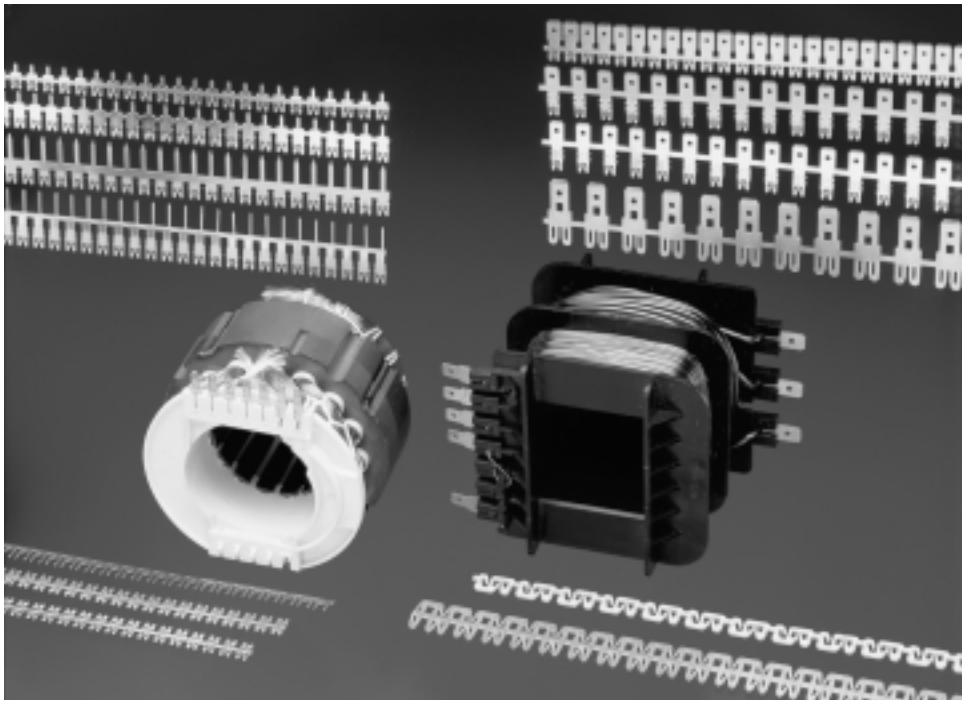
SIAMEZE Terminals

Product Facts

- **Terminates all copper magnet wire film insulations**
- **Eliminates need for pre-stripping conductors**
- **Moving Beam contact design connects a wide range of magnet wire sizes with a single terminal**
- **Standard range terminals connect 34-18 AWG [0.16-1.0 mm] magnet wire**
- **Fine range terminals connect 36-27 AWG [0.13-0.38 mm] magnet wire**
- **Medium range terminals connect 23-12 AWG [0.56-2.03 mm] magnet wire**
- **Excess magnet wire is automatically trimmed during the termination process**
- **Available in strip form for semi-automatic or fully automatic insertions**
- **Loose piece terminals available for hand tool insertions**
- **High-speed automatic coil winding machine terminations provide uniform 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 Program of Underwriters Laboratories Inc., File No. E13288**

Applications

- **Motor windings and connections**
- **Coil connections**
- **Transformer windings and connections**
- **Ballasts**
- **Power supplies**
- **Solenoids**
- **Actuators**



Tyco Electronics offers a full selection of AMP SIAMEZE insulation displacement (IDC) terminals for interconnecting copper magnet wires, lead wires, and other components.

The AMP SIAMEZE insulation displacement (IDC) technology eliminates the need to strip the film insulation from copper magnet wires and lead wires.

Terminals are available in wire-to-wire, Lead Lok, quick disconnect tabs, posts, pin and receptacle terminals.

Standard Range SIAMEZE terminals terminate 34-18 AWG [0.16-1.0 mm] copper magnet wires.

Fine Range SIAMEZE terminals terminate 36-27 AWG [0.13-0.38 mm] copper magnet wires.

Medium Range and Heavy Range SIAMEZE terminals terminate 23-12 AWG [0.56-2.03 mm] copper magnet wires.

Available with either Moving Beam contacts whereby a single terminal connects to a very wide range of magnet wire sizes, or a Compliant Beam for contacting two magnet wires of the same diameter in one terminal for splicing or bi-filar applications.

According to Tyco Electronics specifications SIAMEZE cavities are either integrated into coil bodies or specially designed cavity housings.

The magnet wires are positioned in the “U” shaped slots.

The SIAMEZE 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 the 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 remove all 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 SIAMEZE Inserter may be used as a semi-automatic bench machine or integrated in production lines for fully-automatic applications.

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

SIAMEZE Terminals (Continued)

Typical Plastic Cavity — Pockets

Note: SIAMEZE 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 cutoff or tie-off post.

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.

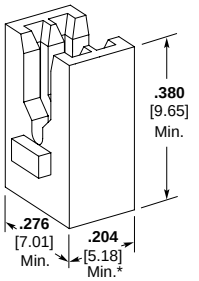
Unraveling is prevented by a slight friction fit, suitable bend or by wrapping the magnet wire around the tie-off post.

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

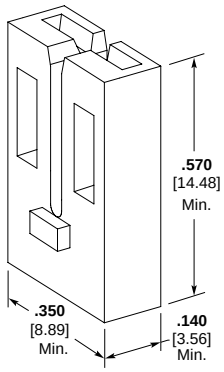
Terminal retention is retained in the plastic cavities by single or multiple locking barbs or locking latches for large quick disconnect FASTON tab terminals.

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

Tyco Electronics can provide design and mold engineering resources to manufacture most specifically designed SIAMEZE cavity housings.



Cavity Part Number 1601421



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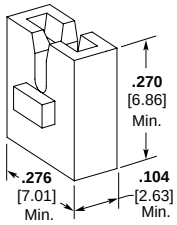
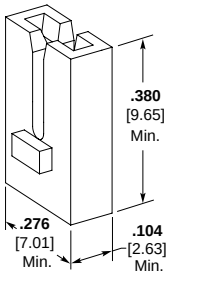
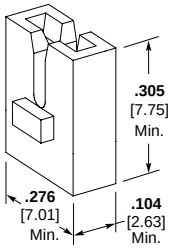


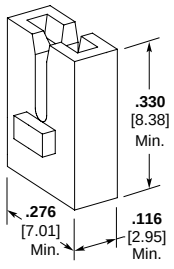
Cavity Part Number 1601424



Cavity Part Number 1601425



Cavity Part Number 1601427



Cavity Part Number 1601431

* Minimum dimension with Lead Lok slot.

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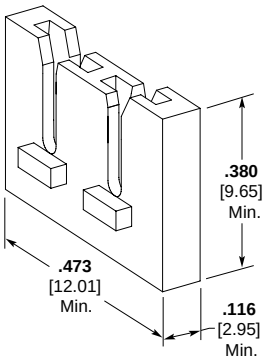
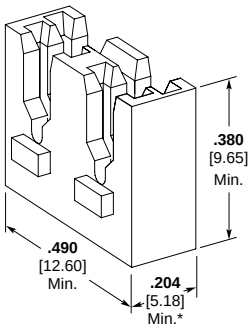
SIAMEZE Terminals (Continued)

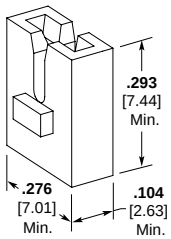
Typical Plastic Cavity — Pockets (Continued)



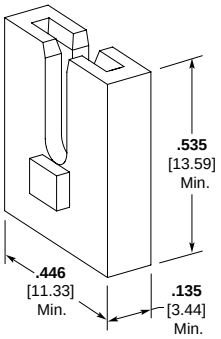
Cavity Part Number 1601432



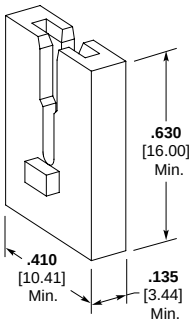
Cavity Part Number 1601433



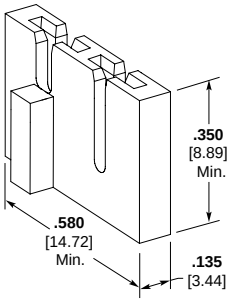
Cavity Part Number 1601434



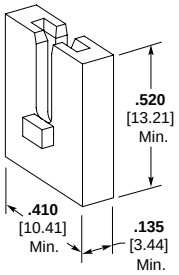
Cavity Part Number 1601435



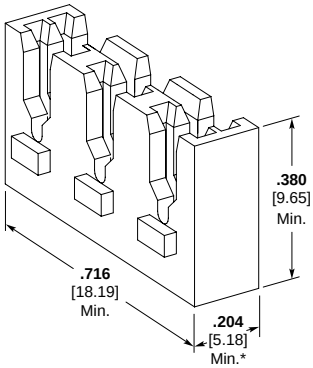
Cavity Part Number 1601436



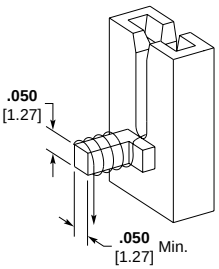
Cavity Part Number 1601437



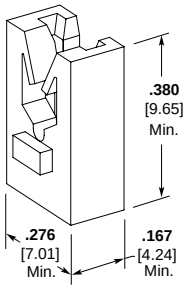
Cavity Part Number 1601438



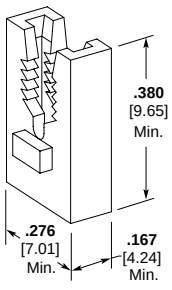
Cavity Part Number 1601440



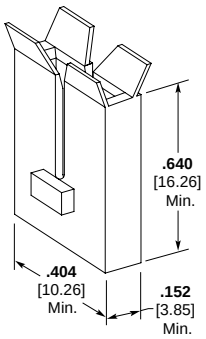
Wrap Post Part Number 1601447



Cavity Part Number 1601462



Cavity Part Number 1601463



Cavity Part Number 1601470

* Minimum dimension with Lead Lok slot.

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Technical Support
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SIAMEZE Terminals (Continued)

SIAMEZE Interconnection System

How the System Operates

① **Trim Blade**
The trim blade cuts the excess magnet wire and the wire cutoff block at the front of the cavity.

② **Terminal Insertion Finger**
The terminal insertion finger is part of the SIAMEZE Inserter. It pushes the terminal that was sheared from the carrier strip through the "tube" into the cavity.

③ **Contact**
Various wire attachments in standard, fine, medium and heavy duty terminals are available (See tables).

④ **IDC Slot**
The IDC slot in the terminal will terminate a wide range of magnet wire sizes.

⑤ **Stripping Burrs**
During the insertion process, these burrs strip the film insulation from the magnet wire.

⑥ **Locking Barbs**
Terminal retention is provided in the cavity by single or multiple locking barbs.

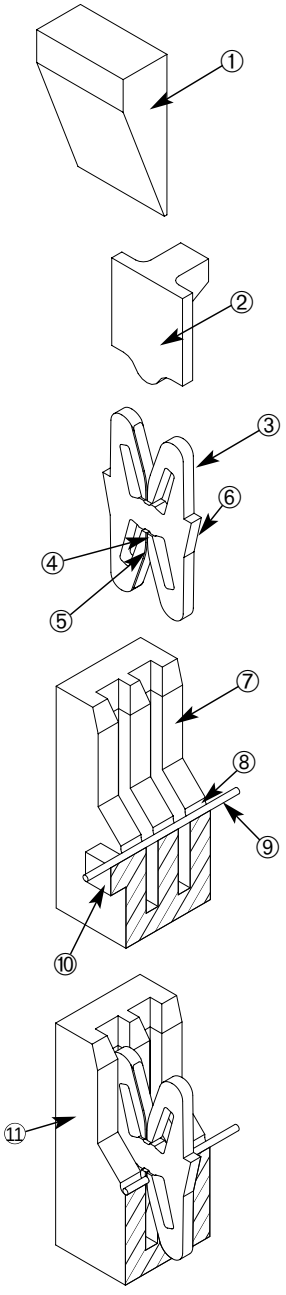
⑦ **Plastic Cavity**
Production has to be in accordance with Tyco Electronics specifications (for cavity drawing numbers see tables). **Consulting Tyco Electronics is required for design in.**

⑧ **Cavity Slot for Wire**
The width has to be in accordance with the wire size (see cavity drawings).

⑨ **Magnet Wire**
The magnet wire is positioned in "U" slot manually or automatically by coil winding equipment.

⑩ **Wire Cutoff Block**
The wire cutoff block supports the magnet wire during the trimming process. The magnet wire is cut plain to the cavity front side.

⑪ **Terminal Insertion Complete**
The magnet wire termination is complete when the terminal is fully seated in the cavity.



Test Results

Standard Range SIAMEZE products have been submitted to the following tests without significant millivolt increase:

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

Thermal Shock —
10 cycles with each cycle consisting of 30 minutes at 150°C followed by 30 minutes at 21°C

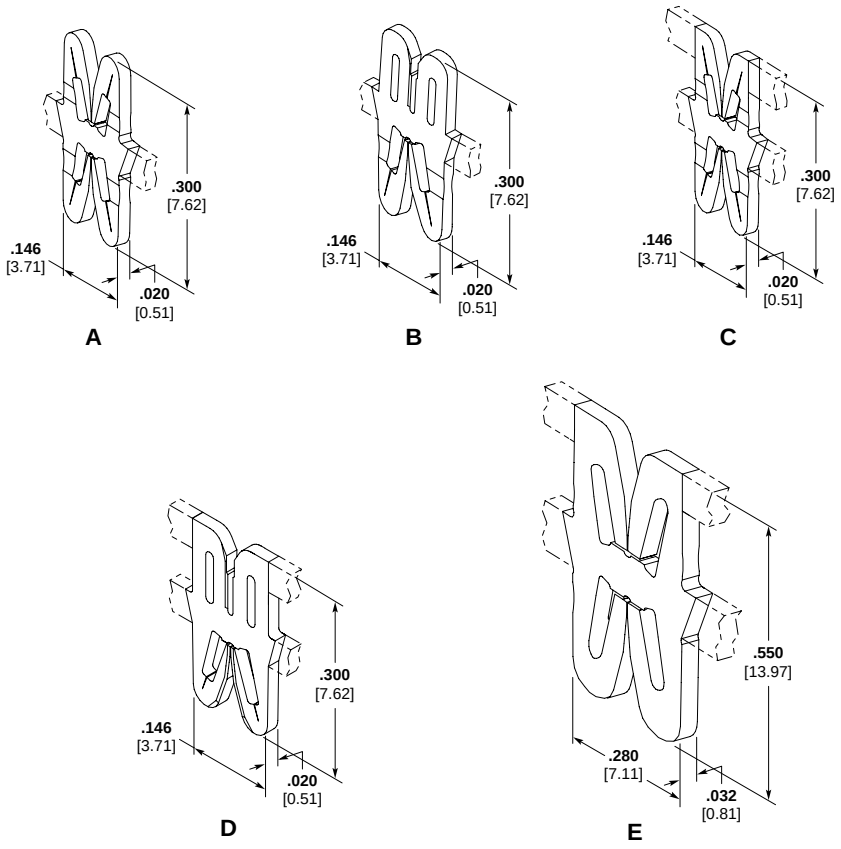
Humidity —
Temperature Cycling
10 cycles between 25°C and 65°C at 80 to 100% RH

SIAMEZE Terminals (Continued)

Wire-to-Wire Terminals

Material

Brass



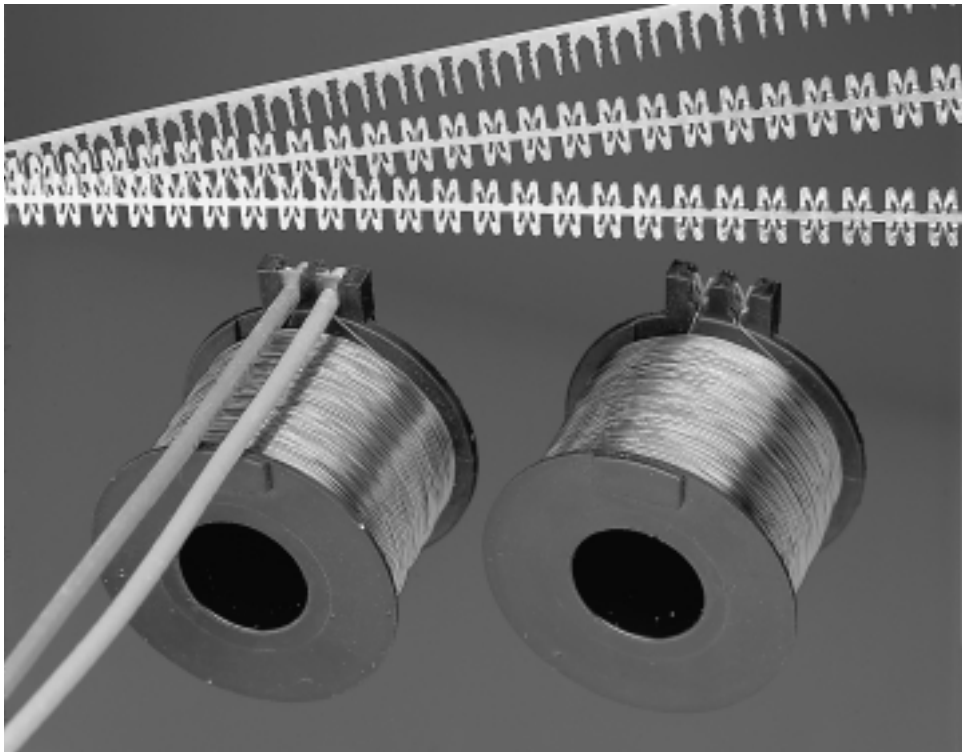
Type	Recommended Pocket[7]	Copper Magnet Wire Range		Lead Wire Range		Part Number	
		AWG	mm²	AWG	mm²	Reeled	Loose
A Moving Beam	1601421 1601462 1601463	27–26	0.36–0.13	18-22[6]	0.8-0.3	1601117-1 2-1601117-1[1]	4-1601117-1[2]
		18-34	1.02-0.16	18-22[6]	0.8-0.3	1601000-1 1601000-2[5]	4-1601000-1[2] 4-1601000-2[2,5]
B Wire Specific	1601421	18–34	1.02–0.16	20	0.5	1601056-1 2-1601056-1[1]	4-1601056-1[2]
		18-34	1.02-0.16	18	0.8	1601074-1 2-1601074-1[1]	4-1601074-1[2]
C High Carry	1601433 1601440	18-34	1.02-0.16	18-22[6]	0.8-0.3	1601046-1 2-1601046-1[1]	4-1601046-1[2] 6-1601046-1[3] 8-1601046-1[4]
D High Carry Specific	1601433	27-36	0.36-0.13	20	0.5	1601125-1 2-1601125-1[1]	4-1601125-1[2] 6-1601125-1[3]
E Medium Range	1601436	12-23	2.06-0.56	16-20	1.3-0.5	1601136-1 2-1601136-1[1]	4-1601136-1[2] 6-1601136-1[3]

[1] Reversed Reeled—Consult Tyco Electronics drawing for orientation.
[2] Loose Single.
[3] Loose Bussed Pair.
[4] Loose Bussed Triple.
[5] Finish is Post Plated Tin over Copper (Consult Tyco Electronics drawing for specifics).
[6] Lead wire may be stranded, solid or bonded with 105°C PVC insulation. Contact Tyco Electronics Engineering when using other types of insulation.
[7] Magnet wire 30 AWG [0.25 mm] and smaller also requires a wrap post per drawing 1601447.

SIAMEZE Terminals (Continued)

Lead Lok Terminals Product Facts

- **Provides perpendicular and parallel lead wire strain relief retention forces in excess of 20 lbs.**
- **AMP Inserter automatically positions and secures lead wire during insertion**
- **Manual, semi-automated, fully automated systems allow for lead wire termination**
- **Accepts #18 -#22 [0.3 mm²-0.8 mm²] AWG solid or stranded lead wire with .115 [2.92] max. insulation diameter**
- **No lead wire stripping required**



Tyco Electronics features the AMP Lead Lok strain relief terminal system that provides optimum lead wire retention when used in conjunction with SIAMEZE insulation displacement terminals.

After the one-step insertion of AMP SIAMEZE wire-to-wire terminals into Tyco Electronics specified plastic cavities, the application is ready for the secondary lead wire attachment.

The lead wire is manually positioned over the magnet wire terminated SIAMEZE wire-to-wire terminal.

The AMP Lead Lok Inserter cuts the Lead Lok terminals from the strip and places the terminal over the lead wire in the plastic cavities.

During this operation, the lead wire is automatically seated, the insulation pierced and the exposed solid or stranded conductor is terminated in the IDC slot of the SIAMEZE wire-to-wire terminal.

Residual spring energy in the terminal causes the side walls of the 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.

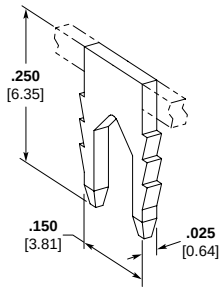
Perpendicular and parallel lead wire strain relief retention forces in excess of 20 lbs are achieved.

The AMP Lead Lok Inserter may be a secondary station in the AMP SIAMEZE Wire-to-Wire semi-automatic bench machine or a separate semi-automatic bench machine inserter depending on the application and required production rates.

SIAMEZE Terminals (Continued)

Lead Lok Interconnection System

How the System Operates



Type	Recommended Pocket	Lead Wire Range		Part Number	
		AWG	mm²	Reeled	Loose
A Lead Lok	1601421 1601433 1601440	18-22[2]	0.8-0.3	1601140-1 2-1601140-1[1]	4-1601140-1

[1] Reverse Reeled—Consult Tyco Electronics drawing for orientation.
[2] Lead wire may be stranded, solid or bonded with 105°C PVC insulation. Contact Tyco Electronics Engineering when using other types of insulation.

① **Lead Lok Insertion Finger**
The Lead Lok insertion finger pushes the Lead Lok that was sheared from the carrier strip and positions the Lead Lok and lead wire into the IDC slot.

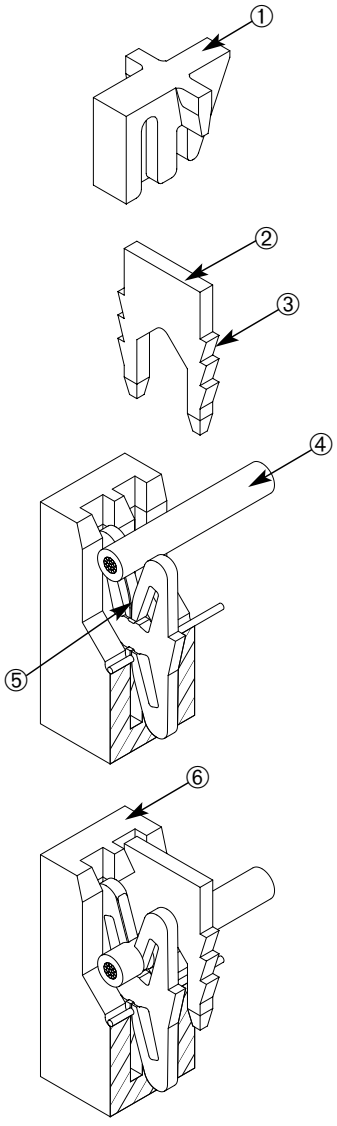
② **Lead Lok Terminal**
The Lead Lok terminal provides maximum lead wire retention in the cavity.

③ **Locking Barbs**
The Lead Lok multiple locking barbs provide retention in the cavity.

④ **Lead Wire**
Stranded, solid and bonded lead wire with 105°C PVC insulation can be used. Contact Tyco Electronics Engineering for other lead wires and insulation under consideration.

⑤ **IDC Slot**
The IDC slot will pierce the lead wire during insertion.

⑥ **Lead Wire Insertion Complete**
The lead wire termination is complete when the Lead Lok is fully seated in the cavity.



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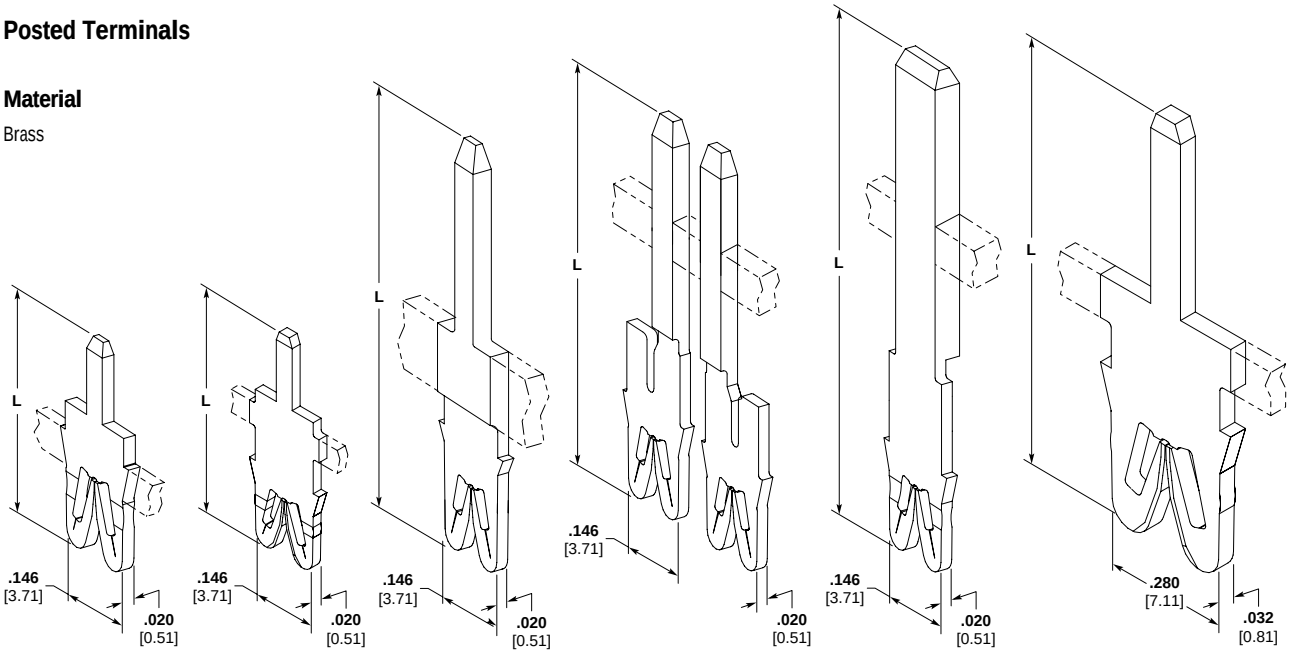
SIAMEZE Terminals (Continued)

Posted Terminals

Material

Brass



Type	Recommended Pocket[7]	Copper Magnet Wire Range AWG	Copper Magnet Wire Range mm²	L Dim.	Tab Size	Part Number Reeled	Part Number Loose
A PC Tab	1601424	27-36	0.36-0.13	**.345** 8.76	**.040 x .020** 1.02 x 0.51	1601120-2[3] 2-1601120-2[1,3]	4-1601120-2[3]
		18-34	1.02-0.16	**.345** 8.76	**.040 x .020** 1.02 x 0.51	1601009-2[2] 2-1601009-2[1,2]	4-1601009-2[2]
		16-17[6]	1.27-1.15	**.345** 8.76	**.040 x .020** 1.02 x 0.51	1601147-2[3] 2-1601147-2[1,3]	4-1601147-2[3]
		29[6]	0.29	**.345** 8.76	**.040 x .020** 1.02 x 0.51	1601155-2[2] 2-1601155-2[1,2]	4-1601155-2[2]
B Extended PC Tab	1601425	27-36	0.36-0.13	**.485** 12.32	**.040 x .020** 1.02 x 0.51	1601128-2[3] 2-1601128-2[1,3]	4-1601128-2[3]
		18-34	1.02-0.16	**.485** 12.32	**.040 x .020** 1.02 x 0.51	1601041-2[2] 2-1601041-2[1,2]	4-1601041-2[2]
				.456 11.57	**.040 x .020** 1.02 x 0.51	1601095-2[4] 2-1601095-2[1,4]	4-1601095-2[4]
C Long Narrow Width Blade	1601431	18-34	1.02-0.16	**.754** 19.16	**.047 x .032** 1.20 x. 0.81	1601110-2[4] 2-1601110-2[1,4]	4-1601110-2[4]
				.669 17.00	**.059 x .032** 1.50 x 0.81	1601099-1 2-1601099-1[1]	4-1601099-1
				.756 19.21	**.059 x .032** 1.50 x 0.81	1601063-2[5] 2-1601063-2[1,5]	4-1601063-2[5]
				.904 22.96	**.059 x .032** 1.50 x 0.81	1601037-2[5] 2-1601037-2[1,5]	4-1601037-2[5]
				1.005 25.53	**.059 x .032** 1.50 x 0.81	1601066-2[4] 2-1601066-2[1,4]	4-1601066-2[4]
				.974 24.74	**.071 x .025** 1.80 x 0.64	1601104-2[5] 2-1601104-2[1,5]	4-1601104-2[5]
D Tab Pair with Diode Slot	1601425	27-36	0.36-0.13	**.710** 18.03	**.059 x .032** 1.50 x 0.81	1601121-2[4] 2-1601121-2[1,4]	—
		18-34	1.02-0.16	**.710** 18.03	**.059 x .032** 1.50 x 0.81	1601065-2[4] 2-1601065-2[1,4]	—
E Long Medium Width Blade	1601425	18-34	1.02-0.16	**.837** 21.26	**.118 x .025** 3.00 x 0.51	1601008-2[4] 2-1601008-2[4]	4-1601008-2[4]
				.837 21.26	**.118 x .032** 3.00 x 0.81	1601051-2[4] 2-1601051-2[1,4]	4-1601051-2[4]
F Long Medium Blade Medium Range	1601438	12-23	0.56-2.06	**.872** 22.15	**.130 x .032** 3.30 x 0.81	1601138-1 2-1601138-1[1]	4-1601138-1

[1] Reverse Reeled—Consult Tyco Electronics drawing for orientation.
[2] Finish is Post Plated Tin over Copper (Consult Tyco Electronics drawing for specifics).
[3] Finish is Post Plated Tin over Nickel (Consult Tyco Electronics drawing for specifics).
[4] Finish is Pre-Plated Tin over Copper (Consult Tyco Electronics drawing for specifics).
[5] Finish is Pre-Plated Tin (Consult Tyco Electronics drawing for specifics).
[6] Two magnet wires may be terminated in the same slot if diameters are equal.
[7] Magnet wire 30 AWG [0.25 mm] and smaller also requires a wrap post per drawing 1601447.

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

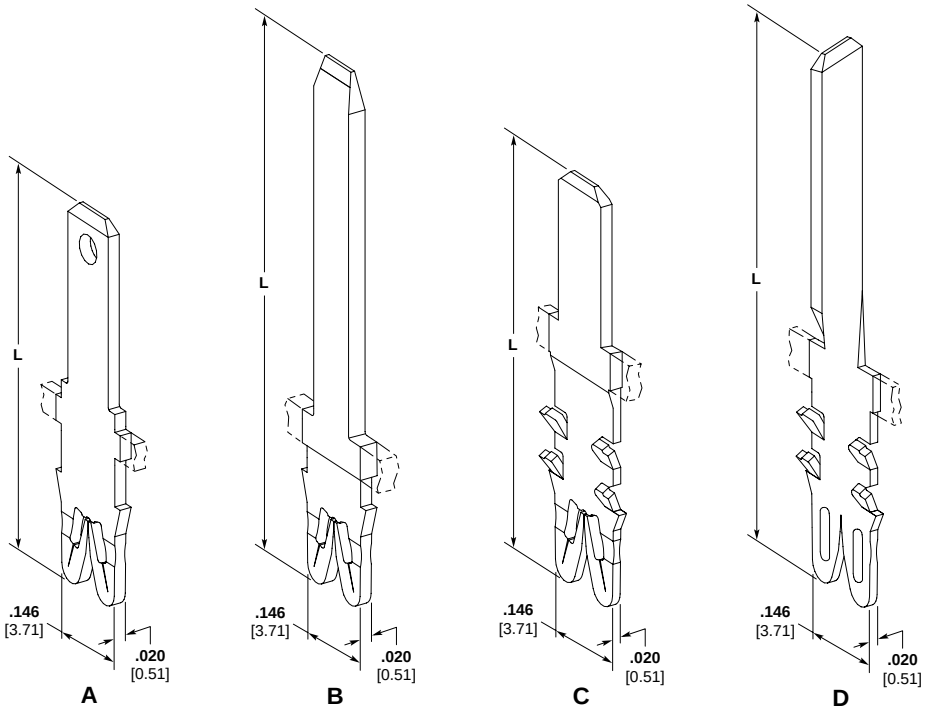
www.tycoelectronics.com

SIAMEZE Terminals (Continued)

110 Series
FASTON Tab Terminals

Material

Brass



Type	Recommended Pocket[7]	Copper Magnet Wire Range AWG	Copper Magnet Wire Range mm	L Dim.	Tab Feature	Tab Size	Part Number Reeled	Part Number Loose
A Single Barb	1601425	27-36	0.36-0.13	**.640** 16.26	Hole	**.110 x .020** 2.79 x 0.51	1601116-1 2-1601116-1[1]	4-1601116-1
		18-34	1.02-0.16	**.640** 16.26	Hole	**.110 x .020** 2.79 x 0.51	1601005-1 2-1601005-1[1]	4-1601005-1
							1601005-2[3] 2-1601005-2[1,3]	4-1601005-2[3]
					—	**.110 x .020** 2.79 x 0.51	1601085-1[3] 2-1601085-1[1,3]	4-1601085-1[3]
		18-34	1.02-0.16	**.846** 21.49	Hole	**.110 x .020** 2.79 x 0.51	1601045-1 2-1601045-1[1]	4-1601045-1
					—	**.110 x .020** 2.79 x 0.51	1601059-1 2-1601059-1[1]	4-1601059-1
							1601059-2[4] 2-1601059-2[1,4]	4-1601059-2[4]
		18-34	1.02-0.16	**.925** 23.50	Hole	**.110 x .020** 2.79 x 0.51	1601073-1 2-1601073-1[1]	4-1601073-1
B Single Barb Low Transition	1601431	18-34	1.02-0.16	**.945** 24.00	—	**.110 x .032** 2.79 x 0.81	1601097-2[3] 2-1601097-2[1,3]	4-1601097-2[3]
C Multi-Barb	1601425	27-36	0.36-0.13	**1.240** 31.50	—	**.110 x .032** 2.79 x 0.81	1601133-2[2,5] 2-1601133-2[1,2,5]	4-1601133-2[2]
		18-34	1.02-0.16	**.655** 16.63	Hole	**.110 x .020** 2.79 x 0.51	1601039-1 2-1601039-1[1]	4-1601039-1
							1601039-2[3] 2-1601039-2[1,3]	4-1601039-2[3]
		18-34	1.02-0.16	**.630** 15.99	—	**.110 x .032** 2.79 x 0.81	1601064-1 2-1601064-1[1]	4-1601064-1
		18-34	1.02-0.16	**1.240** 31.50	—	**.110 x .032** 2.79 x 0.81	1601112-2[2,5] 2-1601112-2[1,2,5]	4-1601112-2[2]
D Multi-Barb w/ 90° Twist	1601425	21-24[6]	.51-.72	**.915** 23.24	—	**.110 x .020** 2.79 x 0.51	1601151-2[3] 2-1601151-2[1,3]	4-1601151-2[3]

[1] Reversed Reeled—Consult Tyco Electronics drawing for orientation.
[2] Finish is Pre-Plated Tin over Copper (Consult Tyco Electronics drawing for specifics).
[3] Finish is Pre-Plated Tin (Consult Tyco Electronics drawing for specifics).
[4] Finish is Pre-Plated Silver over Nickel (Consult Tyco Electronics drawing for specifics).
[5] Dual Carrier Strip.
[6] Two magnet wires may be terminated in the same slot if diameters are equal.
[7] Magnet wire 30 AWG [0.25 mm] and smaller also requires a wrap post per drawing 1601447.

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Technical Support
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Mexico: 01-800-733-8926

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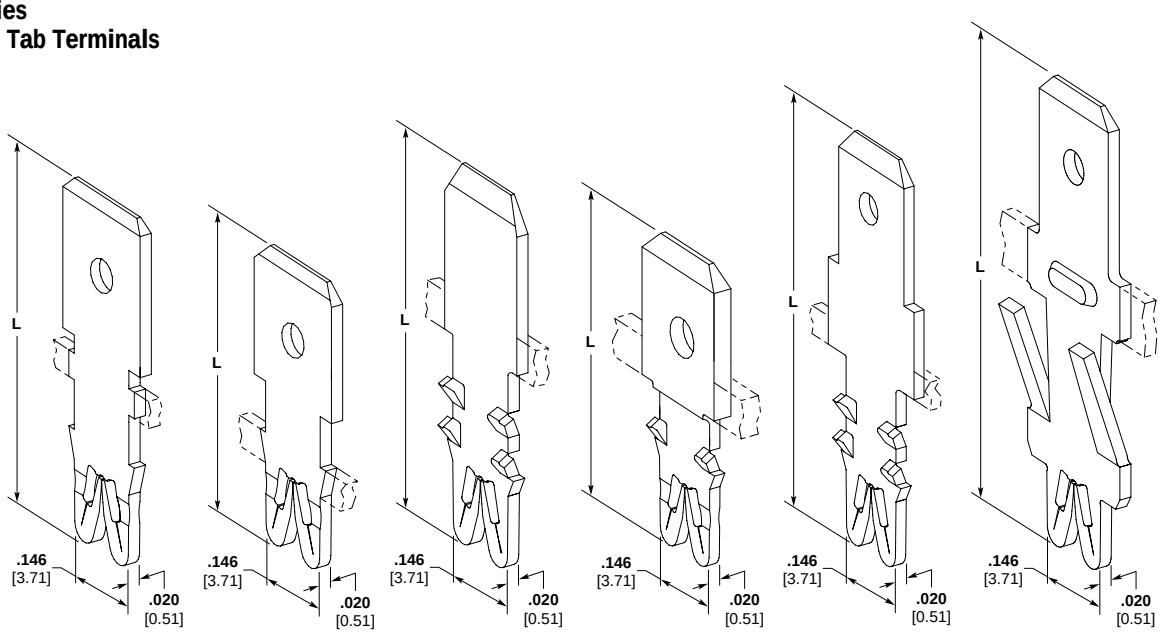
SIAMEZE Terminals (Continued)

187 Series
FASTON Tab Terminals

Material

Brass



Type	Recommended Pocket[6]	Copper Magnet Wire Range AWG	Copper Magnet Wire Range mm	L Dim.	Tab Feature	Tab Size	Part Number Reeled	Part Number Loose
A Single Barb	1601425	18-34	1.02-0.16	**.605** 15.37	Hole	**.187 x .020** 4.75 x 0.51	1601006-2[3] 2-1601006-2[1,3]	4-1601006-2[3]
B Single Barb Short Pocket	1601427	18-34	1.02-0.16	**.505** 12.83	Hole	**.187 x .020** 4.75 x 0.51	1601011-1 2-1601011-1[1]	4-1601011-1
				.590 14.99	—	**.187 x .020** 4.75 x 0.51	1601018-2[2,5] 2-1601018-2[1,2,5]	4-1601018-2[2]
				.985 25.02	—	**.187 x .020** 4.75 x 0.51	1601033-2[2,5] 2-1601033-2[1,2,5]	4-1601033-2[2]
C Multi-Barb	1601425	18-34	1.02-0.16	**.618** 15.70	—	**.187 x .020** 4.75 x 0.51	1601021-2[2] 2-1601021-2[1,2]	4-1601021-2[2]
				.655 16.64	Hole	**.187 x .020** 4.75 x 0.51	1601013-1 2-1601013-1[1]	4-1601013-1
				.791 20.09	—	**.187 x .020** 4.75 x 0.51	1601072-2[2] 2-1601072-2[1,2]	4-1601072-2[2]
				.832 21.14	—	**.187 x .020** 4.75 x 0.51	1601068-2[2] 2-1601068-2[1,2]	4-1601068-2[2]
				.655 16.64	Hole	**.187 x .032** 4.75 x 0.81	1601035-1 2-1601035-1[1]	4-1601035-1
							1601035-2[3] 2-1601035-2[1,3]	4-1601035-2[3]
				.745 18.92	Hole	**.187 x .032** 4.75 x 0.81	1601040-1 2-1601040-1[1]	4-1601040-1
		20-23**	0.58-0.81	**.655** 16.64	Hole	**.187 x .020** 4.75 x 0.51	1601142-1 2-1601142-1[1]	4-1601142-1
D Multi-Barb Short Profile	1601434			**.492** 12.50	Hole	**.187 x .032** 4.75 x 0.81	1601058-2[2,4] 2-1601058-2[1,2,4]	4-1601058-2[2,4]
E Multi-Barb .187/.250 Profile	1601425	18-34	1.02-0.16	**.655** 16.64	Hole	**.187 x .020** 4.75 x 0.51	1601020-1 2-1601020-1[1]	4-1601020-1
							1601020-2[3] 2-1601020-2[1,3]	4-1601020-2[3]
				.805 20.45	Hole	**.187 x .020** 4.75 x 0.51	1601049-2[3] 2-1601049-2[1,3]	4-1601049-2[3]
F Latch	1601423	18-34	1.02-0.16	**.775** 19.68	Hole	**.187 x .020** 4.75 x 0.51	1601004-1 2-1601004-1[1]	4-1601004-1

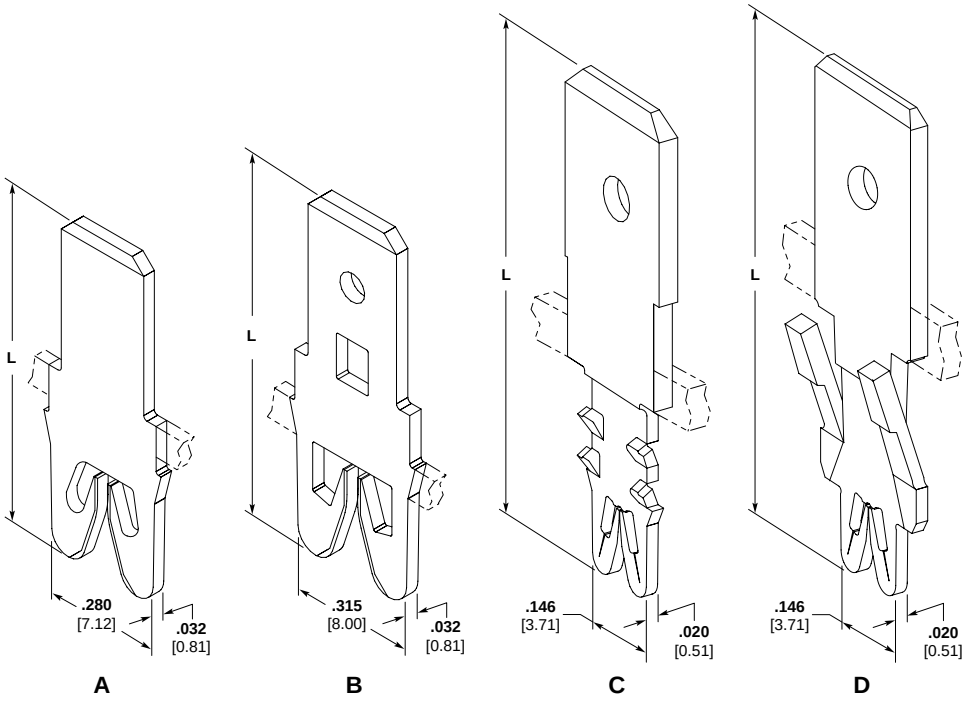
[1] Reverse Reeled—Consult Tyco Electronics drawing for orientation.
[2] Finish is Pre-Plated Tin over Copper (Consult Tyco Electronics drawing for specifics).
[3] Finish is Pre-Plated Tin (Consult Tyco Electronics drawing for specifics).
[4] Extra Short Tab-Does not meet UL & NEMA length requirements.
[5] Carrier strip not in retention barb area as shown.
[6] Magnet wire 30 AWG [0.25 mm] and smaller also requires a wrap post per drawing 1601447.

SIAMEZE Terminals (Continued)

250 Series
FASTON Tab Terminals

Material

Brass



Type	Recommended Pocket[6]	Copper Magnet Wire Range AWG	Copper Magnet Wire Range mm	L Dim.	Tab Feature	Tab Size	Part Number Reeled	Part Number Loose
A Single Barb Medium Range	1601438	12-23	2.03-0.56	**.778** 19.76	—	**.250 x .032** 6.35 x 0.81	1601139-2[3] 2-1601139-2[1,3]	4-1601139-2[3]
B Single Barb Heavy Range	1601435	12-20	2.03-0.8	**.885** 22.48	Hole	**.250 x .032** 6.35 x 0.81	1601115-1 2-1601115-1[1]	4-1601115-1
		16-17[5]	1.27-1.15	**.885** 22.48	Hole	**.250 x .032** 6.35 x 0.81	1601159-1 2-1601159-1[1]	4-1601159-1
		14-15[5]	1.60-1.40	**.885** 22.48	Hole	**250 x .032** 6.35 x 0.81	1601161-1 2-1601161-1[1]	4-1601161-1
C Multi-Barb	1601425	27-36	0.36-0.13	**.745** 18.92	Hole	**.250 x .032** 6.35 x 0.81	1601118-2[3] 2-1601118-2[1,3]	4-1601118-2[3]
		18-34	1.02-0.16	**.745** 18.92	Hole	**.250 x .032** 6.35 x 0.81	1601002-2[3] 2-1601002-2[1,3]	4-1601002-2[3]
				.805 20.45	Hole	**.250 x .032** 6.35 x 0.81	1601028-2[3] 2-1601028-2[1,3]	4-1601028-2[3]
							1601028-1 2-1601028-1[1]	4-1601028-1
					Dimple	**.250 x .032** 6.35 x 0.81	1601061-2[3] 2-1601061-2[1,3]	4-1601061-2[3]
				1.000 25.4	Hole	**.250 x .032** 6.35 x 0.81	1601044-1 2-1601044-1[1]	4-1601044-1
				1.281 32.53	Hole	**.250 x .032** 6.35 x 0.81	1601052-2[2,4] 2-1601052-2[1,2,4]	4-1601052-2[2]
D Latch	1601423	18-34	1.02-0.16	**.850** 21.59	Hole	**.250 x .032** 6.35 x 0.81	1601003-1 2-1601003-1[1]	4-1601003-1[2]

[1] Reverse Reeled—Consult Tyco Electronics drawing for orientation.
[2] Finish is Pre-Plated Tin over Copper (Consult Tyco Electronics drawing for specifics).
[3] Finish is Pre-Plated Tin (Consult Tyco Electronics drawing for specifics).
[4] Double Carrier Strip.
[5] Two magnet wires may be terminated in the same slot if diameters are equal.
[6] Magnet wire 30 AWG [0.25 mm] and smaller also requires a wrap post per drawing 1601447.

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

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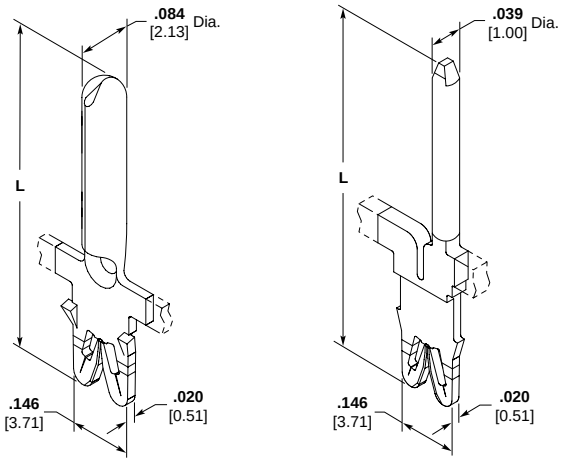
SIAMEZE Terminals (Continued)

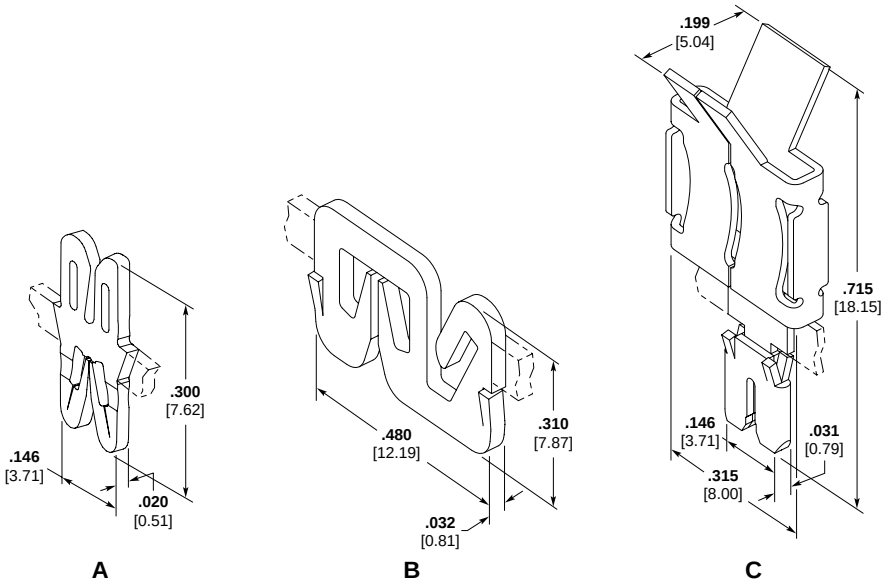
Pin Terminals



Type	Recommended Pocket[5]	Copper Magnet Wire Range AWG	Copper Magnet Wire Range mm²	L Dim.	Pin Dia.	Part Number Reeled	Part Number Loose
A Round Pin	1601424	18-34	1.02-0.16	**.718** 18.24	**.084** 2.13	1601077-1 2-1601077-1[1]	4-1601077-1
B Pseudo Round Pin with Diode Slot	1601432	27-36	0.36-0.13	**.855** 21.71	**.039** 1.00	1601130-2[2,3] 2-1601131-2[2,3,4]	—

[1] Reverse Reeled—Consult Tyco Electronics drawing for orientation.
[2] Finish is Pre-Plated Tin over Copper (Consult Tyco Electronics drawing for specifics).
[3] Diameter is approximate as Pin is not perfectly round.
[4] Reverse Reeled Mirror Image—Consult Tyco Electronics drawing for orientation.
[5] Magnet wire 30 AWG [0.25 mm] and smaller also requires a wrap post per drawing 1601447.

Receptacle Terminals



Type	Recommended Pocket[3]	Copper Magnet Wire Range AWG	Copper Magnet Wire Range mm²	L Dim.	Mating Tab Size	Part Number Reeled	Part Number Loose
A Edge Contact In Line	1601425	18-34	1.02-0.16	**.300** 7.62	**.020** 0.51	1601075-2[2] 2-1601075-2[1,2]	4-1601075-2[2]
B Edge Contact Off Line	1601421	15-23	1.47-0.56	**.310** 7.87	**.032** 0.81	1601137-2[2] 2-1601137-2[1,2]	4-1601137-2[2]
C Blind Mate Full Surround	1601470	21.5	0.71	**.715** 18.15	**.250 x .020** 6.35 x 0.51	1601149-2[2] 2-1601149-2[1,2]	4-1601149-2[2]

[1] Reverse Reeled—Consult Tyco Electronics drawing for orientation.
[2] Finish is Pre-Plated Tin over Copper (Consult Tyco Electronics drawing for specifics).
[3] Magnet wire 30 AWG [0.25 mm] and smaller also requires a wrap post per drawing 1601447.

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

www.tycoelectronics.com

MAG-MATE and SIAMEZE Application Tooling

MAG-MATE Product Terminator (MPT)

Product Facts

- **Single, dual and triple insertion**
- **Two-reel, two-product capability, with alternating feed capability**
- **Available as horizontal bench, vertical bench or independent module**
- **Module easily integrates into production lines using simple handshake signals**
- **Fine adjustment mechanism for insertion depth (.001 increments)**
- **Tube-type insertion tooling for standard MAG-MATE terminals**
- **Microprocessor controlled operation**
- **Holding fixture for bobbin can be designed and built by Tyco Electronics or the customer**

For quick, easy and reliable termination of magnet wire without pre-stripping the insulation or soldering, Tyco Electronics offers the MAG-MATE product family and the MPT-5 (MAG-MATE Product Terminator) air-operated insertion machine with micro-processor control. The MPT-5 machine inserts a MAG-MATE terminal into a customer-designed cavity in the coil bobbin or similar magnet-wire housing, terminating the wire and providing an I/O terminal or other connection. The MAG-MATE system can create a termination that is very close to the coil.

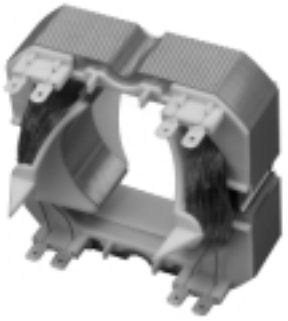
Dual reel capability of the MPT-5 allows insertion of two different MAG-MATE terminals, with the capability to alternate between inserting one and two terminals at a time. Two terminations per second are possible with dual insertion. Loaded with two different terminals, a single MPT-5 can cover a range of 8 AWGs.

A fifth generation machine, the MPT-5 is lighter and quieter than previous versions. The MPT-5 is available as a horizontal or vertical bench machine or as a discrete module for integration into automated lines. The discrete module also can be used to make a custom horizontal or vertical bench machine. A fixture to hold the coil assembly, which is required for bench operation, can be designed and built by Tyco Electronics or the customer.

The MPT-5 uses three or four air cylinders to feed terminals from one or both reels, cut terminals from the carrier strip, and insert terminals into the cavities. The display shows the operating conditions of the machine such as the batch count, total count, error messages, and ready state. The display also lets the operator step through the machine sequence or manually cycles the machine for set up or easy diagnosis of problems.

Solderless MAG-MATE Terminations:

- No need to pre-strip the magnet wire
- No wire embrittlements due to solder
- No soldering fumes
- Compact, clean termination
- Ideal for automation
- Fast magnet wire connections: Up to two per second with dual insertion



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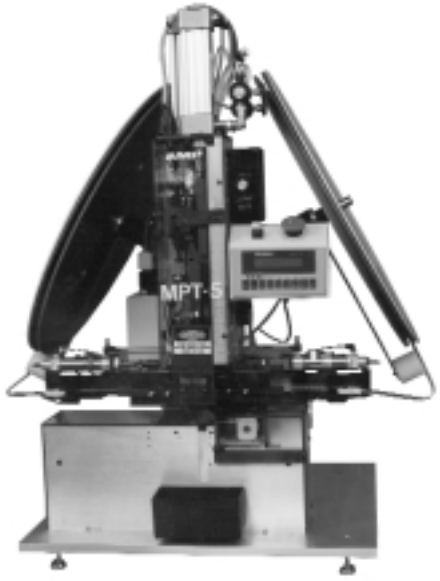
MAG-MATE and SIAMEZE Application Tooling (Continued)

MPT-5S/L Machine for Mag Wire Coil Termination utilizing SIAMEZE and Lead Lok terminals



Product Facts

- **Single, dual and triple insertion**
- **Two-reel, two-product capability, with alternating feed capability**
- **Available as horizontal bench, vertical bench or independent module**
- **Module easily integrates into production lines using simple handshake signals**
- **Fine adjustment mechanism for insertion depth (.001 increments)**
- **Tube-type insertion tooling for standard SIAMEZE & Lead Lok terminals**
- **Microprocessor controlled operation**
- **Holding fixture for bobbin can be designed and built by Tyco Electronics or the customer**

For quick, easy and reliable termination of magnet wire without pre-stripping the insulation or soldering, Tyco Electronics offers the SIAMEZE terminals and Lead Lok product family and the MPT-5S/L (MAG-MATE Product Terminator) air-operated insertion machine with micro-processor control. The MPT-5S/L machine inserts a SIAMEZE terminal into a customer-designed cavity in the coil bobbin or similar magnet-wire housing, terminating the wire and providing an I/O terminal or other connection. The MPT-5S/L can insert both the SIAMEZE terminal for magnet wire termination and the Lead Lok terminal to assure your lead wire connection.

Dual reel capability of the MPT-5S/L allows insertion of two different SIAMEZE terminals, with the capability to alternate between inserting one and two terminals at a time. Two terminations per second are possible with dual insertion.

A fifth generation machine, the MPT-5s/L is lighter and quieter than previous versions. The MPT-5S/L is available as a horizontal or vertical bench machine or as a discrete module for integration into automated lines. The discrete module also can be used to make a custom horizontal or vertical bench machine. A fixture to hold the coil assembly, which is required for bench operation, can be designed and built by Tyco Electronics or the customer.
The MPT-5S/L uses three or four air cylinders to feed terminals from one or both reels, cut terminals from the carrier strip, and insert terminals into the cavities. The display shows the operating conditions of the machine such as the batch count, total count, error messages, and ready state. The display also lets the operator step through the machine sequence or manually cycles the machine for set up or easy diagnosis of problems.

Solderless SIAMEZE terminations:

- No need to pre-strip the magnet wire
- No wire embrittlements due to solder
- No soldering fumes
- Compact, clean termination
- Ideal for automation
- Fast magnet and lead wire connections: Up to two per second with dual insertion

MAG-MATE and SIAMEZE Application Tooling (Continued)

Application Tooling for MAG-MATE Terminals

The Module

The MPT-5 insertion module is the cornerstone of Tyco Electronics magnet wire application tooling. A fifth generation machine, the MPT-5 module is used in conjunction with our bench machine, LPT-522, Rotary Index Table, and can also be order separately when using your equipment manufacture of choice. Electric, pneumatic and de-reeling controls are available allowing for easy integration in your production line. Experienced Tyco Electronics personnel will work with the customer and the equipment manufacturer to adapt the module to their automated assembly system.

Specifications

Electrical—120 VAC, 60 Hz, 5 A, 1 Ø, or 240 VAC, 50 Hz, 2 A, 1 Ø

Air—80 psi [5.52 bar], 3 scfm [0.00142 m^3/s]

Weight—Approx. 60 lb [27.2 kg]

Width—8 [204]

Depth—7 [178]

Height—30 [762]

Hand Tools

Part Number 274250-2
Poke-In Terminals

Part Number 274260-1
.187 [4.75] Tab Terminals

Part Number 274282-1
.250 [6.35] Tab Terminals

This insertion tool is capable of applying terminals furnished as loose piece parts. Use for prototype, production start-up and moderate volume production runs. Terminals can be inserted at rates up to 300 per hour.

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

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MAG-MATE and SIAMEZE Application Tooling (Continued)

Application Tooling for MAG-MATE Terminals

Rotary Index Table

Product Facts

- **High-volume rates, up to 600 assemblies per hour**
- **Handles Standard and Mini MAG-MATE terminals through interchangeable insertion modules**
- **Load-while-run feature increases productivity**
- **Fast, simple machine setup and changeover**
- **Versions to handle in-line, radial, and linear/angularly opposed cavities**
- **Easy programming through hand-held keypad/display**
- **Up to 30 insertion sequences stored in EEPROM memory**
- **Options include**
  - **Continuity test station**
  - **Bend station**
  - **Dual MAG-MATE modules**
  - **X- or Y-axis travel**
  - **Auto-change single/dual insertion modules**

The Rotary Index Table is a semiautomatic machine that automatically positions fixtured coils, bobbins, and field assemblies for insertion of MAG-MATE terminals. The table is used with MPT-5 insertion modules, which mount vertically above the table and insert terminals fed from a reel. Modules which are not included as part of the base machine, are available for the entire MAG-MATE line, including Standard and Mini MAG-MATE, SIAMEZE and Lead Lok products.

In operation, the operator places the coil/bobbin/field assembly on the worktable and cycles the machine. The table rotates 90˚ or 180˚ to position the assembly under the insertion module for processing. As each terminal is inserted, the machine automatically indexes to the next insertion position. While this assembly is being processed, the operator can remove the assembly processed during the previous cycle and load a new coil/bobbin/field assembly. This load-while-run feature helps maximize productivity. Assembly rates of up to 600 coils per hour (at six terminations per coil) are possible with dual insertion.

A hand-held operator's terminal contains a keypad and easy-to-read LCD display to allow quick, easy programming of machine functions, including insertion sequences. Up to 30 programs (insertion sequences) can be stored in the EEPROM internal memory.

The machine is available with any combination of one or two MPT-5 insertion modules that are fixed or indexing, with or without a rotating fixture for axial insertion. One version allows indexing only in the Y axis for processing in-line cavities. The other includes a rotary fixture that allows the coil/bobbin/field assembly to be rotated to process cavities radially or linear/angularly opposed.

Besides its fast production rates, the rotary

table is also designed to enhance productivity through reliability and easy setup. The number of adjustments required for normal operation has been minimized, while the procedure for product changeovers takes only a few minutes. The result is a machine with little downtime.

Options include a continuity test station, a bend station that bends terminals up to 90˚ after insertion, dual modules that insert two identical or different terminals simultaneously, and X-axis travel.

Cost savings and productivity are enhanced with Tyco Electronics Field Engineering Service, which provides complete setup and installation assistance, operating and maintenance training, and continuing rapid response through the Toll-Free Technical Support Center at 1-800-522-6752.

MAG-MATE and SIAMEZE Application Tooling (Continued)

LPT-522 Linear Product Terminator

Product Facts

- **Intermediate to high volume rates, up to 600 assemblies per hour**
- **Flexible platform accommodates secondary application modules**
- **Version to handle in-line, radial, and linear/angularly opposed cavities**
- **Programmable linear slide and rotary table**
- **Easy programming through keypad display**
- **Palletized fixture system for greater efficiency and production rates**
- **Microprocessor controlled**
- **Fine insertion depth adjustment (.001 increments)**
- **Two-reel, two-product capability with or without alternating feed**
- **Single, dual separate, and on-the-fly dual common insertion capability**

The Linear Product Terminator-522 was designed for intermediate to high volume applications. It is also a very flexible platform since it can accommodate two secondary application modules. These can include, but are not limited to, special wrap-off post trim, continuity testing with defective coil identification, and tab bending.

The LPT-522 features our MPT-5 insertion module as well as a programmable linear slide and rotary table system. The flexible system can process coils that have cavity configurations in a linear pattern, axial pattern, or combination of both.

The LPT-522 machine is of a serial process design, which allows for a unique coil holding fixture. This fixture can be palletized to increase your efficiency and production rates. The palletized system allows the operator to load/unload a pallet of coils while a second pallet is processing on this machine, increasing the machine up time and decreasing non-productive labor.

Specifications

Air — 10 scfm@80 psi minimum
Electrical — 110 VAC, 5 AMP
Footprint — 60"x 52"

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

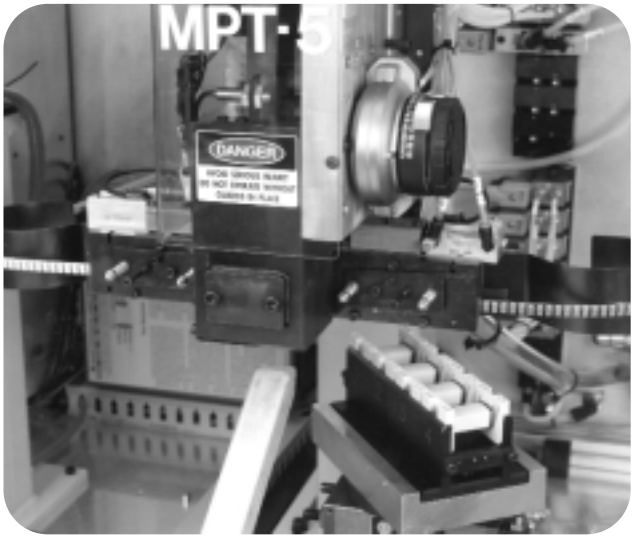
Dimensions are shown for reference purposes only. Specifications subject to change.

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

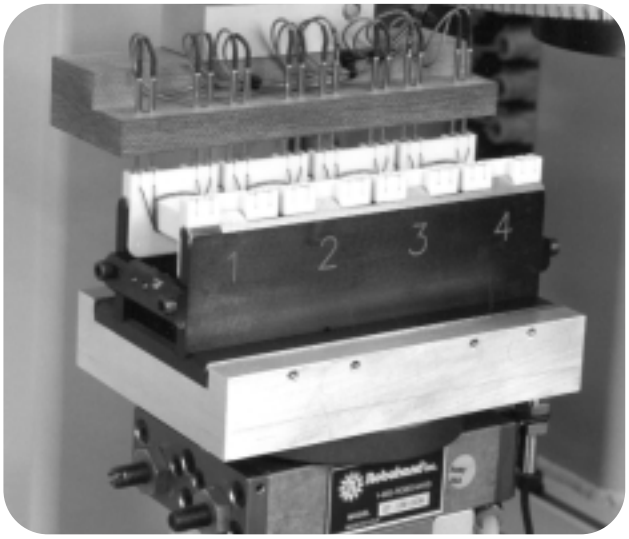
www.tycoelectronics.com

MAG-MATE and SIAMEZE Application Tooling (Continued)

LPT-522 Linear Product Terminator (Continued)



Rotary Index Insertion Process



Optional Continuity Test Station

Magnet Wire Termination Machines—Cost Comparison

Machine Attribute	Horizontal Bench Machine (HBM)	Vertical Bench Machine (VBM)	LPT-522 Insertion Machine	RIT Insertion Machine
Applications	● Single row bobbin ● Single terminal feed ● Bottom trim	● Single/Dual/Axial bobbin ● Single or dual feed ● Bottom or top trim	● Same as VBM plus: -Multiple bobbin capacity -Auxiliary stations ● Serial Processing	● Same as LPT, plus: -Up to 3 different terminals ● Parallel processing
Machine Cost	■	■■	■■■	■■■■
Fixture Cost	■■	■■■	■	■■■■
Complexity	■	■■	■■■■	■■■■
Production Rate	■	■	■■■	■■■■
Cost / Insertion	■■■	■■■■	■■	■

[■ = lowest level] [■■ = mid level] [■■■ = high level] [■■■■ = highest level]

Note: All machine options work in conjunction with our MPT-5 module. The MPT-5 module can incorporate an on-the-fly feature, which allows for selection of dual common insertions. The MPT-5 module can also be incorporated in your automated line using your integrator of choice. Please call for details.

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

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