


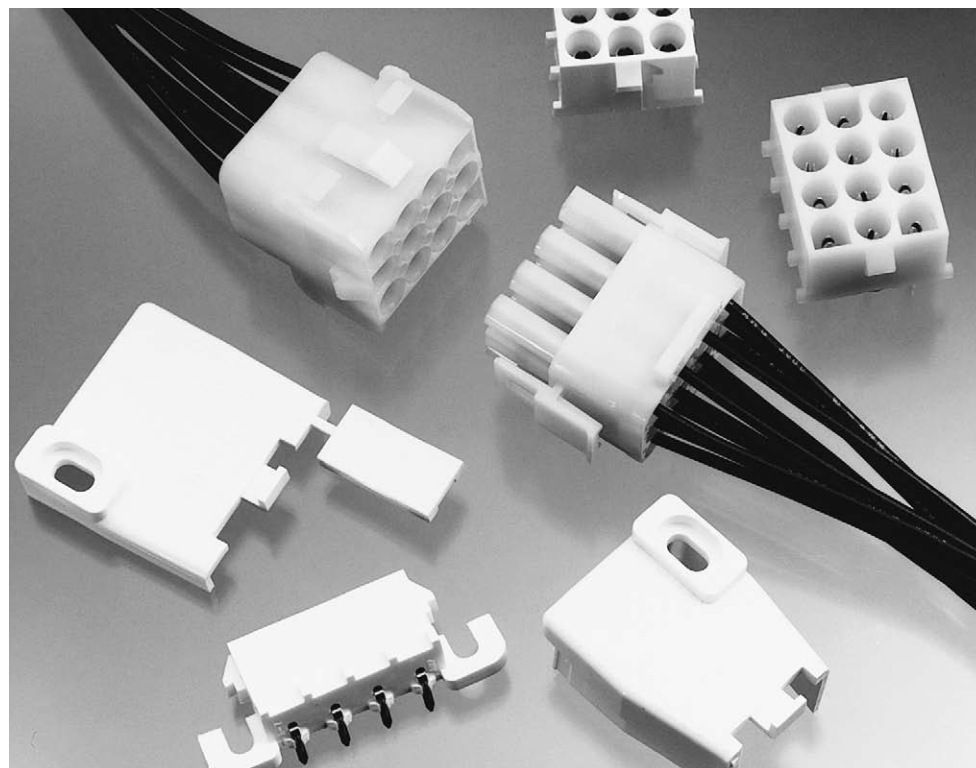


## Universal MATE-N-LOK Connectors

### Product Facts

- Pins and sockets can be intermixed in the same housing
- Positive polarization
- Rear cavity identification
- Contacts completely enclosed in housings
- Positive locking housings
- Insulation capability to .200 [5.08] diameter
- Removable, crimp snap-in contacts
- Low contact mating force
- Contacts accept 30-10 AWG [.05-5.0 mm<sup>2</sup>] wire sizes
- Contacts available with pre-tin or gold plating
- Dual locking lances provide optimum contact stability
- Panel mount or free-hanging
- Mate with Universal MATE-N-LOK II Housings
- Available in UL 94V-0 flame retardant material. Meets the material requirements of table 25.1 of U.L. Standard 1410 (television receivers and video products)
- Not for interrupting current
- Harness to PC Board capability using pin or socket headers
- Pin and socket headers are available in both vertical and right-angle style
- Solderability—headers meet MIL-STD 202 Method 208
- Contacts are on .250 [6.35] centerline spacing
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476 
- Certified by Canadian Standards Association, File No. LR 7189 
- Passed test by VDE under their Registration Number 3980/Continuous Surveillance 



### Performance Characteristics

The Universal MATE-N-LOK Connector performance characteristics found on pages 169-170 are based on free-hanging and panel mount connectors, loaded with contacts crimped on stranded wire.

**Dielectric Withstanding Voltage**—5.0 KVAC or 5.0 KVDC between adjacent circuits

**Insulation Resistance**—1000 megohms minimum initial between adjacent circuits

**Voltage Rating**—600 V AC or DC

**Contact Insertion Force**—5.0 lb. max. per contact

**Contact Retention**—15 lb. min. per contact

**Durability**—50 cycles, mating and unmating

### Technical Documents

#### Product Specifications

108-1031 Universal MATE-N-LOK Connectors

108-1053 Universal MATE-N-LOK PC Board Headers

#### Application Specification

114-1010 Universal MATE-N-LOK Contacts

#### Instruction Sheet

408-7714 Plug, Cap, Headers, Pin, Socket and Accessories

**Universal MATE-N-LOK Connectors** (Continued)

**Performance Characteristics** (Continued)

**Maximum Current**—Maximum current rating of Universal MATE-N-LOK connectors is limited by the maximum operating temperature of the housings which is 125°C for 94V-2 housings and 120°C for 94V-0 housings including the temperature rise of the contacts which is a maximum of 30°C. There are several variables which have a direct effect on this maximum current-carrying capability for a given connector and must be considered for each application. These variables are:

**Wire Size**—Larger diameter wire will carry more current since it has less internal resistance to current flow and thus generates less heat. Longer wire lengths also enhance current carrying capabilities since the wire conducts heat away from the connector.

**Connector Size**—In general, the more circuits in a connector, the less current can be carried.

**Ambient Temperature**—The higher the ambient temperature, the less current can be carried in any given connector.

**Printed Wiring Board Conductor Size**—The finished trace conductor width and thickness should be maximized to allow for the greatest current carrying capacity and heat dissipation.

Universal MATE-N-LOK connectors also will withstand the following tests:

**Vibration**—10-55-10 cycles per minute at .06 inch total excursion

**Physical Shock**—18 drops, 50 G sawtooth at 10 milliseconds

**Housing Panel Retention**—75 lb. min.

**Housing Lock Strength**—30 lb. min.

**Thermal Shock**—-55°C to +85°C

**Temperature-Humidity Cycling**—25°C to 65°C at 95 RH

**Corrosion**—48 hr. at 5% salt concentration

**Related Product Data**

**Product Specifications**

108-1031 Universal MATE-N-LOK Connectors

108-1053 Universal MATE-N-LOK Headers

**Current Rating Verification for 30°C Maximum Temperature Rise 100% Energized**

**Wire-to-Wire**

**Calculated Current Table**

Number of Circuits	Wire Gauge									
	10	12	14	16	18	20	22	24	26	30
2	19.00	18.00	17.00	14.50	13.00	10.00	8.00	6.50	5.50	3.50
3	17.50	16.50	15.50	13.00	12.00	9.00	7.50	6.00	5.00	3.00
4	16.50	15.50	15.00	12.50	11.00	8.50	7.00	5.50	4.50	3.00
5	16.00	15.00	14.00	12.00	10.50	8.00	6.50	5.50	4.50	3.00
6 In-Line	15.50	14.50	13.50	11.50	10.00	8.00	6.50	5.00	4.00	2.50
6 Matrix	15.00	14.00	13.00	11.00	9.50	7.50	6.00	5.00	4.00	2.50
8	14.50	14.00	13.00	10.50	9.50	7.50	6.00	5.00	4.00	2.50
9	13.50	12.50	11.50	9.50	8.50	6.50	5.50	4.50	3.50	2.00
10	14.00	13.00	12.50	10.00	9.00	7.00	5.50	4.50	3.50	2.50
12	12.50	12.00	11.00	9.00	8.00	6.00	5.00	4.00	3.00	2.00
15	12.00	11.50	10.00	8.50	7.50	6.00	4.50	4.00	3.00	2.00

Values are based on initial Temperature Rise versus Current Testing and are intended to be a guide in the selection of a connector family. All applications should be tested by the end user. The values listed are per circuit for fully loaded housings being 100% energized. **Note:** All combinations were not tested, and this chart contains interpolated and extrapolated values.

**Minimum Wire Lengths for T-Rise vs. Current Testing**

AWG	Min. Length (in.)	AWG	Min. Length (in.)
30	2.6	18	9.4
28	3.2	16	11.3
26	4.1	14	13.7
24	5.1	12	16.4
20	7.8	10	19.3

**Note:** If wire lengths used are less than those listed above, the current carrying ability of the system will be reduced due to less heat being conducted away from the connector. The customer should fully test all applications.

**Wire-to-Board**

Due to the vast differences in trace geometry and printed circuit board configurations, we are unable to provide a separate current carrying chart for our printed circuit board header products. However, the above Wire-to-Wire charts may be used as a guideline for headers if the trace width and thickness is equal to the listed wire gauge. For vertical headers, only 95% of the Wire-to-Wire value should be used. For right-angle headers, only 75% of the Wire-to-Wire value should be used. The chart values are only a tool for connector selection and will require the customer to fully test their application.

**Termination Resistance/Contact Crimp Tensile Force**

Wire Size		Termination Resistance		Contact Crimp Tensile Force	
AWG	mm <sup>2</sup>	Test Current (Amps)	Resistance Milliohms (Max. Init.)	Force (Min.) lbs.	N
30	.05	—	—	2	9
28	.08	—	—	3	13
26	.12	—	—	6	27
24	.2	1.5	3.50	8	36
22	.3	3	3.50	14	62
20	.5	4.5	3.00	14	62
18	.8	6	3.00	30	133
16	1.2	8	2.75	45	200
14	2.0	10	2.75	50	222
12	3.0	—	—	60	267
10	5.0	—	—	70	311

**Note:** This is the total resistance between wire crimps of a mated pin and socket.

**Universal MATE-N-LOK Connectors** (Continued)

**Universal MATE-N-LOK Connector Mating Combinations**

Connector Part Number <sup>7</sup>					Mating Connector Part Number										
Number of Circuits	Flammability Rating	Style	Plug Part Number <sup>2</sup>	Cap Part Number <sup>2</sup>	Plating	Vertical Pin <sup>2</sup>			Vertical Socket <sup>2</sup>			Right-Angle <sup>2</sup>			
						Standard Tail	Standard Tail Polarized	Long Tail	Standard Tail	Standard Tail Polarized	Long Tail	Pin	Socket		
1		—	1-350867-0	770421-1	—	—	—	—	—	—	—	—	—		
			UL94V-0	350865-1	350866-1	—	—	—	—	—	—	—	—	—	
2	In-Line	—	1-480698-0 794814-1 <sup>3</sup>	1-480699-0 794815-1 <sup>3</sup>	Pre-tin	350428-1	641963-1	350582-1	350759-4	643411-1	350986-4	—	—		
					Duplex <sup>1</sup>	350428-4	641963-3	350582-4	350759-5	—	—	—	—		
			UL94V-0	In-Line	350777-1	350778-1	Pre-tin	350786-1	641964-1 1-641964-1 <sup>5</sup>	350787-1	350824-1	643412-1	350831-1	1-350942-0	643226-1
							Duplex <sup>1</sup>	350786-3	641964-3	350787-3	350824-4	643412-3	—	3-350942-0	—
3	In-Line <sup>6</sup>	—	1-480700-0 794901-1 <sup>3</sup>	1-480701-0 794900-1 <sup>3</sup>	Pre-tin	350429-1	641965-1	350583-1	350760-4	643413-1	350987-4	—	—		
					Duplex <sup>1</sup>	350429-4	—	350583-4	350760-5	—	—	—	—		
4	In-Line	—	1-480702-0 794899-1 <sup>3</sup>	1-480703-0 794707-1 <sup>3</sup>	Pre-tin	350430-1	641967-1	350584-1	350761-4	643415-1	350988-4	1-350948-0	—		
					Duplex <sup>1</sup>	350430-4	—	350584-4	350761-5	—	350988-5	—	—		
			UL94V-0	In-Line	350779-1	350780-1	Pre-tin	350792-1	641968-1	350793-1	350826-1	643416-1	350833-1	1-350944-0	643230-1
							Duplex <sup>1</sup>	350792-3	—	350793-3	350826-4	—	350833-4	3-350944-0	3-643230-0
5	In-Line	—	1-480764-0 <sup>3</sup> 794863-1 <sup>3</sup>	1-480764-0 <sup>3</sup> 794863-1 <sup>3</sup>	Pre-tin	640466-1	643405-1	—	640467-1	—	—	1-350949-0	—		
					Duplex <sup>1</sup>	640466-3	—	—	640467-3	—	—	—	—		
6	In-Line	—	350809-1	350810-1	Pre-tin	640900-1	643406-1	—	640901-1	—	—	1-350945-0	643232-1		
					Duplex <sup>1</sup>	640900-3	—	—	640901-3	—	—	3-350945-0	3-643232-0		
			UL94V-2	In-Line	640585-1	926307-1	Pre-tin	641832-1	643407-1	—	—	—	—	640587-1	—
							Duplex <sup>1</sup>	641832-3	—	—	—	—	—	—	—
7	In-Line	—	640581-1	926307-3	Pre-tin	641831-1	643408-1	—	770262-1	—	—	640583-1	643234-1		
					Duplex <sup>1</sup>	641831-3	—	—	770262-3	—	—	640583-3	3-643234-0		
			UL94V-2	Matrix <sup>6</sup>	1-480704-0 794535-1 <sup>3</sup> 794096-1 <sup>5</sup>	1-480705-0 794536-1 <sup>3</sup>	Pre-tin	350431-1	641969-1	350585-1	350762-4	643423-1	350989-4	—	—
							Duplex <sup>1</sup>	350431-4	—	350585-4	350762-5	—	350989-5	—	—
8	Matrix	—	350715-1	350781-1	Pre-tin	350711-1	641970-1	350732-1	350827-1	643424-1	350834-1	—	—		
					Duplex <sup>1</sup>	350711-4	641970-3	350732-4	350827-4	643424-3	350834-4	—	—		
9	In-Line	—	640586-1	926308-1	Pre-tin	641825-1	—	770143-1	—	—	—	—	—		
					Duplex <sup>1</sup>	—	—	—	—	—	—	—	—		
			UL94V-0	In-Line	640582-1	926308-3	Pre-tin	641828-1	643410-1	—	—	—	—	640584-1	643236-1
							Duplex <sup>1</sup>	—	643410-3	—	—	—	—	640584-3	3-643236-0
10	Matrix	—	1-480706-0 794537-1 <sup>3</sup>	1-480707-0 794538-1 <sup>3</sup>	Pre-tin	350432-1	641971-1	350586-1	350763-4	643425-1	350990-4	—	—		
					Duplex <sup>1</sup>	350432-4	641971-3	350586-4	350763-5	—	350990-5	—	—		
			UL94V-0	Matrix	350720-1	350782-1	Pre-tin	350712-1	641972-1 1-641972-1 <sup>4</sup>	350742-1	350828-1	643426-1	350835-1	—	—
							Duplex <sup>1</sup>	350712-4	641972-3	350742-4	350828-4	643426-3	350835-4	—	—
11	In-Line	—	926302-1	926309-1	Pre-tin	—	—	—	—	—	—	—			
					Duplex <sup>1</sup>	—	—	—	—	—	—	—	—		
12	In-Line	—	926302-3	926309-3	Pre-tin	—	—	—	—	—	—	—	—		
					Duplex <sup>1</sup>	—	—	—	—	—	—	—	—		
			UL94V-2	Matrix	1-480708-0 794851-1 <sup>3</sup>	1-480709-0 794727-1 <sup>3</sup>	Pre-tin	350433-1	641973-1	350587-1	350764-4	—	350991-4	—	—
							Duplex <sup>1</sup>	350433-4	—	350587-4	350764-5	—	350991-5	—	—
13	Matrix	—	350735-1	350783-1	Pre-tin	350713-1	641974-1 1-641974-1 <sup>4</sup>	350737-1	350829-1	643428-1	350836-1	—	—		
					Duplex <sup>1</sup>	350713-4	641974-3	350737-4	350829-4	—	350836-4	—	—		
14	Matrix	—	1-480710-0 794546-1 <sup>3</sup>	1-480711-0 794545-1 <sup>3</sup>	Pre-tin	350434-1	641975-1	350588-1	350765-4	643429-1	350992-4	—	—		
					Duplex <sup>1</sup>	350434-4	—	350588-4	350765-5	—	—	—	—		
			UL94V-0	Matrix	350736-1	350784-1	Pre-tin	350714-1	641976-1	350738-1	350830-1	643430-1	350837-1	—	—
							Duplex <sup>1</sup>	350714-4	641976-4	350738-4	350830-4	—	350837-4	—	—

<sup>1</sup>Duplex Finish — Plated with .000030 [.000762] min. gold in mating area, matte tin on solder tail end over .000050 [.00127] min. nickel underplate on entire contact.

<sup>2</sup>Universal MATE-N-LOK Plug and Cap housings accept pin or socket contacts. Use the appropriate contacts in the Plug housing as required by the mating component.

<sup>3</sup>Housing material has 125°C temperature rating.

<sup>4</sup>Black in color.

<sup>5</sup>Tool Removable

<sup>6</sup>UV Resistant housing material available.

<sup>7</sup>European glow wire housing material available.

**Note: All part numbers are RoHS Compliant.**

**Universal MATE-N-LOK Connectors** (Continued)

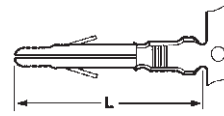
**Contacts**

Solid pin diameter .084 [2.13]  
Stock thickness .012 [.305] unless otherwise noted.  
These contacts can be used in either Universal MATE-N-LOK Plug or Cap housings **only**.

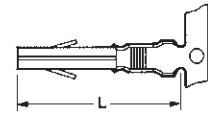
**Related Product Data**

**Product Specification**  
108-1031 Universal MATE-N-LOK Connectors  
**Application Specification**  
114-1010 Universal MATE-N-LOK Contacts

**Performance Characteristics**— pages 169-170  
**Technical Documents**— pages 169 and 205-206  
**Application Tooling**— pages 207-210  
**Housings**— page 174



Solid Pin



Socket

Wire Size Range AWG [mm <sup>2</sup> ]	Ins. Dia. Range	L Dim.		Material & Finish	Contact Part Numbers				HDM Applicator Part No.	Hand Tool Part No.
		Pin	Socket		Pin		Socket			
					Strip Form	Loose Piece	Strip Form	Loose Piece		
30-26 [.05-.12]	.032-.057 .813-1.45	.790 20.06	.760 19.30	Brass, Pre-tin	350924-1	770672-1	350925-1	770673-1	466616-2 <sup>6</sup> 466616-3 <sup>6</sup>	58439-1
				Phos. Brz., Gold <sup>2</sup>	350924-6	770672-6	350925-6	—		
24-18 [.2-.8]	.040-.100 1.02-2.54	.790 20.06	.760 19.30	Brass, Pre-tin	350561-1	350690-1	350851-1 350570-1 <sup>1</sup>	350689-1 <sup>1</sup>	466320-1 <sup>6</sup> 466320-2 <sup>6</sup> 466320-4 <sup>6</sup>	91510-1
				Brass, Gold <sup>2</sup>	350561-2	350690-2	350851-2	640347-2		
				Brass, Select Gold <sup>3</sup>	350561-7	350690-7	350851-7 350570-7 <sup>1</sup>	350689-7 <sup>1</sup>		
				Phos. Brz., Pre-tin	350561-3	350690-3	350570-3 <sup>1</sup>	350689-3 <sup>1</sup>		
20-14 [.5-2.0]	.060-.130 1.52-3.30	.790 20.06	.760 19.30	Phos. Brz., Select Gold <sup>3</sup>	—	—	350570-6 <sup>1</sup>	—	687763-1 <sup>6</sup> 687763-2 <sup>6</sup> 687763-6 <sup>6</sup>	91500-1
				Brass, Pre-tin	350218-1	350547-1	350536-1	350550-1		
				Brass, Gold <sup>2</sup>	350218-2	350547-2	350536-2	350550-2		
				Brass, Select Gold <sup>3</sup>	350218-7	350547-7	350536-7	350550-7		
				Phos. Brz., Pre-tin	350218-3	350547-3	350536-3	350550-3		
20-14 [.5-2.0] or 2 @ 18 [.8]	.130-.200 3.30-5.08	.810 20.57	.780 19.81	Phos. Brz., Select Gold <sup>3</sup>	350218-6	350547-6	350536-6	350550-6	687926-1 <sup>6</sup> 687926-2 <sup>6</sup> 687926-6 <sup>6</sup>	91508-17 91506-17
				Brass, Pre-tin	350538-1	350552-1	350537-1	350551-1		
				Brass, Gold <sup>2</sup>	350538-2	350552-2	350537-2	350551-2		
				Brass, Select Gold <sup>3</sup>	350538-7	350552-7	350537-7	350551-7		
18-14 <sup>4</sup> [.8-2.0]	.130-.200 3.30-5.08	.810 20.57	.780 19.81	Phos. Brz., Pre-tin	350538-3	350552-3	350537-3	350551-3	466588-1 <sup>6</sup> 466588-2 <sup>6</sup> 466588-3 <sup>6</sup>	91508-17 91506-17
				Brass, Pre-tin	350873-1	—	350874-1	—		
				Phos. Brz., Pre-tin	350873-3	350918-3	350874-3	350919-3		
12-10 [3.0-5.0]	.200 max. <sup>5</sup> 5.08	.810 20.57	.780 19.81	Phos. Brz., Pre-tin	350922-3	640309-3	350923-3	640310-3	466597-1 <sup>6</sup> 466597-2 <sup>6</sup>	69710-17
				Phos. Brz., Select Gold <sup>3</sup>	350922-6	640309-6	350923-6	640310-6		

<sup>1</sup>Socket Contact — .010 [.254] stock thickness

<sup>2</sup>Gold Finish — Plated with .000030 [.000762] min. gold in mating area and inside wire barrel over .000050 [.00127] min. nickel underplate on entire contact.

<sup>3</sup>Select Gold Finish — Plated with .000030 [.000762] min. gold in mating area over .000050 [.00127] min. nickel underplate on entire contact.

<sup>4</sup>Recommended for predominant use of 14 AWG wire.

<sup>5</sup>There is no insulation barrel on this contact. Insulation maximum diameter is limited by the housing.

<sup>6</sup>HDM Applicator part number ending in -1 is used on AMPOMATOR CLS Machine with T or G Terminators, -2 is used on AMP-O-LECTRIC Model K Machine, -3, -4 & -6 are used on AMP-O-LECTRIC Model G Machine. See pages 207-210 for further information.

<sup>7</sup>Hand Tool No. **91508-1** is for wire size 20-18 AWG. Hand Tool No. **91506-1** is for wire size 16-14 AWG. Hand Tool No. **69710-1** use die set No. **58380-1** for 12 AWG and No. **58380-2** for 10 AWG.

**Note:** Phosphor bronze material contacts should be used in high temperature/humidity cycling applications.

**Note:** All part numbers are RoHS Compliant.



**Contact Retention Test Tool**  
Part No. 1586701-1  
IS 408-10003



**Contact Extraction Tool**  
Part No. 318851-1  
IS 408-4371



**Contact Insertion Tool**  
(For inserting contacts applied to small diameter wire)  
Part No. 91002-1  
IS 408-7347

**Universal MATE-N-LOK Connectors** (Continued)

**Contacts**

Split pin diameter .086 [2.18]  
Stock thickness .012 [.305]  
These contacts can be used in either Universal MATE-N-LOK Plug or Cap housings **only**.

**Related Product Data**

**Product Specification**

108-1031 Universal MATE-N-LOK Connectors

**Application Specification**

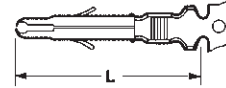
114-1010 Universal MATE-N-LOK Contacts

**Performance Characteristics**—  
pages 169-170

**Technical Documents**—pages 169  
and 205-206

**Application Tooling**—pages 207-210  
**Housings**—page 174

**Split Pins**



Wire Size Range AWG [mm²]	Ins. Dia. Range	L Dim.	Material & Finish	Contact Part Number		HDM Applicator Part No.	Hand Tool Part No.
				Strip Form	Loose Piece		
24-18 [.2-.8]	.040-.100 1.02-2.54	.790 20.06	Brass, Pre-tin	350699-1	350706-1	466320-1 <sup>3</sup> 466320-2 <sup>3</sup> 466320-4 <sup>3</sup>	91510-1
			Brass, Gold <sup>1</sup>	350699-2	350706-2		
			Brass, Select Gold <sup>2</sup>	350699-7	350706-7		
20-14 [.5-2.0]	.060-.130 1.52-3.30	.790 20.06	Brass, Pre-tin	350687-1	350705-1	687763-1 <sup>3</sup> 687763-2 <sup>3</sup> 687763-6 <sup>3</sup>	91500-1
			Brass, Gold <sup>1</sup>	350687-2	350705-2		
			Brass, Select Gold <sup>2</sup>	350687-7	350705-7		
20-14 [.5-2.0] or 2@18 [.8]	.130-.200 3.30-5.08	.810 20.57	Brass, Pre-tin	350700-1	350707-1	687926-1 <sup>3</sup> 687926-2 <sup>3</sup> 687926-6 <sup>3</sup>	91508-1 <sup>4</sup> 91506-1 <sup>4</sup>
			Brass, Gold <sup>1</sup>	350700-2	350707-2		
			Brass, Select Gold <sup>2</sup>	350700-7	350707-7		

<sup>1</sup>Gold Finish—Plated with .000030 [.000762] min. gold in mating area and inside wire barrel over .000050 [.00127] min. nickel underplate on entire contact.

<sup>2</sup>Select Gold Finish—Plated with .000030 [.000762] min. gold in mating area over .000050 [.00127] min. nickel underplate on entire contact.

<sup>3</sup>HDM Applicator part number ending in -1, is used on AMPOMATOR CLS Machine with T or G Terminators, -2 is used on AMP-O-LECTRIC Model K Machine, -4 & -6 are used on AMP-O-LECTRIC Model G Machine. See pages 207-210 for further information.

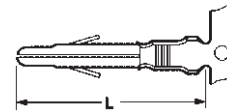
<sup>4</sup>Hand Tool No. **91508-1** for wire size 20-18 AWG. Hand Tool No. **91506-1** for wire size 16-14 AWG.

**Notes:**

1. Split pins recommended for use in housings having 6, 9, 12 and 15 circuits to reduce mating force.
2. Phosphor bronze material contacts are available for use in high temperature/humidity cycling applications, consult Tyco Electronics.

**Grounding Pins**

(.100 [2.54] longer than standard pin)  
(Mate first, break last, not for interrupting current)



Wire Size Range AWG [mm²]	Ins. Dia. Range	L Dim.	Material & Finish	Contact Part Number		HDM Applicator Part No.	Hand Tool Part No.
				Strip Form	Loose Piece		
24-18 [.2-.8]	.060-.130 1.52-3.30	.890 22.60	Brass, Pre-tin	770210-1	—	567216-2 <sup>2</sup> 567216-3 <sup>2</sup>	—
				350654-1	350669-1		
20-14 [.5-2.0]	.060-.130 1.52-3.30	.890 22.60	Brass, Pre-tin	350654-1	350669-1	687763-1 <sup>2</sup> 687763-2 <sup>2</sup> 687763-6 <sup>2</sup>	91500-1
				770234-3	—		
12-10 [3.0-5.0]	.200 max. <sup>1</sup> 5.08	.910 23.11	Phos. Brz., Pre-tin	770234-3	—	466597-1 <sup>2</sup> 466597-2 <sup>2</sup> 466597-3 <sup>2</sup>	—

<sup>1</sup>There is no insulation barrel on this contact. Insulation maximum diameter is limited by the housing.

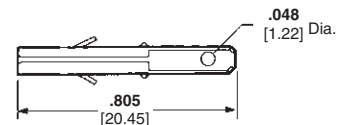
<sup>2</sup>HDM Applicator part number ending in -1 is used on AMPOMATOR CLS Machine with T or G Terminators, -2 is used on AMP-O-LECTRIC Model K Machine, -3 & -6 are used on AMP-O-LECTRIC Model G Machine. See pages 207-210 for further information.

**Programmable Connector Contact**

(Socket with 110 Series Special FASTON Tab)

**Material and Finish**

Brass, pre-tin



**Part Number**  
**350877-1**

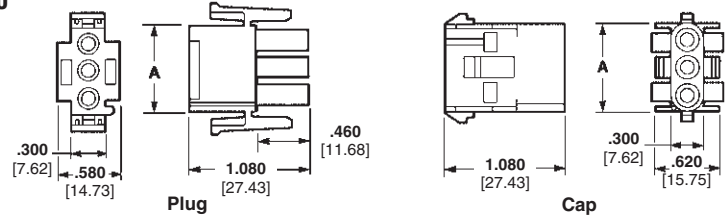
**Note:** This contact will accept a 110 Series FASTON Receptacle—Part No. **350871-1** (strip form) allowing simple field wiring or wiring changes.

**Note:** All part numbers are RoHS Compliant.

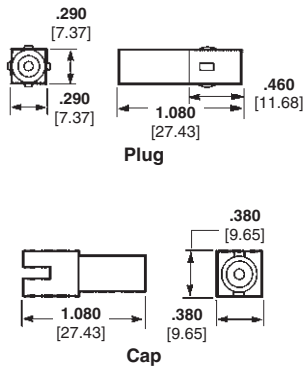
**Universal MATE-N-LOK Connectors (Continued)**

**Housings**  
**Free-Hanging or Panel Mount**  
.250 [6.35] Centerline spacing

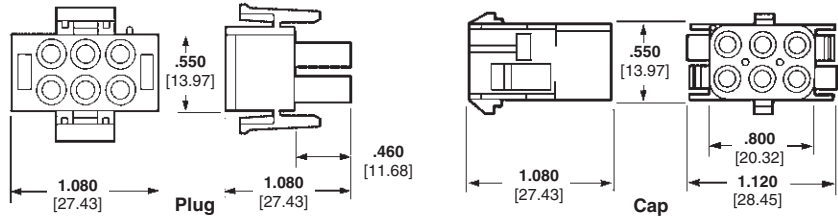
**2, 3, 4, 5, 6, 8 and 10**  
**Circuit, In-Line**



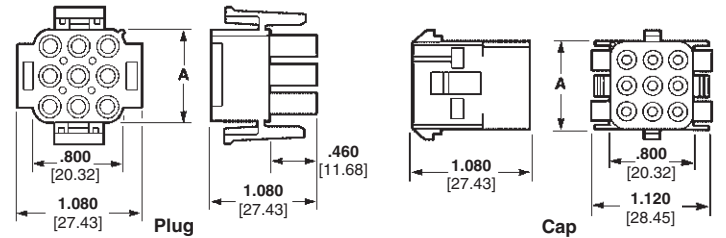
**1 Circuit, Free-Hanging**



**6 Circuit, Matrix**



**9, 12 and 15 Circuit, Matrix**



**Related Product Data**

- Product Specification**  
108-1031 Universal MATE-N-LOK Connectors
- Performance Characteristics**—  
pages 169-170
- Contacts**—pages 172-173
- Panel Cutout**
- Recommendations**—page 175
- Keying Plug**—page 175
- Strain Reliefs**—pages 175-176
- Technical Documents**—pages 169 and 205-206
- Mating Headers**—pages 182-183 and 185
- Other Mating Connectors**  
Universal MATE-N-LOK II Housings—  
pages 193-194

**Note:** See charts on page 182 to order Plug and Cap Housings in colors.

Number of Circuits	A Dim.	Housing Part Numbers			
		UL94V-2 Nylon, Natural Color <sup>2</sup>		UL94V-0 Nylon <sup>3</sup>	
		Plug	Cap	Plug	Cap
1	—	1-350867-0	770421-1	350865-1	350866-1
2	.550 13.97	1-480698-0 <sup>1</sup>	1-480699-0 <sup>1</sup>	350777-1 <sup>1</sup>	350778-1 <sup>1</sup>
3	.800 20.32	1-480700-0 <sup>1</sup>	1-480701-0 <sup>1</sup>	350766-1 <sup>1</sup>	350767-1 <sup>1</sup>
4	1.050 26.67	1-480702-0 <sup>1</sup>	1-480703-0 <sup>1</sup>	350779-1 <sup>1</sup>	350780-1 <sup>1</sup>
5	1.300 33.02	1-480763-0 <sup>1</sup>	1-480764-0 <sup>1</sup>	350809-1 <sup>1</sup>	350810-1 <sup>1</sup>
6	1.550 39.37	640585-1 <sup>1</sup>	926307-1 <sup>1</sup>	640581-1 <sup>1</sup>	926307-3 <sup>1</sup>
		1-480704-0 794096-1 <sup>4</sup>	1-480705-0	350715-1	350781-1
8	2.050 52.07	640586-1 <sup>1</sup>	926308-1 <sup>1</sup>	640582-1 <sup>1</sup>	926308-3 <sup>1</sup>
9	.800 20.32	1-480706-0	1-480707-0	350720-1	350782-1
10	2.550 64.77	926302-1 <sup>1</sup>	926309-1 <sup>1</sup>	926302-3 <sup>1</sup>	926309-3 <sup>1</sup>
12	1.050 26.67	1-480708-0	1-480709-0	350735-1	350783-1
15	1.300 33.02	1-480710-0	1-480711-0	350736-1	350784-1

<sup>1</sup>In-Line style.  
<sup>2</sup>Housing material has 125°C temperature rating.  
<sup>3</sup>Housing material has 120°C temperature rating.  
<sup>4</sup>Tool Removable.

**Note:** All part numbers are RoHS Compliant.

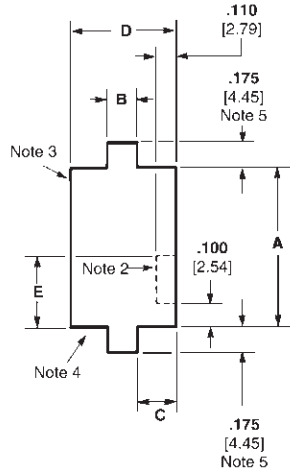
Universal MATE-N-LOK Connectors  
.250 [6.35] Centerline  
Standard Density

**Universal MATE-N-LOK Connectors (Continued)**

**Recommended Cap Housing Panel Cutouts**

View is from cap entry side

Refer to Application Specification 114-1010



Style	Number of Circuits	Dimensions					
		A	B	C	D	E	
In-Line	2	.565 14.35	.340 8.64	.095 2.41	.530 13.46	.250 6.35	
	3	.815 20.70	.340 8.64	.095 2.41	.530 13.46	.250 6.35	
	4	1.065 27.05	.340 8.64	.095 2.41	.530 13.46	.250 6.35	
	5	1.315 33.40	.340 8.64	.095 2.41	.530 13.46	.250 6.35	
	6	1.567 39.80	.154 3.91	.189 4.80	.531 13.49	.394 10.0	
	8	2.067 52.50	.154 3.91	.189 4.80	.531 13.49	.394 10.0	
	10	2.567 65.20	.154 3.91	.189 4.80	.530 13.46	.394 10.0	
	Matrix	6	.565 14.35	.480 12.19	.275 6.99	1.030 26.16	.250 6.35
		9	.815 20.70	.480 12.19	.275 6.99	1.030 26.16	.250 6.35
		12	1.065 27.05	.480 12.19	.275 6.99	1.030 26.16	.350 8.89
15		1.315 33.40	.480 12.19	.275 6.99	1.030 26.16	.350 8.89	

**Notes:**

1. Recommended panel thickness — .030-.090 [.762-2.286]. Panel must be punched so that housing enters panel in same direction as the punch.
2. Optional — Do not remove this material when keying cap housing to panel.
3. Circuit #1 location when using panel keying with 6, 9, 12 and 15 circuit Matrix housings.
4. Circuit #1 location when using panel keying with 2, 3, 4, 5, 6, 8 and 10 circuit In-Line housings.
5. .175 [4.45] dimension is .125 [3.18] for 6, 8 and 10 circuit In-Line housings.

**Keying Plugs**

IS 408-3320



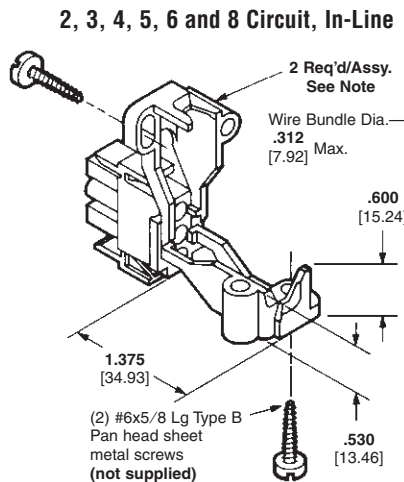
**Part Numbers**

UL94V-2 Nylon material, natural color — 1-640415-1  
UL94V-0 Nylon material — 1-640415-0

**Note:** Keying plug snaps into plug or cap housing

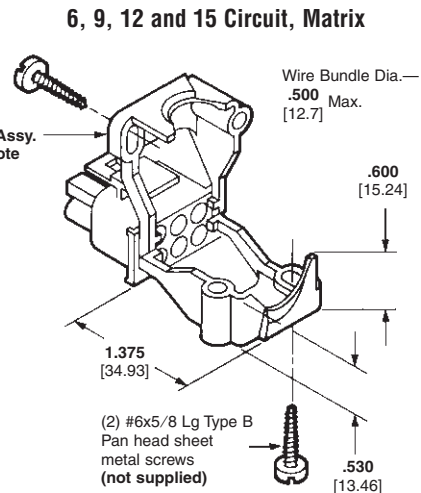
**Plug Housing Strain Reliefs**

IS 408-3320



**Part Numbers**

UL94V-2 Nylon material, natural color — 1-350589-0  
UL94V-0 Nylon material — 350811-1



**Part Numbers**

UL94V-2 Nylon material, natural color — 1-350590-0  
UL94V-0 Nylon material — 350812-1

**Note:** Strain relief part number represents one half of a strain relief. Two strain reliefs required per housing.

**Note:** All part numbers are RoHS Compliant.

**Universal MATE-N-LOK Connectors (Continued)**

**Plug or  
Cap Housing  
Strain Reliefs**

IS 408-3320

**Related Product Data**

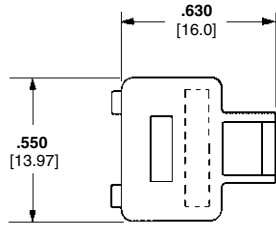
**Housings**—page 174  
**Technical Documents**—pages 169  
and 205-206

**Cap Housing Adapters**

These adapters are designed to anchor the cap housing strain reliefs to the housings and prevent the strain relief halves from "drawing in" when the screws are being torqued down to clamp the cable.

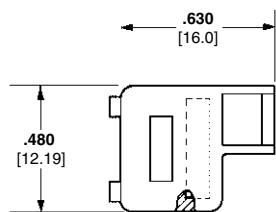
IS 408-3320

**For All Positions Except 2, 6  
and 8 Circuit Cap Housings**



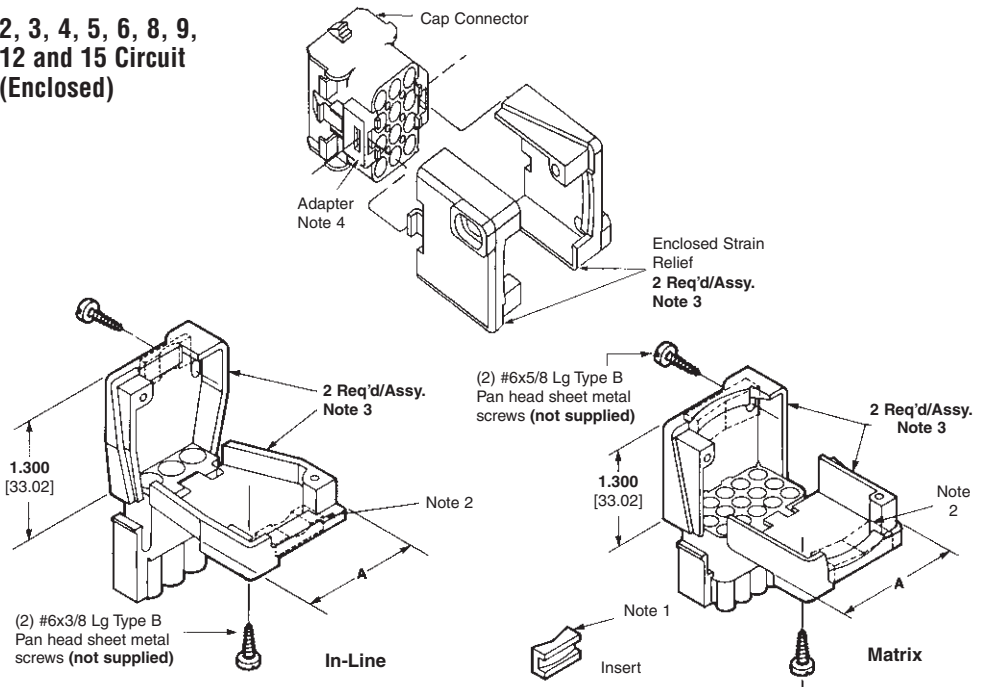
UL94V-2 Nylon material,  
natural color—**641777-1**  
UL94V-0 Nylon material—  
**641778-1**

**For 2 In-Line and 6 Matrix  
Circuit Cap Housings Only**



UL94V-2 Nylon material,  
natural color—**643182-1**  
UL94V-0 Nylon material—  
**643182-2**

**2, 3, 4, 5, 6, 8, 9,  
12 and 15 Circuit  
(Enclosed)**



Style	Number of Circuits	A Dim.	Insert Supplied	Single Wire Dia. Range	Wire Bundle Dia. Range	Part Numbers	
						UL94V-2 Nylon, Natural Color	UL94V-0 Nylon
In-Line	2	.960 24.38	Yes	.040-.190 1.02-4.83	—	1-640719-0	640713-1
			No	—	.200-.350 5.08-8.89	1-640719-1	640713-2
	3	1.140 28.96	Yes	.040-.190 1.02-4.83	—	1-640720-0	640714-1
			No	—	.200-.350 5.08-8.89	641763-1	641945-1
	4	1.325 33.65	Yes	.040-.190 1.02-4.83	—	641775-1	641776-1
			No	—	.200-.350 5.08-8.89	641775-2	641776-2
	5	1.530 38.86	Yes	.040-.190 1.02-4.83	—	643030-3	643030-1
			No	—	.200-.350 5.08-8.89	643030-2	643030-4
	6 Note 5	1.780 45.21	Yes	.040-.190 1.02-4.83	—	643585-1	643313-1
			No	—	.200-.350 5.08-8.89	643585-2	643313-2
	8 Note 5	2.280 56.08	Yes	.040-.190 1.02-4.83	—	—	643314-1
			No	—	.200-.350 5.08-8.89	—	643314-2
Matrix	6	1.030 26.16	Yes	—	.120-.650 3.05-16.51	1-640721-0	640715-1
	9	1.030 26.16	Yes	—	.120-.650 3.05-16.51	1-640722-0	640716-1
	12	1.280 32.51	Yes	—	.150-.750 3.81-19.05	1-640723-0	640717-1
	15	1.530 38.86	Yes	—	.200-.850 5.08-21.59	1-640724-0	640718-1
			No	—	—	—	—

**Notes:**

1. Cable clamping insert comes attached to strain relief. It can be used to provide additional adjustment for small wire bundles or discarded.
2. Insert to be positioned as shown by dotted lines.
3. Strain relief part number represents one-half of a strain relief. Two strain reliefs required per housing.
4. Must use cap housing adapters when attaching strain reliefs to a cap housing. Two adapters required per housing.
5. Strain reliefs for 6 and 8 circuit In-Line fits plug housings only.

**Note:** All part numbers are RoHS Compliant.

Standard Density

Universal MATE-N-LOK Connectors  
.250 [6.35] Centerline