62781-1
	44-36	0.05-0.13	22-18	0.3-0.9	—	.010 0.25	.010 0.25	62780-1
	38-30	0.10-0.25	22-18	0.3-0.9	—	.010 0.25	.010 0.25	62606-1
B Tab Poke-In	52-42	0.02-0.06	—	—	.050 x .020 1.27 x 0.51	.010 0.25	.010 0.25	63613-1 ³
	44-36	0.05-0.13	—	—	.060 x .020 1.52 x 0.51	.010 0.25	.010 0.25	63795-1 ² 63845-1 ^{2,3}
	38-30	0.10-0.25	—	—	.060 x .020 1.52 x 0.51	.010 0.25	.010 0.25	63844-1 ^{2,3}

¹ Solid or overcoated stranded lead wire only.

² Radius on beam leaf tip.

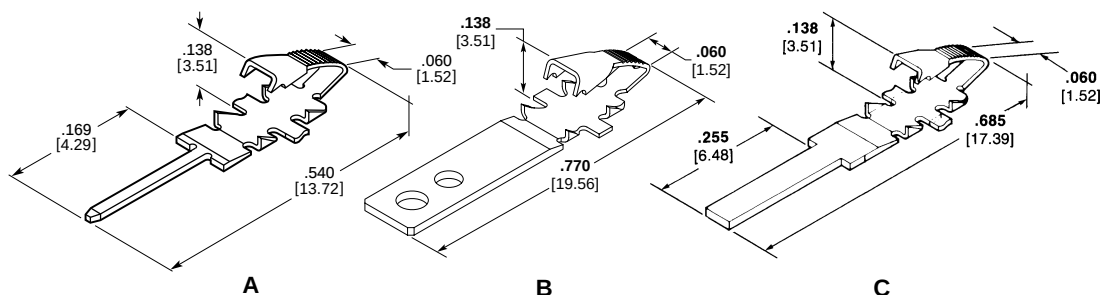
³ Finish is select gold plated on lead tip.

Mini MAG-MATE Terminals (Continued)

Posted Terminal

Material

Tin over premilled brass



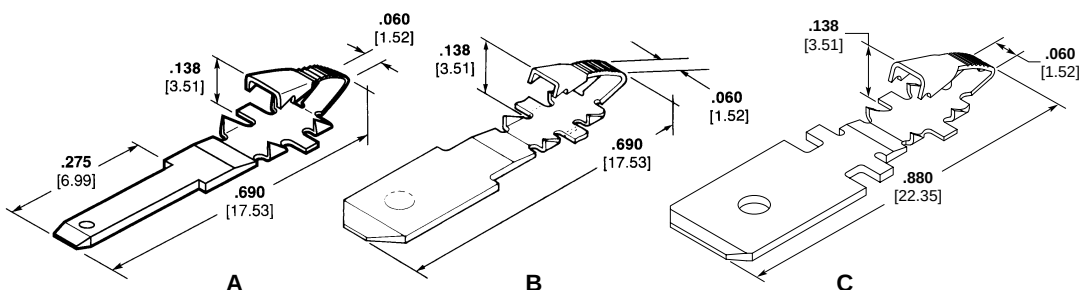
Type	Copper Magnet Wire Range		Post Size	Stock Thickness		Strip Part Number
	AWG	mm		Post	Mag Wire	
A PCB Post	44-36	0.05-0.13	.024 x .020 0.62 x 0.51	.020 0.51	.010 0.25	1217804-1†
	38-30	0.10-0.25	.024 x .020 0.62 x 0.51	.020 0.51	.010 0.25	63675-4
B Solder Post	44-36	0.05-0.13	.150 x .020 3.81 x 0.51	.020 0.51	.010 0.25	63955-1
	38-30	0.10-0.25	.150 x .020 3.81 x 0.51	.020 0.51	.010 0.25	63956-1
C Wire Wrap Post	38-30	0.10-0.25	.070 x .020 1.78 x 0.51	.020 0.51	.010 0.25	63041-1

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

FASTON Tab Terminals

Material

Tin over premilled brass

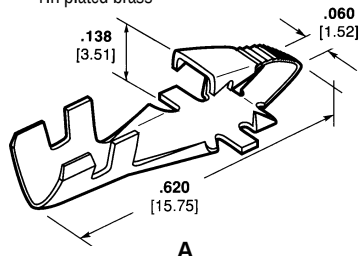


Type	Copper Magnet Wire Range		Tab Size	Stock Thickness		Strip Part Number
	AWG	mm		Post	Mag Wire	
A .110 [2.79] FASTON Tab	38-30	0.10-0.25	.110 x .020 2.79 x 0.51	.020 0.51	.010 0.25	63161-1
	44-36	0.05-0.13	.187 x .020 4.75 x 0.51	.020 0.51	.010 0.25	63778-1
B .187 [4.75] FASTON Tab	38-30	0.10-0.25	.187 x .020 4.75 x 0.51	.020 0.51	.010 0.25	62816-1 1217529-1
	44-36	0.05-0.13	.250 x .032 6.35 x 0.81	.032 0.81	.010 0.25	1217000-1
C .250 [6.35] FASTON Tab	38-30	0.10-0.25	.250 x .032 6.35 x 0.81	.032 0.81	.010 0.25	63999-1

Crimp Wire Barrel Terminal

Material

Tin plated brass



Type	Copper Magnet Wire Range		Lead Wire Range		Stock Thickness		Strip Part Number
	AWG	mm	AWG	mm²	Crimp Barrel	Mag Wire	
A Crimp Wire Barrel	52-42	0.02-0.06	26-22	0.12-0.30	.010 0.25	.010 0.25	63828-1
	44-36	0.05-0.13	26-22	0.12-0.30	.010 0.25	.010 0.25	1217830-1†
	38-30	0.10-0.25	22-18	0.3-0.9	.010 0.25	.010 0.25	63199-1† 1217231-1†

1 Wire and insulation barrel reversed so lead wire exits over magnet wire termination area.

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