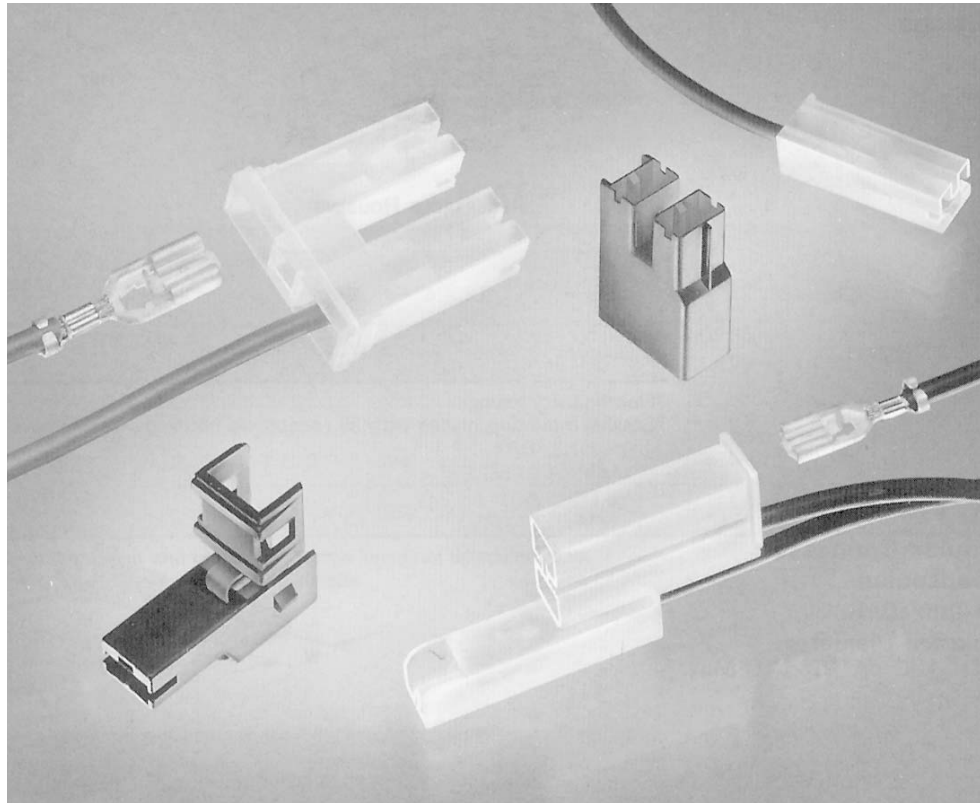


*Electronics*

**Positive Lock Receptacles**

**Product Facts**

- Reduced insertion force
- Locks onto tabs containing holes
- Housing insulates and serves as a removal tool
- “Snap” action tells assembler receptacle is mated properly
- Terminated by automatic or semi-automatic equipment
- Single and multiple circuit housings available
- Recognized under the Component Program of Underwriters Laboratories Inc., File Nos. E66717 and E28476
- Certified by Canadian Standards Association File No. LR7189A



Positive Lock Receptacles

Positive Lock receptacles are specifically designed to provide ease of assembly and secure retention to mating tabs. These unique features are attainable by the reduced insertion force of the product and the locking dimple. The receptacle locks onto mating tabs containing holes and is removable only by deflecting an integrally designed depressor prior to withdrawal. The depressor can be deflected manually by thumb pressure, or automatically by a cam inside a specially designed nylon housing. If the housing is employed,

removal of the terminal from the tab is performed by simply applying withdrawal force to the housing. In addition to providing a means of disconnecting the terminal, the housing performs its traditional insulating function.

Aside from reduced insertion forces, Positive Lock receptacles give the assembler a definite mechanical “snap” when the terminal is correctly seated over the mating tab. This facilitates correct assembly in hard-to-reach areas such as under dashboards, recessed switch tabs, etc.

Safety is enhanced by the locking capability of the product. Unless the depressor is deliberately deflected, either manually or by withdrawal force applied directly to the optional housing, a terminal will not easily come off of the tab. Thus, the potential of exposed live parts or disruption of critical circuitry due to improperly seated or accidentally removed terminals is greatly reduced.

**Positive Lock Receptacles** (Continued)


**Mark I**

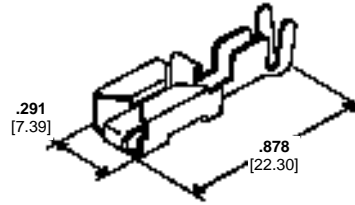
**250 Series Receptacles**



**Stock Thickness** — .016 [0.41]

**Fits Tab** — .032 [0.81]

Recognized under the Component Program of Underwriters Laboratories Inc.,

UL File No. E28476 



Wire Range AWG	Insulation Diameter	Material and Finish	Part Numbers				
			Receptacle			Quick Change Applicator No. <sup>2</sup>	Hand Tool
20-16	.090-.130 2.29-3.30	Brass/Pre-Tin	1-160759-1	X	X	567181-2	654174-1
18-14	.135-.195 3.43-4.95	Brass/Tin	63812-1 <sup>1</sup>	X	X	680140-2	—
	.095-.155 2.41-3.94	Brass/Tin	154718-3	X	—	466542-3	525651
14-11	.140-.170 3.56-4.32	Brass/Tin	154717-3	X	—	466883-2	525651
12-10	.135-.200 3.43-5.08	Brass/Pre-Tin	790319-3	—	—	567417-2	—

<sup>1</sup> "A" Style Housing only.

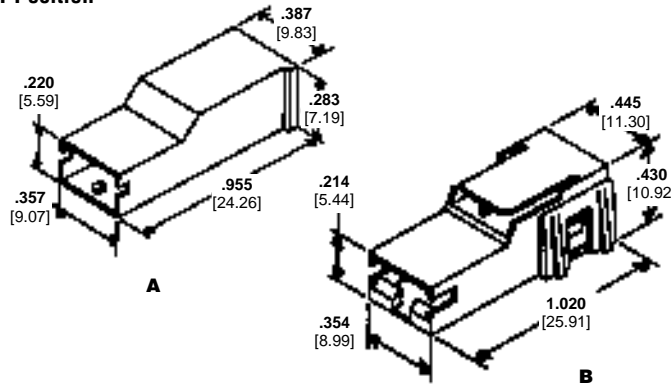
<sup>2</sup> Quick-Change Applicator for AMP-O-LECTRIC Machine 565435-5.

For AMPOMATOR Machine and other machines not listed, contact Tyco Electronics.

**Receptacle Housings**

**Material** — 94 V-2, 6/6 Nylon

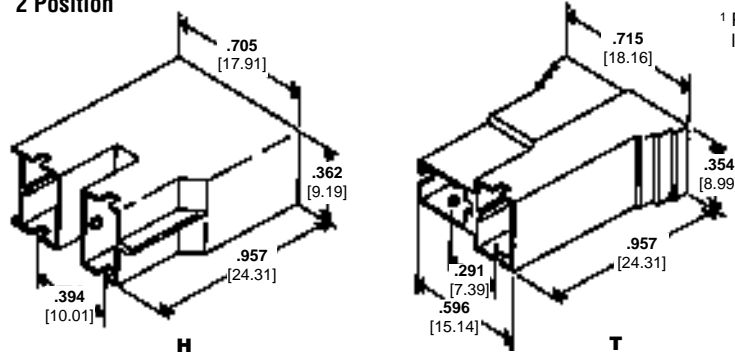
**1 Position**



Style	Color	Part No.
A	Black	154719-0
	Natural	154719-1
B	Black	520961-1 <sup>1</sup>
H	Black	926521-2
T	Black	926522-1
	Natural	926522-2

<sup>1</sup> Press-to-release with secondary lock.

**2 Position**



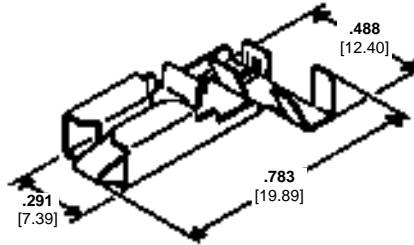
**Positive Lock Receptacles** (Continued)

**Mark I**

**250 Series Flag Receptacle**

Stock Thickness — .016 [0.41]

Fits Tab — .032 [0.81]



Wire Range AWG	Insulation Diameter	Material and Finish	Part Numbers	
			Receptacle	Quick Change Applicator No. <sup>1</sup>
20-16	.087-.130 2.21-3.30	Brass/Pre-Tin	926820-4	680436-2

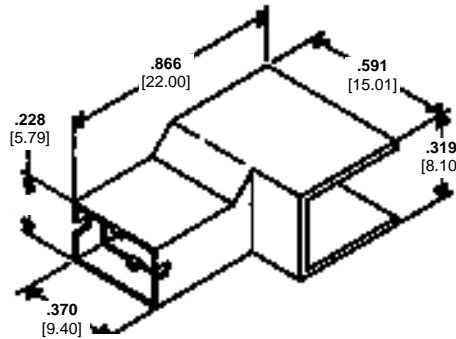
<sup>1</sup> Quick-Change Applicator for AMP-O-LECTRIC Machine 565435-5.  
For AMPOMATOR Machine and other machines not listed, contact Tyco Electronics.

Positive Lock Receptacles

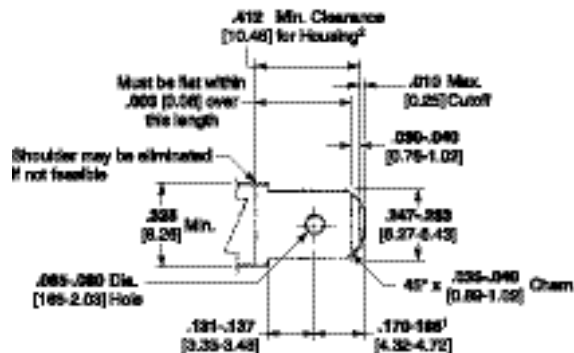
**Mark I**

**250 Series Receptacle Housings**

Material — 94 V-2, 6/6 Nylon



Color	Part Number
Black	926291-1



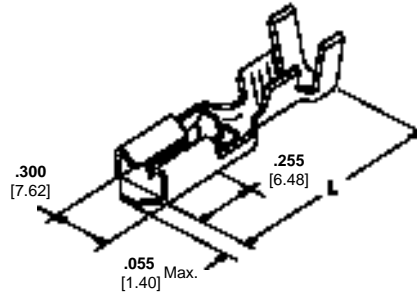
<sup>1</sup> Use when shoulder is eliminated.  
<sup>2</sup> See individual housing.



**Recommended Mating Tab Dimensions**

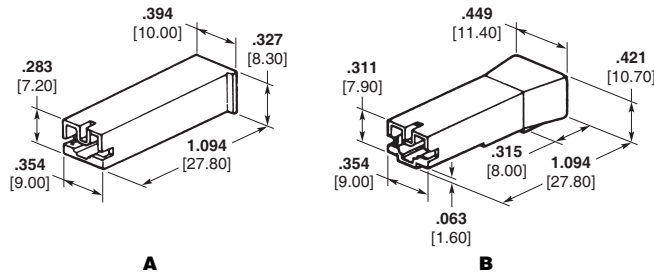
**Positive Lock Receptacles** (Continued)

**Mark II**  
**250 Series**  
**Straight Receptacles**



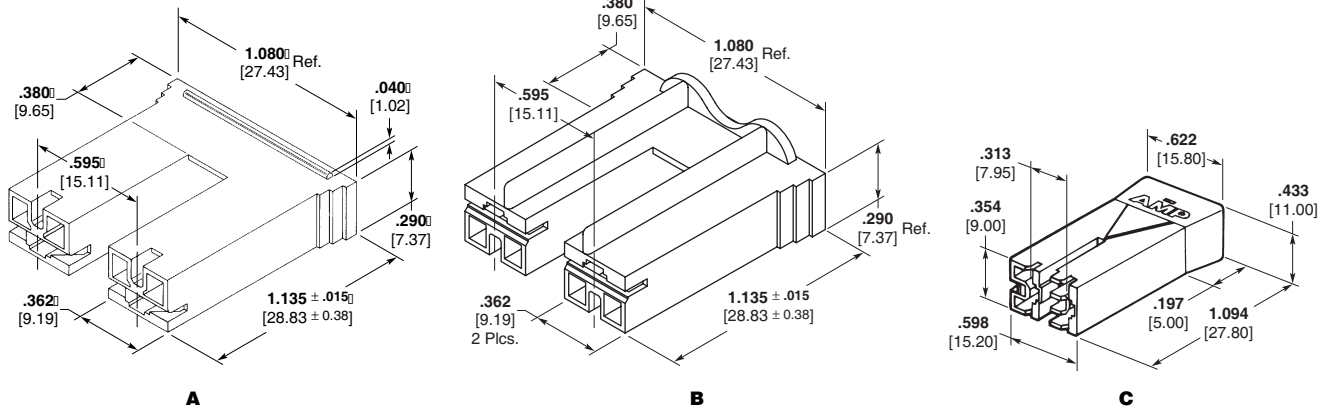
Wire Range AWG	Tab Thickness	Insulation Diameter	Material and Finish	Stock Thickness	L (Overall Length)	UL	CS	Terminal Part No.
22-18	.032 0.81	.060-100 1.52-2.54	Brass, Tin Plated	.016 0.41	.886 22.50	X	X	63119-1
	.032 0.81	.059-122 1.50-3.10	Pre-Tin Brass	.016 0.41	.976 24.80	X	X	170327-1
18-14	.032 0.81	.090-155 2.29-3.94	Brass	.016 0.41	.886 22.50	X	X	63097-2
	.032 0.81	.090-155 2.29-3.94	Brass, Tin Plated	.016 0.41	.886 22.50	X	X	63097-1
	.025 0.64	.090-155 2.29-3.94	Brass, Tin Plated	.016 0.41	.886 22.50	X	X	63809-1
	.020 0.51	.090-155 2.29-3.94	Brass, Tin Plated	.016 0.41	.886 22.50	X	X	63442-1
	.032 0.81	.090-135 2.29-3.43	Pre-Tin Brass	.016 0.41	1.015 25.80	X	X	170328-1
15-10	.032 0.81	.110-200 2.79-5.08	Pre-Tin Brass	.016 0.41	1.015 25.80	X	X	170329-1
12-10	.032 0.81	.150-200 3.81-5.08	Brass, Tin Plated	.018 0.46	.913 23.20	X	X	63239-1

**Mark II**  
**250 Series**  
**Receptacle Housings**  
**1 Circuit**



Style	Material	UL 94	Color	UL	CS	Part Number		
A	6/6 Nylon	V2	Natural	—	—	172076-1		
			Black	—	—	172076-2		
			Yellow	—	—	172076-4		
			Green	—	—	172076-5		
			Blue	—	—	172076-6		
			Red	—	—	172076-7		
			V0	Natural	—	—	2-172076-1	
		Black		—	—	2-172076-2		
		Yellow		—	—	2-172076-4		
		Green		—	—	2-172076-5		
		Blue		—	—	2-172076-6		
		Red		—	—	2-172076-7		
		B		6/6 Nylon	V0	Natural	X	X
			Yellow			X	X	177627-4
Green	—		—			177627-5		
Blue	—		—			177627-6		
Red	—		—			177627-7		
Black	—		—			177627-9		

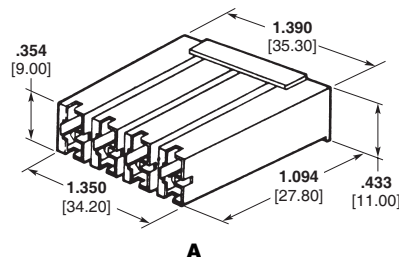
**Mark II**  
**250 Series**  
**Receptacle Housings**  
**2 Circuit**



Positive Lock Receptacles

Style	Material	UL 94	Color	UL	CSA	Part Number
A	6/6 Nylon	V2	Natural	X	X	520935-1
			Red	X	X	520935-2
			Black	—	—	520935-3
			Green	—	—	520935-4
			Blue	—	—	520935-5
			Yellow	—	—	520935-6
			Brown	—	—	520935-7
B	6/6 Nylon	V0	Natural	—	—	1-520935-1
			Red	—	—	1-520935-2
			Blue	—	—	1-520935-5
C	6/6 Nylon	V0	Natural	X	X	521229-1
			Red	—	—	521229-2
C	6/6 Nylon	V0	Natural	—	—	521588-1
			Natural	—	—	178833-1
			Yellow	—	—	178833-4
			Blue	—	—	178833-6
			Red	—	—	178833-7

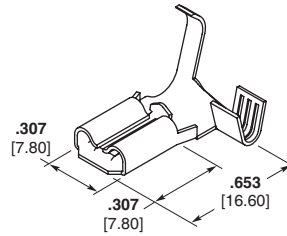
**Mark II**  
**250 Series**  
**Receptacle Housings**  
**4 Circuit**



Style	Material	UL 94	Color	UL	CSA	Part Number
A	6/6 Nylon	V2	Natural	X	X	174429-1

**Positive Lock Receptacles** (Continued)

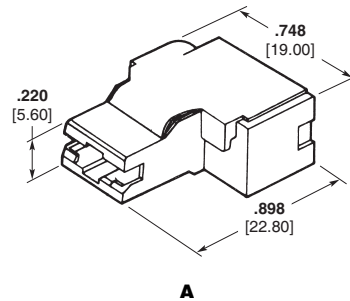
**Mark II**  
**250 Series**  
**Flag Receptacles**  
**Stock Thickness** — .016 [0.41]  
**Fits Tab** — .032 [0.81]



Wire Range AWG	Insulation Diameter	Material and Finish	UL	RA	SP	Terminal Part No.
22-18	0.59-.110 1.50-2.80	Pre-Tin Brass	X	—	X	172761-1
18-14	.110-.205 2.80-5.20	Pre-Tin Brass	X	—	X	172763-1
14-10	.110-.205 2.80-5.20	Pre-Tin Brass	X	—	X	172765-1

Positive Lock  
Receptacles

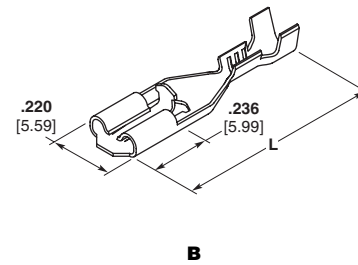
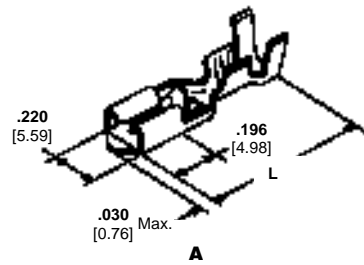
**Mark II**  
**250 Series**  
**Flag Style Receptacle Housing**  
**1 Circuit**



Style	Material	UL 94	Color	RA	SP	Part Number
A	6/6 Nylon	V2	Natural	X	X	172469-1
			Blue	X	X	172469-2
			Green	—	—	172469-4
			Red	—	—	172469-7
		V0	Natural	—	—	1-172469-1
			Blue	—	—	1-172469-2
			Yellow	—	—	1-172469-3

**Positive Lock Receptacles (Continued)**

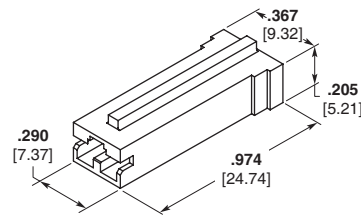
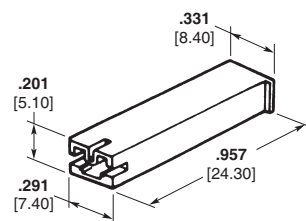
**Mark II  
187 Series  
Straight Receptacles**



Wire Range AWG	Style	Tab Fit	Insulation Diameter	Material and Finish	Stock Thickness	L (Overall Length)	UL	SP	Terminal Part No.
24-20	A	.020 0.51	.060-.110 1.52-2.79	Brass, Post Tin Plated	.012 0.30	.755 19.17	X	X	63196-1
	B	.020 0.51	.060-.105 1.52-2.67	Pre-Tin Brass	.012 0.30	.850 21.60	X	X	170324-1
	A	.020 0.51	.060-.110 1.52-2.79	Pre-Tin Brass	.012 0.30	.755 19.17	X	X	63407-2 <sup>1</sup>
	B	.020 0.51	.060-.105 1.52-2.67	Phos. Bronze, Nickel Plated	.012 0.30	.850 21.60	X	X	170324-2
	B	.020 0.51	.060-.105 1.52-2.67	Pre-Tin Phos. Bronze	.012 0.30	.850 21.60	—	—	170324-5
	B	.020 0.51	.074-.134 1.87-3.40	Pre-Tin Brass	.012 0.30	.850 21.60	X	X	170325-1
20-16	B	.020 0.51	.074-.134 1.87-3.40	Pre-Tin Phos. Bronze	.012 0.30	.850 21.60	—	—	170325-3
	A	.020 0.51	.090-.130 2.29-3.30	Brass, Tin Plated	.012 0.30	.755 19.17	X	X	63195-1
		.020 0.51	.090-.130 2.29-3.30	Brass, Pre-Tin	.012 0.30	.755 19.17	X	X	63232-1 <sup>1</sup>
		.032 0.81	.060-.110 1.52-2.79	Brass, Tin Plated	.012 0.30	.740 18.80	X	X	63498-1 <sup>2</sup>
	A	.032 0.81	.090-.130 2.29-3.30	Brass, Tin Plated	.012 0.30	.755 19.17	X	X	63313-1 <sup>1</sup>
		B	.020 0.51	.083-.142 2.11-3.61	Brass, Pre-Tin	.012 0.30	.850 21.60	—	—

<sup>1</sup> Low profile — not for use in housing.  
<sup>2</sup> For use with housing 521125.

**Mark II  
187 Series  
Receptacle Housings  
1 Circuit**



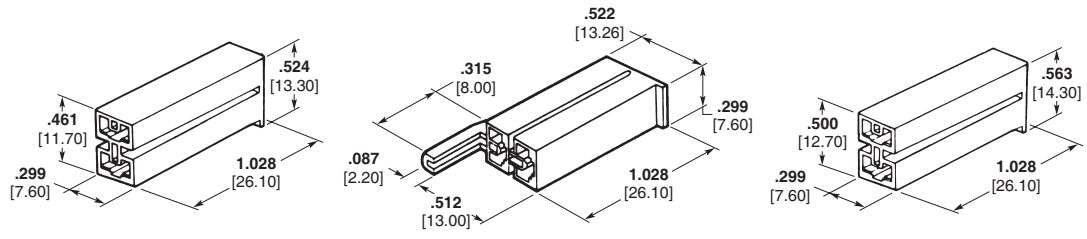
**A — Use with  
(.187 x .020 [4.74 x 0.51])**

**B — Use with  
(.187 x .032 [4.75 x 0.81])**

Style	Material	UL 94	Color	UL	SP	Part Number		
A	6/6 Nylon	V2	Natural	X	X	172074-1		
			Black	—	—	172074-2		
			Yellow	—	—	172074-4		
			Green	—	—	172074-5		
			Blue	—	—	172074-6		
			Red	—	—	172074-7		
			V0	Natural	X	X	173974-1	
		Black		—	—	173974-2		
		Yellow		—	—	173974-4		
		Green		—	—	173974-5		
		Blue		—	—	173974-6		
		Red		—	—	173974-7		
		B		6/6 Nylon	V2	Natural	—	—

**Positive Lock Receptacles (Continued)**

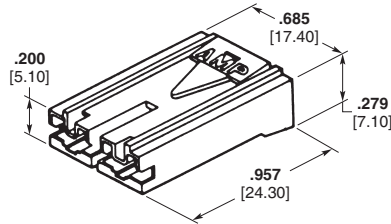
**Mark II  
187 Series  
Receptacle Housings  
2 Circuit**



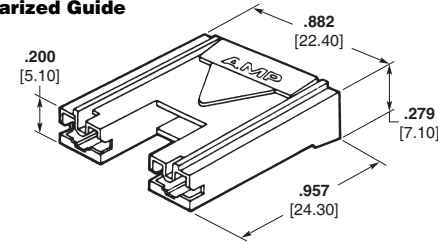
**A — 6 mm Pitch**

**B — 6 mm Pitch,  
with Polarized Guide**

**C — 7 mm Pitch**



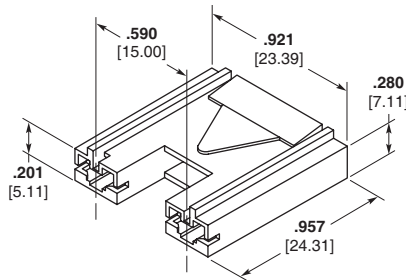
**D — 10 mm Pitch**



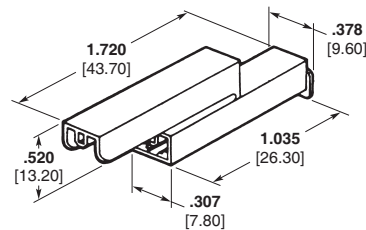
**E — 15 mm Pitch, for Electro-**

Style	Material	UL 94	Color	UL	CSA	Part Number	
A	6/6 Nylon	V2	Natural	—	—	172210-1	
			Black	—	—	172210-2	
			Yellow	—	—	172210-4	
			Blue	—	—	172210-6	
	6/6 Nylon	V0	Natural	X	X	1-172210-1	
			Black	X	X	1-172210-2	
			Yellow	—	—	1-172210-4	
			Green	—	—	1-172210-5	
			Blue	—	—	1-172210-6	
			Red	—	—	1-172210-7	
	B	6/6 Nylon	V2	Natural	X	X	174587-1
				Yellow	—	—	174587-4
Natural				—	—	1-174587-1	
Yellow				—	—	1-174587-4	
6/6 Nylon		V0	Green	—	—	1-174587-5	
			Blue	—	—	1-174587-6	
			Red	—	—	1-174587-7	

Style	Material	UL 94	Color	UL	CSA	Part Number
C	6/6 Nylon	V2	Natural	X	X	175578-1
			Black	—	—	175578-2
			Yellow	X	X	175578-4
			Blue	—	—	175578-6
	6/6 Nylon	V0	Natural	—	—	1-175578-1
			Black	—	—	1-175578-2
			Yellow	—	—	1-175578-4
			Green	—	—	1-175578-5
D	6/6 Nylon	V0	Blue	—	—	1-175578-6
			Red	—	—	1-175578-7
			Natural	—	—	179720-1
			Black	—	—	179720-2
	6/6 Nylon	V0	Yellow	—	—	179720-4
			Blue	—	—	179720-6
			Red	—	—	179720-7
			Natural	X	X	176498-1
E	6/6 Nylon	V0	Black	—	—	176498-2
			Yellow	—	—	176498-4
			Blue	—	—	176498-6



**F — 16 mm Pitch**



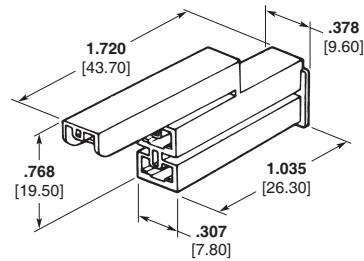
**G — For Microswitch**

Style	Material	UL 94	Color	UL	CSA	Part Number
F	6/6 Nylon	V0	Natural	—	—	353148-1
			Yellow	—	—	353148-4
			Green	—	—	353148-5
			Blue	—	—	353148-6
G	6/6 Nylon	V0	Natural	X	X	174712-1
			Natural	—	—	1-174712-1
			Yellow	—	—	1-174712-4
			Blue	—	—	1-174712-6
			Red	—	—	1-174712-7

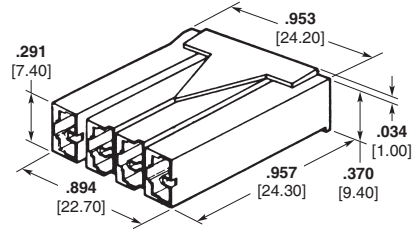


**Positive Lock Receptacles** (Continued)

Mark II  
 187 Series  
 Receptacle Housings  
 3 Circuit and  
 4 Circuit



**A — 3 Circuit  
 For Micro-Switch**



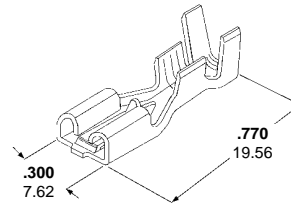
**B — 4 Circuit  
 For Timer**

Style	Material	UL 94	Color	UL	CSA	Part Number
A	6/6 Nylon	V2	Natural	X	X	172075-1
			Yellow	X	X	172075-4
			Blue	—	—	172075-6
		V0	Natural	—	—	1-172075-1
			Yellow	—	—	1-172075-4
B	6/6 Nylon	V0	Natural	X	X	174513-1

Positive Lock  
 Receptacles

### Mark III 250 Series Receptacles

Stock Thickness — .016  
Accepts .032 Tab

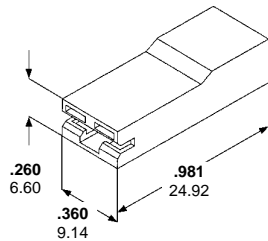


### Positive Lock Receptacles (Continued)

Wire Range AWG	Insulation Diameter	Material and Finish	UL	SP	Part Number	
					Receptacles	Quick Change Applicator No. <sup>1</sup>
22-18	<b>.060-.110</b> 1.52-2.79	Brass	X	X	63933-1	680161-2
		Brass/Tin	X	X	63933-2	680161-2
18-14	<b>.090-.155</b> 2.28-3.93	Brass	X	X	63854-1	680411-2
		Brass/Tin	X	X	63854-2	680411-2
16-12 or (2) 18 or (2) 16 or (1) 18 and (1) 16	<b>.120-.170</b> 3.04-4.31	Brass	X	X	1217092-1	680646-2
		Brass/Tin	X	X	1217092-2	680646-2

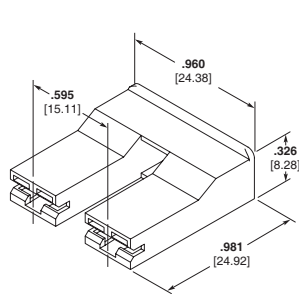
1. Quick-Change applicator Part No. with -1 is for a "T" terminating unit used in automatic machines; -2 is for a "K" AMP-O-LECTRIC bench machine

### Mark III Receptacle Housings



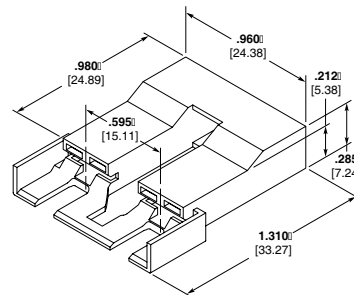
**One Circuit Housing**

**A**



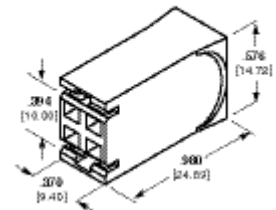
**Two Circuit Water Valve**

**C**



**Two Circuit Water Valve  
Housing with Latch**

**D**



**Two Circuit Wax Motor**

**B**

Style	Material	UL 94	Color	Part Number	Accepts Terminal	UL	SP
A	Nylon	V2	Natural	521120-1	250 Series Positive Lock Mark III Terminals.	X	X

Style	Material	UL 94	Color	Part Number	Accepts Terminal	UL	SP
B	Nylon	V0	Natural	521766-1	250 Series FASTON and Positive Lock Mark III Terminals. Examples include 63306 and 63854.	X	X

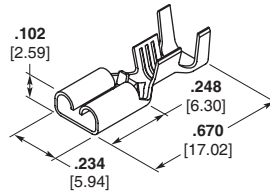
Style	Material	UL 94 <sup>1</sup>	Color <sup>2</sup>	Part Number	Accepts	UL	SP
D	Nylon	V2	Natural	521253-1	250 Series FASTON and Positive Lock Mark III Terminals. Examples Include 63306 and 63854	X	X
			Red	521253-2		X	X
		V0	Red	1-521253-2		X	X
			Green	1-521253-3		X	X
			Blue	1-521253-7		X	X
C	Nylon	V2	Natural	521119-1	250 Series FASTON and Positive Lock Mark III Terminals. Examples Include 63306 and 63854	X	X
			Putty	521119-2			
			Blue	521119-4			

<sup>1</sup> Weather resistant material. <sup>2</sup> Additional colors available.

Positive Lock Receptacles

**Positive Lock Receptacles** (Continued)

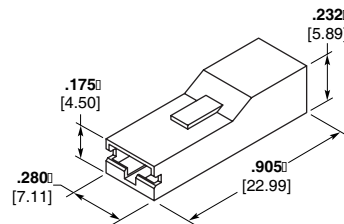
**Mark III  
187 Series Receptacles**



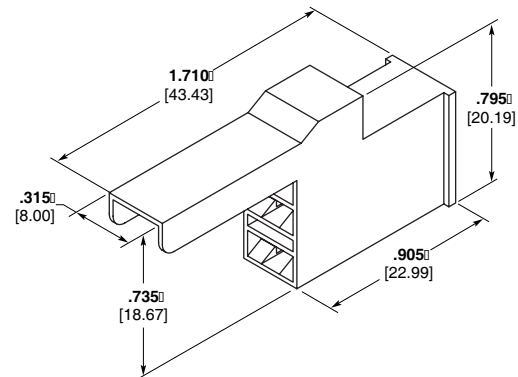
Wire Range AWG	Insulation Dia.	Mating Tab Thickness	Material and Finish	Terminal Part No.	UL	CS	Applicator
22-18	.090-.130 2.29-3.30	.020 0.51	Tin-Plated Brass	1217113-2	—	—	680645-2
		.032 0.81	Tin-Plated Brass	1217097-2	—	—	680645-2
18-14	.150-.200 3.81-5.08	.020 0.51	Brass	1217114-1	—	—	680652-2
18-14 (2) 18	.150-.200 3.81-5.08	.032 0.81	Brass	1217096-1	X	X	680652-2

Positive Lock  
Receptacles

**Mark III  
187 Series  
Receptacle Housings**



Part Number

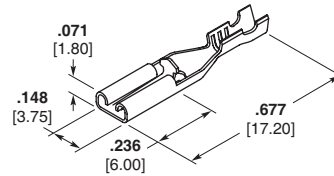


Part Number 521198-1

Material	UL 94	Color	UL	CS	Part Number
Nylon	V2	Natural	X	X	521187-1
Nylon	V2	Natural	X	—	521198-1

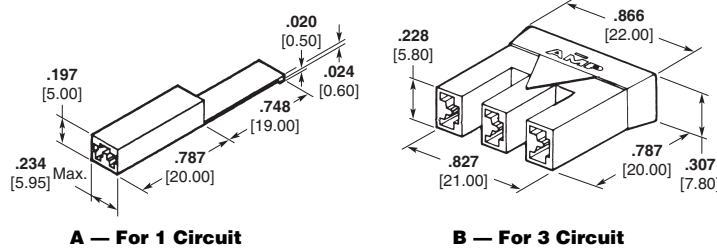
**Positive Lock Receptacles (Continued)**

**110 Series  
Straight Receptacles**



Wire Range AWG	Tab Fit	Insulation Diameter	Material and Finish	Stock Thickness	UL	CSA	Terminal Part No.
24-20	.020 0.51	.040-.070 1.02-1.78	Pre-Tin Brass	.010 0.25	—	—	175411-1
20-16	.020 0.51	.080-.122 2.03-3.10	Pre-Tin Brass	.010 0.25	—	—	174777-1

**Receptacle Housing  
Applicable Contact  
Part Number 175411, 174777**

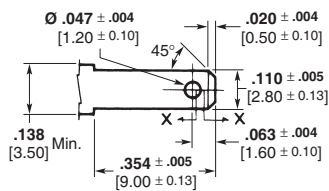


Style	Material	UL 94	Color	UL	CSA	Part Number
A	6/6 Nylon	V2	Natural	X	X	174779-1
			Natural	—	—	178832-1
B	6/6 Nylon	V0	Yellow	—	—	178832-4
			Blue	—	—	178832-6
			Red	—	—	178832-7

**Tab Dimension  
For Signal Circuit**

**For 1 Circuit**

**Top View**

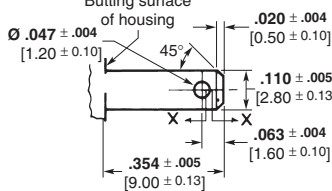


**Side View**

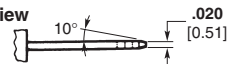


**Type A**  
(When using tab shoulder for butting)

**Top View**

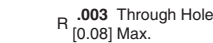


**Side View**

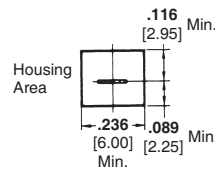


**Type B**  
(When using resin, etc., for butting)

Sagging of the tab's hole must not exceed 0.08 mm.

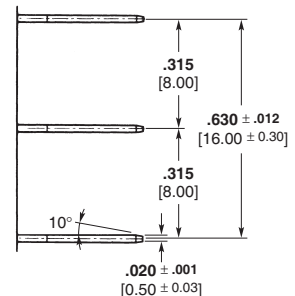
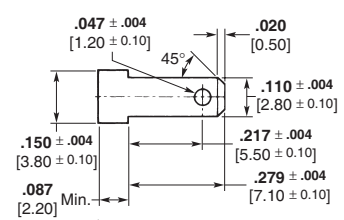


**Section X-X**



**Housing Outline**

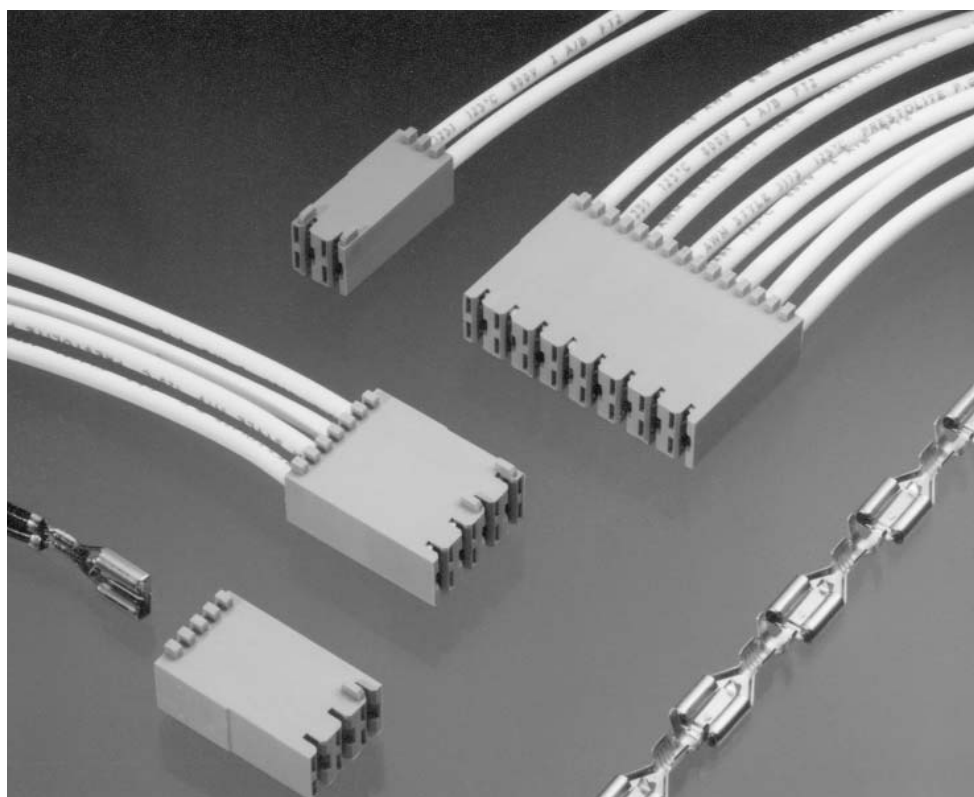
**For 3 Circuit**



**Positive Lock RAST 5 Connector System**

**Product Facts**

- Mates with .250 x .032 [6.35 x 0.81] tabs built on 5 mm centerlines
- Keying and polarization features
- Utilizes AMP Positive Lock Mark III Receptacles
- Terminals available for 22-18 AWG, 18-14 AWG single wire or 18-16 AWG double wire applications
- Plain brass and tin-plated terminals available



Positive Lock Receptacles

Positive Lock RAST 5 Connector System

The AMP Positive Lock RAST 5 Connector system has been designed to mate with a control, switch or printed circuit board that has .250 x .032 [6.35 x 0.81] thick tabs built on 5 mm centerlines. This system utilizes AMPs' popular Positive Lock Mark III Receptacles and a series of housings, to provide customers with a reliable solution to their wire management needs. This line of connectors offers keying and polarization features built into the housings that eliminate mismatching and crossed wires. Two through eight circuit housings facilitate improved assembly

operations and the Positive Lock Terminal guarantees excellent retention of the connector.

The acronym RAST 5 in the title is a reference to the European design standard for appliance wiring and component design, "Raster Anschluss Steck Technik 5 mm". This standard outlines a system of keying, polarization and latching that is popular in Europe and other parts of the world. The AMP Positive Lock RAST 5 system has been designed to mate with many of the components built with a RAST 5 standard interface. This system is an excellent way for OEMs or their

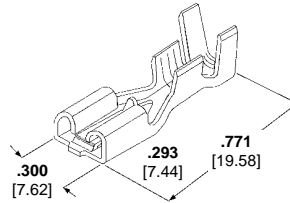
subcontractors to use existing lead makers and termination equipment to produce connectors that mate to controls with RAST interfaces.

While the origins of this product are in the appliance industry, many other industries are embracing this style of connector. Marine, exercise equipment and hand tool manufacturers are recent examples of customers beginning to use this system. Any application where .250 x .032 [6.35 x 0.81] tabs are built on 5 mm centerlines is a potential candidate for this popular connector system.

See Tyco Electronics catalog 296599 for additional RAST products.

**Mark III**  
**250 Series Receptacles**  
 Stock Thickness — .013 [0.33]  
 Tab size — .032 [0.81]

**Positive Lock RAST 5 Connector System** (Continued)

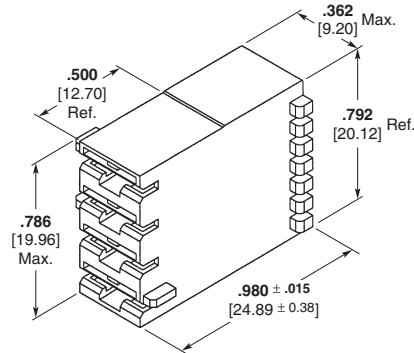


Wire Range AWG	ID	Material and Finish	Part Number	RA	SP	Applicator No.
22-18	.060-.110 1.52-2.79	Brass	1217378-1	—	—	—
		Tin-Plated Brass	1217378-2	—	—	—
(2) 18	.090-.155 2.29-3.94 .190 4.83 Max.	Brass	1217094-1	X	X	680653-2
		Tin-Plated Brass	1217094-2	X	X	680653-2
(2) 18	.120-.170 3.04-4.32 .120 3.05 Max.	Brass	1217095-1	X	X	680654-2
		Tin-Plated Brass	1217095-2	X	X	680654-2
(2) 16	(2) .120 3.05 Max.	Tin-Plated Brass	1217095-2	X	X	680654-2

Positive Lock  
Receptacles

Positive Lock RAST 5  
Connector System

**Receptacle Housings**  
 Material — 94 V-0, 6/6 Nylon



Description	RA	SP	Part Number
2 Position	X	X	521204-1
3 Position	X	X	521205-1
4 Position	X	X	521206-1
5 Position	X	X	521207-1
6 Position	X	X	521208-1
7 Position	X	X	521209-1
8 Position	X	X	521210-1