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5.0 mm Power Key Connectors (5.0 PKC) (Wire-to-Board)

Product Facts

- Compact design with 19.4 mm mated height
- Power circuit connector with 5.0 mm contact centerline
- Wire-to-board connectors consisting of plug housings for wires and PCB header assemblies
- With a clear clicking sound, contact insertions can be made easier. The double lock plate provides for complete loading of contacts
- Locking levers are surrounded by walls, which protect levers and prevent tangling with wires
- Connector is designed to release bubbles created by the process of potting (PC board coating)
- Housing lances also help prevent tangling of wired contacts
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476 
- Certified by Canadian Standards Association, File No. LR7189 



5.0 mm Power Key Connectors are for power circuits of home appliances, especially targeting gas appliances. The connector features four kinds of keying per housing.

Only color-coding of housings limited the efficiency of blind mating where you could not see connectors. However, the new keying mechanism not only improves assembly efficiency but also helps prevent mismatching.

Part numbers involved can be reduced so that purchasing and stock level control can be made simpler.

Performance Characteristics

Voltage Rating—300 VAC¹

Current Rating—10A max.²

Operating Temperature—
-30°C ~ +105°C

Applicable Wire—24-16 AWG

Applicable PC Board Thickness—
1.6 mm

1 Excludes header tyne round space. Usable for 150 VAC applications when the round dimensions are 3 mm or less.

2 Specified values vary according to the number of contacts and the wire used. The 10 A maximum value applies to 16 AWG wire used with 2 contacts.

Technical Documents

Product Specification

108-5699

Application Specification

114-5292

5.0 mm Power Key Connectors (5.0 PKC) (Wire-to-Board) (Continued)

Quick Reference Chart for Mating Part Numbers

No. of Pos.	Plug Housing		Applicable Double Lock Plate Part Number	Mating Header Assy. Part Number	
	Type of Keying/Color	Part Number			
2	Type A/Natural	1376388-1	1376394-1	1376382-1	
	Type B/Red	1-1376388-2	1376394-1	1-1376382-2	
	Type C/Blue	2-1376388-3	1376294-1	2-1376382-3	
	Type D/Yellow	3-1376388-4	1376394-1	3-1376382-4	
3	Type A/Natural	1376389-1	1376395-1	1376383-1	1376421-1
	Type B/Red	1-1376389-2	1376395-1	1-1376383-2	1-1376421-2
	Type C/Blue	2-1376389-3	1376395-1	2-1376383-3	2-1376421-3
	Type D/Yellow	3-1376389-4	1376395-1	3-1376383-4	3-1376421-4
4	Type A/Natural	1376390-1	1376396-1	1376384-1	
	Type B/Red	1-1376390-2	1376396-1	1-1376384-2	
	Type C/Blue	2-1376390-3	1376396-1	2-1376384-3	
	Type D/Yellow	3-1376390-4	1376396-1	3-1376384-4	
6	Type A/Natural	1376391-1	1376397-1	1376385-1	
	Type B/Red	1-1376391-2	1376397-1	1-1376385-2	
	Type C/Blue	2-1376391-3	1376397-1	2-1376385-3	
	Type D/Yellow	3-1376391-4	1376397-1	3-1376385-4	
2 Row					
4	Type A/Natural	1376392-1	1376394-1	1376386-1	
	Type B/Red	1-1376392-2	1376394-1	1-1376386-2	
	Type C/Blue	2-1376392-3	1376394-1	2-1376386-3	
	Type D/Yellow	3-1376392-4	1376394-1	3-1376386-4	
6	Type A/Natural	1376393-1	1376395-1	1376387-1	
	Type B/Red	1-1376393-2	1376395-1	1-1376387-2	
	Type C/Blue	2-1376393-3	1376395-1	2-1376387-3	
	Type D/Yellow	3-1376393-4	1376395-1	3-1376387-4	

*Included in Header Assy. line are Tube Stick version. Refer to the appropriate description in the catalog.

Note: All part numbers are RoHS Compliant.

Mating Configurations



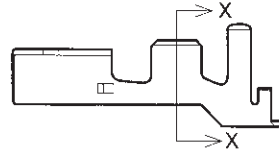
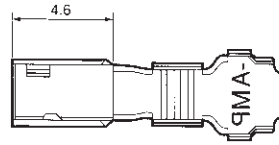
Note: Dimensions shown are metric.

5.0 mm Power Key Connectors .197 [5.00] Centerline Standard Density

5.0 mm Power Key Connectors (5.0 PKC) (Wire-to-Board) (Continued)

Receptacle Contacts

Material and Finish
Pre-tinned Copper Alloy



Wire Range		Wire Ins. Dia.	Receptacle Contact Part No.	Applicator Part No.
AWG	mm ²			
24~20	0.22~0.53	1.89~2.7	1376348-1 (Strip Form)	*
20~16	0.5~1.25	2.0~3.1	1376347-1 (Strip Form)	*

* Contact the Tooling Assistance Center (TAC) at 1-800-722-1111 for Applicator Part Number.

Note: Dimensions shown are metric.

Note: All part numbers are RoHS Compliant.

Double Lock Plates

Material and Finish
UL94V-0, 6/6 Nylon, glass filled, Black



No. of Pos.	Dimensions (Double Lock Plate)		Double Lock Plate Part No.	Applicable Plug Part No.	
	A	B			
2	13.5	5	1376394-1	□-1376388-□	□-1376392-□
3	18.5	10	1376395-1	□-1376389-□	□-1376393-□
4	23.5	15	1376396-1	□-1376390-□	
6	33.5	25	1376397-1	□-1376391-□	

* Contact the Tooling Assistance Center (TAC) for Applicator Part Number.

Note: Dimensions shown are metric.

Note: All part numbers are RoHS Compliant.

5.0 mm Power Key Connectors (5.0 PKC) (Wire-to-Board) (Continued)

Plug Housings
(For Receptacle Contacts)

Material and Finish
Housing—6/6 Nylon, glass filled

Related Product Data
Receptacle Contacts—page 137
Double Lock Plates—page 137
Mating Headers—page 140



Type of Keying/Color



No. of Pos.	Dimensions		Plug Housing Part No.				Applicable Double Lock Plate Part Number	Mating Header Assy. Part Number
	A	B	Type of Keying/Color					
			Type A Natural	Type B Red	Type C Blue	Type D Yellow		
2	15	—	1376388-1	1-1376388-2	2-1376388-3	3-1376388-4	1376394-1	□-1376382-□
3	20	10	1376389-1	1-1376389-2	2-1376389-3	3-1376389-4	1376395-1	□-1376383-□ □-1376421-□
4	25	15	1376390-1	1-1376390-2	2-1376390-3	3-1376390-4	1376396-1	□-1376384-□
6	35	25	1376391-1	1-1376391-2	2-1376391-3	3-1376391-4	1376397-1	□-1376385-□

Note: Dimensions shown are metric.

Note: All part numbers are RoHS Compliant.

Standard Density

5.0 mm Power Key Connectors
.197 [5.00] Centerline

5.0 mm Power Key Connectors (5.0 PKC) (Wire-to-Board) (Continued)

**Plug Housing (2 Rows)
(For Receptacle Contacts)**

Material and Finish
Housing—6/6 Nylon, glass filled

Related Product Data

Receptacle Contacts—page 137

Double Lock Plates—page 137

Mating Headers—page 141



Type of Keying/Color



No. of Pos.	Dimensions		Plug Housing Part No.				Applicable Double Lock Plate Part Number	Mating Header Assy. Part Number
	A	B	Type of Keying/Color					
			Type A Natural	Type B Red	Type C Blue	Type D Yellow		
4	15	—	1376392-1	1-1376392-2	2-1376392-3	3-1376392-4	1376394-1	□-1376386-□
6	20	10	1376393-1	1-1376393-2	2-1376393-3	3-1376393-4	1376395-1	□-1376387-□

Note: Dimensions shown are metric.

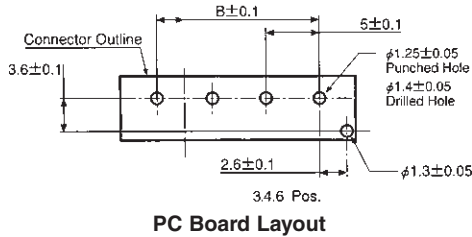
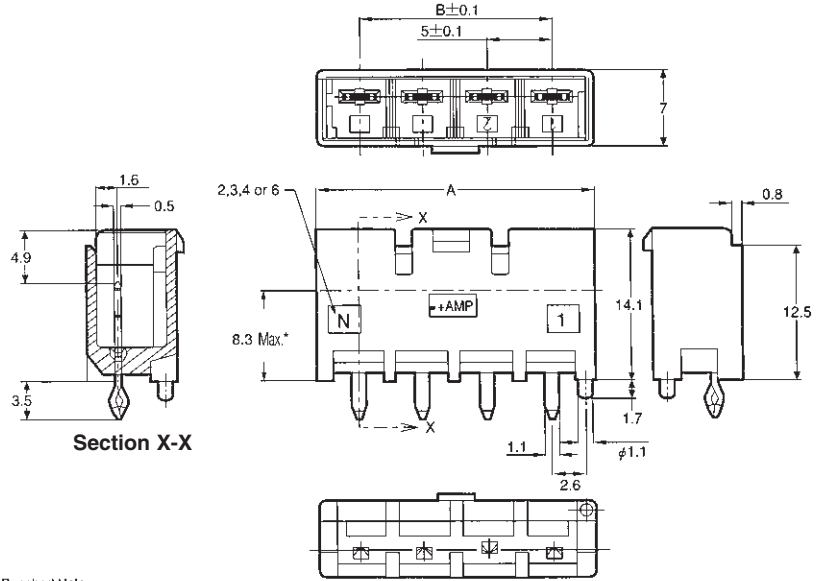
Note: All part numbers are RoHS Compliant.

5.0 mm Power Key Connectors (5.0 PKC) (Wire-to-Board) (Continued)

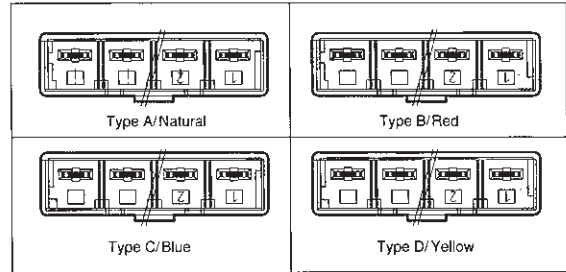
Vertical Header Assembly

Material and Finish
Housing—6/6 Nylon, glass filled
Tab Contacts -Copper Alloy, Tin plated

Related Product Data
Mating Plug Housings—page 138



Type of Keying/Color



No. of Pos.	Dimensions		Loose Piece Tube (Qty.)	Vertical Header Assy. Part No. Type of Keying/Color				Mating Plug Housing Part Number
	A	B		Type A Natural	Type B Red	Type C Blue	Type D Yellow	
2	11.6	—	L.P.	1376382-1	1-1376382-2	2-1376382-3	3-1376382-4	□-1376388-□
			Tube	1376437-1 (40)	1-1376437-2 (40)	2-1376437-3 (40)	3-1376437-4 (40)	
3	16.6	10	L.P.	1376383-1	1-1376383-2	2-1376383-3	3-1376383-4	□-1376389-□
			Tube	1376439-1 (25)	1-1376439-2 (25)	2-1376439-3 (25)	3-1376439-4 (25)	
4	21.6	15	L.P.	1376384-1	1-1376384-2	2-1376384-3	3-1376384-4	□-1376390-□
			Tube	1376440-1 (20)	1-1376440-2 (20)	2-1376440-3 (20)	3-1376440-4 (20)	
6	31.6	25	L.P.	1376385-1	1-1376385-2	2-1376385-3	3-1376385-4	□-1376391-□
			Tube	1376441-1 (15)	1-1376441-2 (15)	2-1376441-3 (15)	3-1376441-4 (15)	
2*	16.6	10	L.P.	1376421-1	1-1376421-2	2-1376421-3	3-1376421-4	□-1376389-□
			Tube	1376444-1 (25)	1-1376444-2 (25)	2-1376444-3 (25)	3-1376444-4 (25)	

*10 mm centerline

Note: Dimensions shown are metric.

Note: All part numbers are RoHS Compliant.

Standard Density
5.0 mm Power Key Connectors .197 [5.00] Centerline

5.0 mm Power Key Connectors (5.0 PKC) (Wire-to-Board) (Continued)

Vertical Header Assembly (2 Rows)

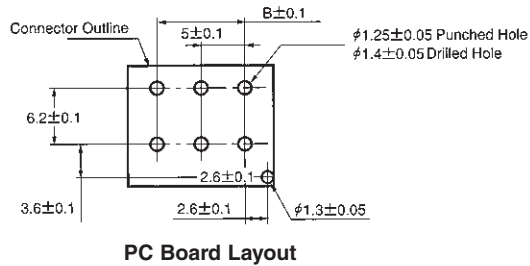
Material and Finish

Housing—6/6 Nylon, glass filled

Tab Contacts—Copper Alloy, Tin plated

Related Product Data

Mating Plug Housings—page 139



Type of Keying/Color

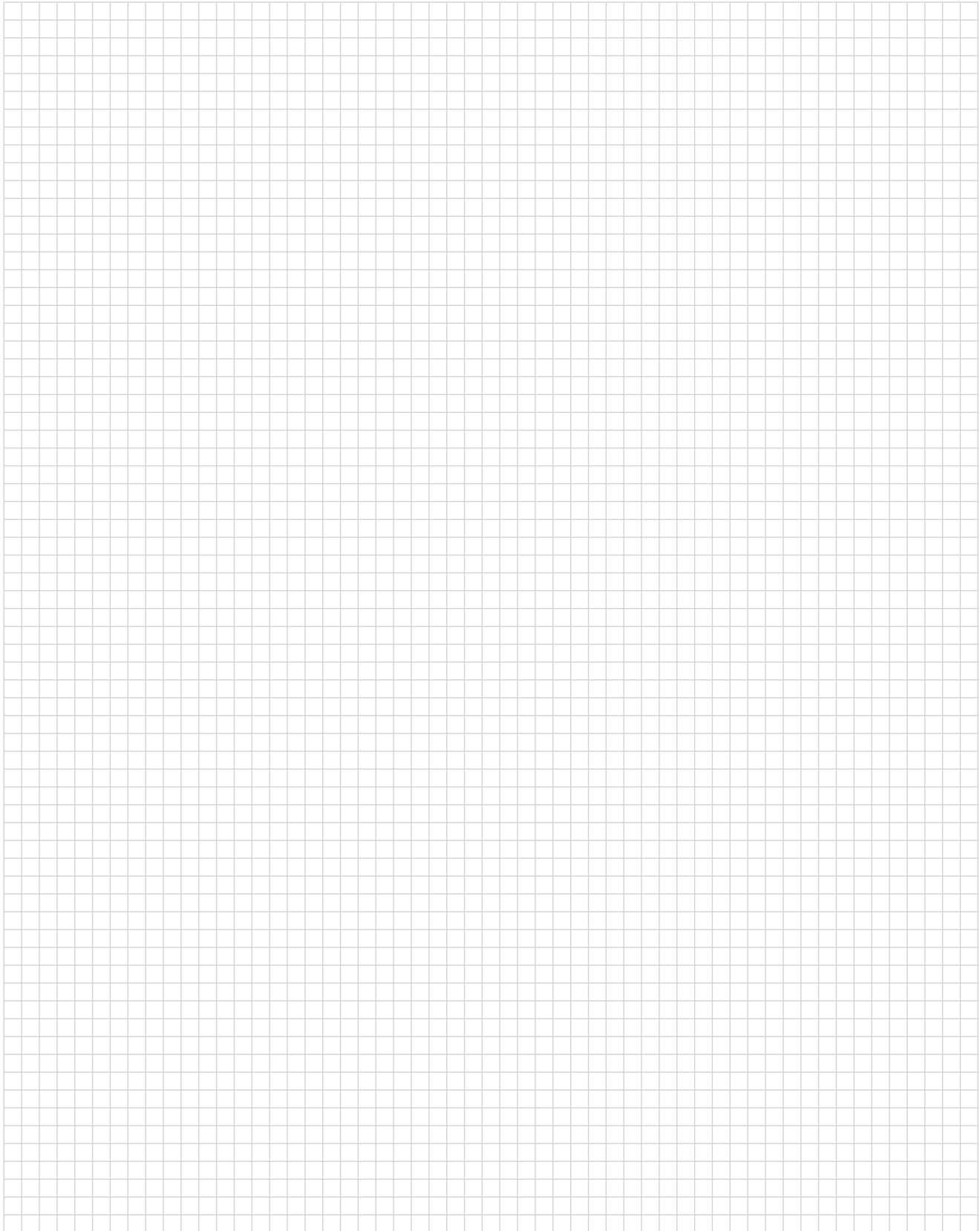


No. of Pos.	Dimensions		Loose Piece Tube (Qty.)	Vertical Header Assy. Part No.				Mating Plug Housing Part Number
	A	B		Type of Keying/Color				
				Type A Natural	Type B Red	Type C Blue	Type D Yellow	
4	11.6	—	L.P.	1376386-1	1-1376386-2	2-1376386-3	3-1376386-4	□-1376392-□
			Tube	1376442-1 (40)	1-1376442-2 (40)	2-1376442-3 (40)	3-1376442-4 (40)	
6	16.6	10	L.P.	1376387-1	1-1376387-2	2-1376387-3	3-1376387-4	□-1376393-□
			Tube	1376443-1 (25)	1-1376443-2 (25)	2-1376443-3 (25)	3-1376443-4 (25)	

Note: Dimensions shown are metric.



Note: All part numbers are RoHS Compliant.

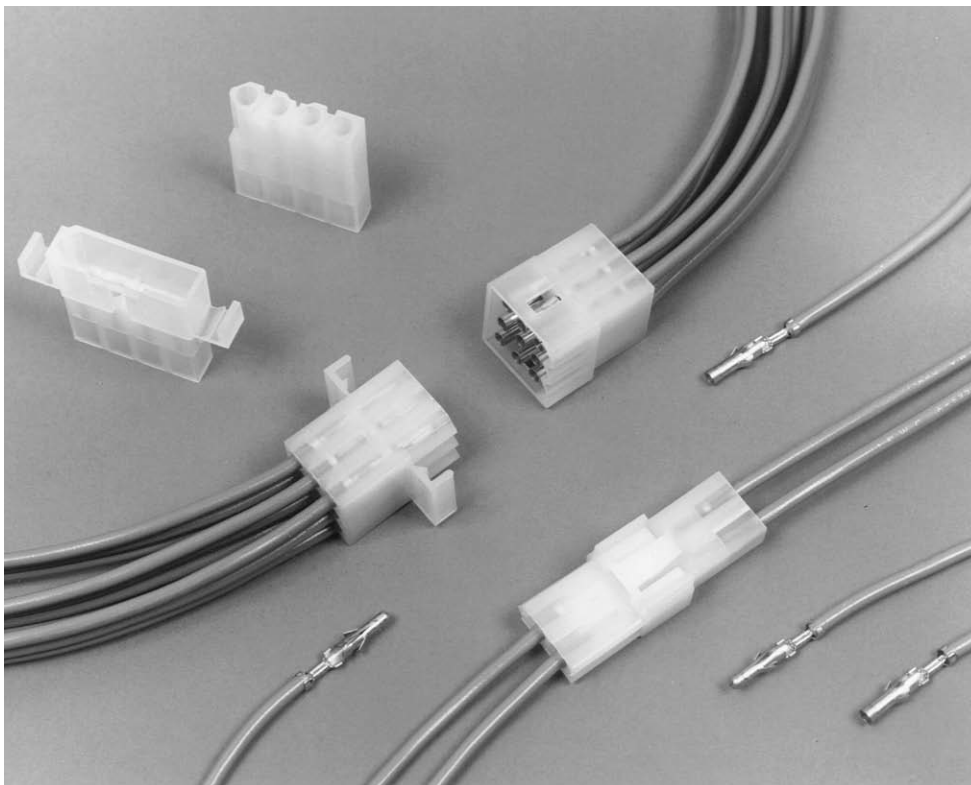
Engineering Notes



.093 [2.36] Commercial Pin and Socket Connectors

Product Facts

- Polarized
- Cavity identification
- Low contact-mating force
- Dual locking lances
- Detent and positive locking
- Contacts available in brass and phosphor bronze with tin and gold plating
- Panel mounting and free-hanging styles
- “F” crimp contacts
- Applicator and hand tool available
- Economical commercial-grade connectors
- Compatible with high-speed application machinery and competitive soft shells
- Wire range 24 to 14 AWG [0.2 to 2 mm²]
- Accepts wires with insulation diameters as large as .180 [4.57]
- Housings available in 1 to 15 positions
- .093 plug and receptacle housings accept pin or socket contacts. The preferred convention is to use socket contacts with receptacle housings
- Not for interrupting current
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476 
- Certified by Canadian Standards Association, File No. LR 7189 



Performance Characteristics

The .093 Commercial Pin and Socket Connectors performance characteristics found on pages 143-144 are based on free-hanging and panel mount connectors, loaded with contacts crimped on stranded wire.

Thermal Shock— -55°C to +105°C

Temperature-Humidity Cycling— +25°C to +65°C at 90–95% RH

Corrosion—48 hr. at 5% salt concentration

Vibration—10-55-10 cycles per minute at .06 [1.52] total excursion

Physical Shock—18 shocks, 50 Gs sawtooth in 11 milliseconds

Durability—50 mating cycles

Dielectric Withstanding Voltage— 1.0 kVAC

Insulation Resistance— 1000 megohms min. initial

Voltage Rating—250 V AC or DC

Connector Mating— 2.5 lb. [11.1 N] max. per contact

Connector Unmating— 1.5 lb. [6.7 N] min. per contact

Contact Retention— 10 lb. [44.5 N] min.

Technical Documents

Application Specification
114-49000 .093 Commercial Pin and Socket Connectors

Product Specification
108-1038 .093 Commercial Pin and Socket Connectors

Standard Density

.093 [2.36] Commercial Pin and Socket Connectors
.198 [5.03] Centerline

.093 [2.36] Commercial Pin and Socket Connectors (Continued)

Performance Characteristics (continued)

Maximum Current—Maximum current rating of .093 Commercial Pin and Socket Connectors is limited by the maximum operating temperature of the housings which is 105°C 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.

Related Product Data

Product Specification — 108-1038

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

Wire-to-Wire

.093 Commercial Pin and Socket Connectors — Calculated Current Table

Number of Circuits	Wire AWG					
	14	16	18	20	22	24
2	13.00	12.00	11.00	8.00	6.00	6.00
3	13.00	11.00	10.00	8.00	6.00	5.00
4 In-Line	11.00	10.00	9.00	7.00	5.00	4.00
4 Matrix	11.00	10.00	9.00	7.00	5.00	4.00
5	10.00	9.00	8.00	6.00	5.00	4.00
6	10.00	9.00	8.00	6.00	4.00	4.00
9	9.00	7.00	6.00	5.00	4.00	3.00
12	8.00	7.00	6.00	4.00	3.00	3.00
15	7.00	6.00	5.00	4.00	3.00	3.00

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.

Termination Resistance/Contact Crimp Tensile Force

Wire Size		Termination Resistance		Contact Crimp Tensile Force	
AWG	mm ²	Test Current (Amps)	Resistance Milliohms (Max. Init.)	Force (Min.)	
				lbs.	N
24	0.2	2.0	4.0	8	35.6
22	0.3–0.4	3.0	4.0	10	44.5
20	0.5–0.6	4.5	4.0	15	66.7
18	0.8–0.9	6.0	3.5	25	111.2
16	1.25–1.4	8.0	3.5	25	111.2
14	2	10.0	3.0	30	133.4

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

.093 [2.36] Commercial Pin and Socket Connectors (Continued)

Contacts

Pin Diameter .093 [2.36]

Material

.010 [0.25] Stock Thickness
Pin and socket contacts can be used in either plug or receptacle housings.

Related Product Data

Product Specification — 108-1038

Application Specification
114-49000

Performance Characteristics —
pages 143-144

Housings

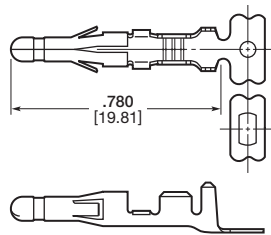
.198 [5.03] Centerline—pages 146-147
.250 [6.35] Centerline—pages 148-149

Panel Cutouts

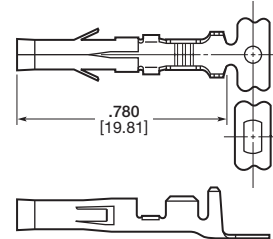
.198 [5.03] Centerline Housings—
page 147
.250 [6.35] Centerline Housings—
page 148

Technical Documents—pages 143
and 205-206

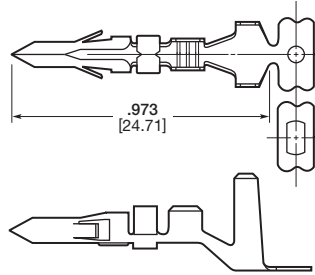
Application Tooling—pages 207-210



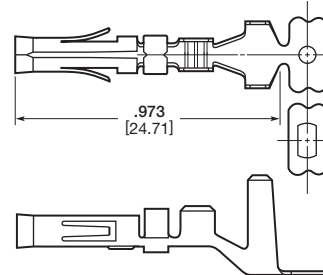
Pin



Socket



Pin
Part No. 770385-1



Socket
Part No. 770383-1



Contact Insertion Tool
(For Pins and Sockets)
Part No. 91002-1
IS 408-7347



Contact Extraction Tool
Part No. 318837-1
IS 408-4375

Wire Size AWG	mm ²	Ins. Dia.	Material & Finish	Contact Part Numbers				HDM Applicator Part No.	Hand Tool Part No.
				Pin		Socket			
				Strip Form	Loose Piece	Strip Form	Loose Piece		
24-18	0.2-0.9	.110 2.79	Brass, Pre-tin	350418-1	770147-1	350417-1	770146-1	466656-15	90872-1
			Brass, Gold ²	—	—	350417-3 ²	770146-3 ²	466656-3 ⁵	
			Brass Select Gold ¹	350418-5 ¹	770147-5 ¹	350417-5 ¹	770146-5 ¹		
20-14	0.6-2	.140 3.56	Brass, Pre-tin	350416-1	770145-1	350415-1	770144-1	466878-15	90871-1
			Brass, Select Gold ¹	350416-5 ¹	770145-5 ¹	350415-5 ¹	770144-5 ¹	466878-2 ⁵	
			Phos. Brz., Pre-tin	—	—	350415-6	770144-6	466878-3 ⁵	
18-14 or 2 (18)	0.8-2 or 2 (0.8-0.9)	.180 4.57	Brass, Pre-tin	770530-1 ⁴	—	770529-1 ⁴	—	567337-3 ⁶	—
			Phos. Brz., Pre-tin	—	—	770529-1 ⁴	—	567337-4 ⁶	
18-14 or 2 (18)	0.8-2 or 2 (0.8-0.9)	.180 4.57	Brass, Pre-tin	770385-1 ³	—	—	—	567273-2 ⁷	—
			Phos. Brz., Pre-tin	—	—	770383-1 ³	—	567273-3 ⁷	
								567273-4 ⁷	

¹Select Gold — .000030 [.000762] min gold in mating area over .000050 [.00127] min nickel.
²Gold — .000030 [.000762] min gold in mating area, overall gold flash over .000050 [.00127] min nickel.
³These contacts have a .0125 [.318] stock thickness and accept two wires, each with maximum .180 [4.57] insulation diameters. They can be used only with the following housing part numbers: 770364-1, 770365-1, 770450-1, 770451-1, 770452-1, and 770453-1 (see page 143).
⁴Contact length is .875 [22.23]
⁵HDM 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 is used on AMP-O-LECTRIC Model G Machine. See pages 207-210 for further information.
⁶HDM Applicator part number ending in -3 is used on AMPOMATOR CLS Machine with T or G Terminators, -4 is used on AMP-O-LECTRIC Model K Machine, -6 is used on AMP-O-LECTRIC Model G Machine. See pages 207-210 for further information.
⁷HDM Applicator part number ending in -3 is used on AMPOMATOR CLS Machine with T or G Terminators, -2 is used on AMP-O-LECTRIC Model K Machine, -4 is used on AMP-O-LECTRIC Model G Machine. See pages 207-210 for further information.

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

Note: All part numbers are RoHS Compliant.

.093 [2.36] Commercial Pin and Socket Connectors (Continued)

Housings

Free-Hanging or Panel Mount

.198 [5.03] Centerline spacing

Material

Housing—Nylon, natural color

Flammability Rating—

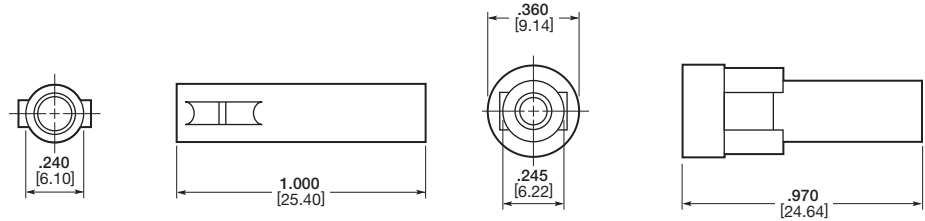
UL94-V-2

Related Product Data

Contacts—page 145

Product Specification—108-1038

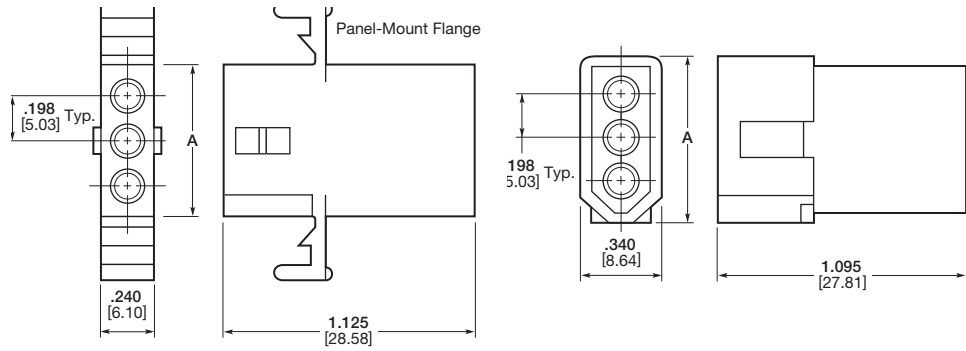
1 Circuit



Receptacle

Plug

2, 3, and 4 Circuit, In-Line



Receptacle

Plug

No. of Circuits	A Dimension		Receptacle Part Numbers				Plug Part Numbers	
	Receptacle	Plug	Panel Mount		Free-Hanging		Panel Mount	Free-Hanging
			Without Detents	With Detents	Without Detents	With Detents		
1	—	—	—	—	—	770063-1	—	770064-1
2	.540 13.72	.640 16.26	—	770066-11,5	—	770065-11,5 770266 ^{1,3,5}	770068-1 ¹	770069-1 ¹
3	.670 17.02	.770 19.56	—	770071-1	—	770070-1 770264-1 ³	770073-1	770074-1
4 (In-Line)	.870 22.10	.970 24.64	—	770076-1	—	770075-1	770077-1	770078-1
4 (Matrix)	.443 11.25	.540 13.71	—	—	—	770843-1	—	770842-1
5	1.070 27.18	1.170 29.72	—	—	—	770083-1 794015-1 ³	—	770084-1
6 (In-Line)	1.268 32.21	1.378 35.00	—	—	—	770782-1 ⁴	—	770892-1 ⁴
6 (Matrix)	.435 11.05	.535 13.59	770085-1	770087-1	770088-1	770086-1	770089-1	770090-1
9	.670 17.02	.770 19.56	770091-1	770093-1	770094-1	770092-1	770095-1 ² 770108-1	770096-1
12	.870 22.10	.970 24.64	770097-1	770099-1	770100-1	770098-1	770101-1	770102-1
15	1.070 27.18	1.170 29.72	770103-1	—	770105-1	—	770106-1	770107-1

¹2.248 [6.30] centerline.

²Mounting ears at wire end.

³Tool removable.

⁴Positive lock.

⁵600 V AC or DC

Note: All part numbers are RoHS Compliant.

Standard Density

.093 [2.36] Commercial Pin and Socket Connectors .198 [5.03] Centerline

.093 [2.36] Commercial Pin and Socket Connectors (Continued)

Housings

Free-Hanging or Panel Mount

.198 [5.03] Centerline spacing

Material

Housing—Nylon, natural color

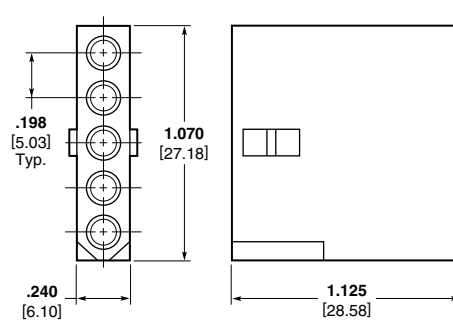
Flammability Rating—
UL94V-2

Related Product Data

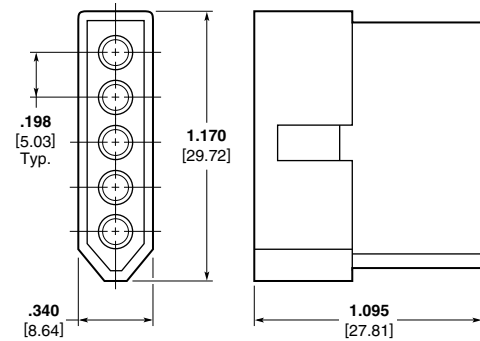
Contacts—page 145

Product Specification—108-1038

5 Circuit, In-Line

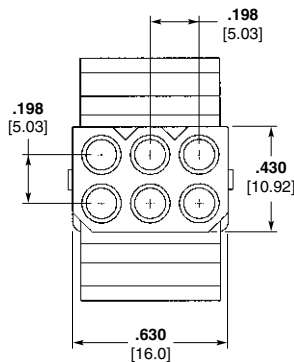


Receptacle (Free-Hanging)

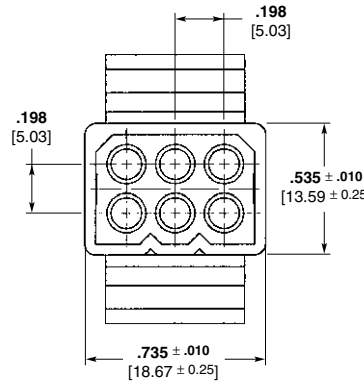
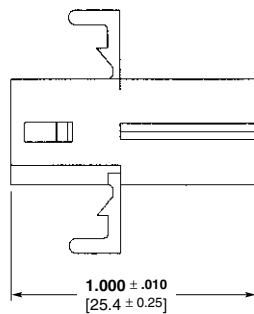


Plug (Free-Hanging)

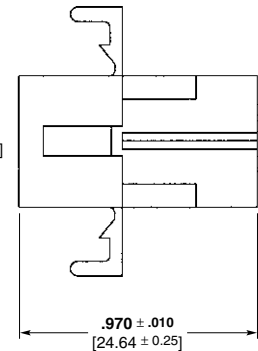
4, 6, 9, 12, and 15 Circuit, Matrix



Receptacle

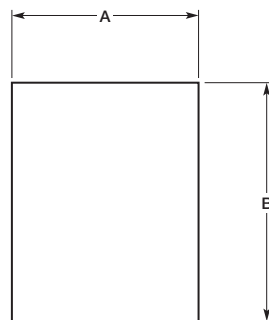


Plug



Recommended Panel Cutouts

Maximum panel thickness is
.090 [2.29].



No. of Circuits	Panel Cutout Dimensions			
	Receptacle		Plug	
	A	B	A	B
2	.312 7.92	.725 18.42	.375 9.53	.800 20.32
3	.312 7.92	.840 21.34	.375 9.53	.933 23.70
4 (In-Line)	.312 7.92	1.038 26.37	.375 9.53	1.131 28.73
6	.600 15.24	.718 18.24	.695 17.65	.750 19.05
9	.725 18.42	.828 21.03	.660 16.76	.937 23.80
12	.725 18.42	1.050 26.67	.760 19.30	1.155 29.34
15	.655 16.64	1.240 31.50	.760 19.30	1.343 34.11

Note: The panel should be punched so that the housing enters in the same direction as the punch.

.093 [2.36] Commercial Pin and Socket Connectors (Continued)

Housings

Free-Hanging or Panel Mount

.250 [6.35] Centerline spacing

Material

Housing—Nylon, natural color

Flammability Rating—
UL94V-2

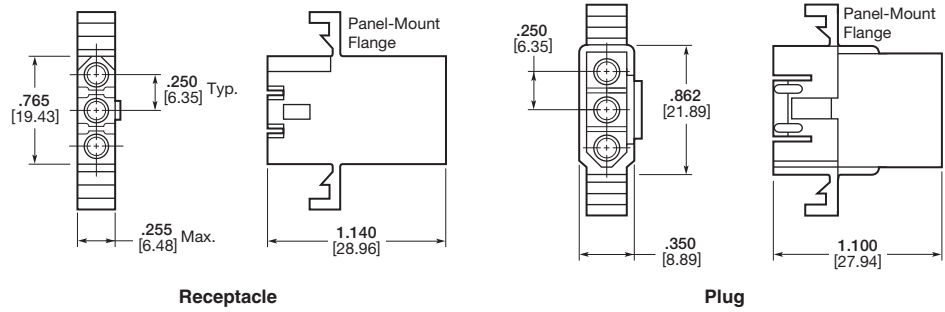
Voltage Rating—600 V AC or DC

Related Product Data

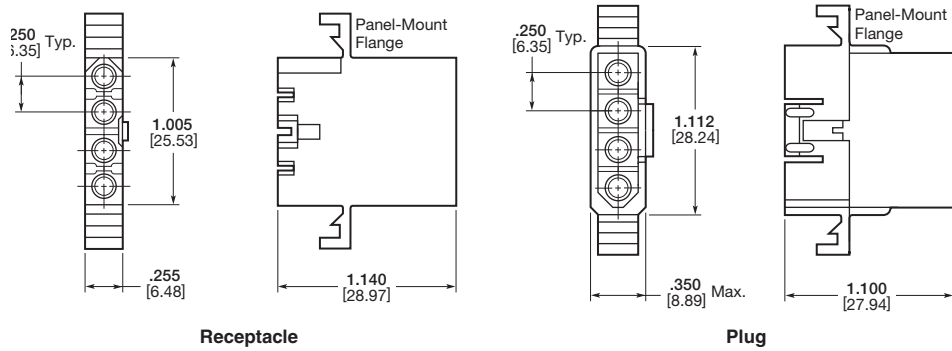
Contacts—page 145

Product Specification—108-1038

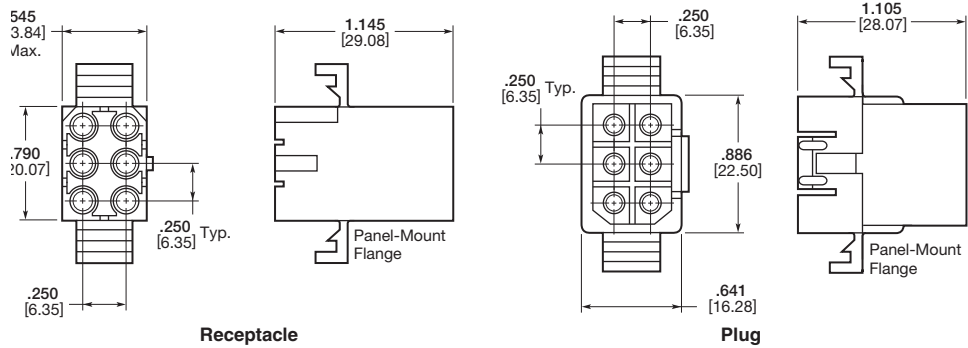
3 Circuit, In-Line



4 Circuit, In-Line



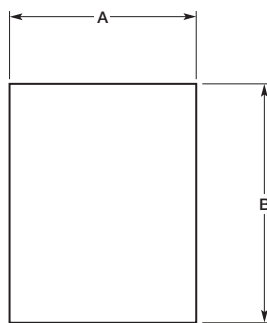
6 Circuit, Matrix



Recommended Panel Cutouts

Maximum panel thickness is
.062 [1.57].

Note: The panel should be punched so that the housing enters in the same direction as the punch.



No. of Circuits	Receptacle Part Numbers		Plug Part Numbers	
	Panel Mount	Free-Hanging	Panel Mount	Free-Hanging
3	770269-1 770771-1 ¹	770339-1	770338-1	770276-1
4	770329-1	770337-1	770330-1	770336-1
6	770372-1	770360-1	770373-1	770361-1

¹Pre-bent mounting ears.

No. of Circuits	Panel Cutout Dimensions			
	Receptacle		Plug	
	A	B	A	B
3	.310 7.87	.920 23.37	.365 9.27	1.022 25.96
4	.310 7.87	1.168 29.67	.365 9.27	1.270 32.26
6	.608 15.44	.946 24.03	.658 16.71	1.048 26.62

Note: All part numbers are RoHS Compliant.

Standard Density

.093 [2.36] Commercial Pin and Socket Connectors
.198 [5.03] Centerline

.093 [2.36] Commercial Pin and Socket Connectors (Continued)

Housings

Free-Hanging or Panel Mount

.250 [6.35] Centerline spacing

Material

Housing—Nylon, natural color

Flammability Rating—
UL94V-2

Voltage Rating—600 V AC or DC

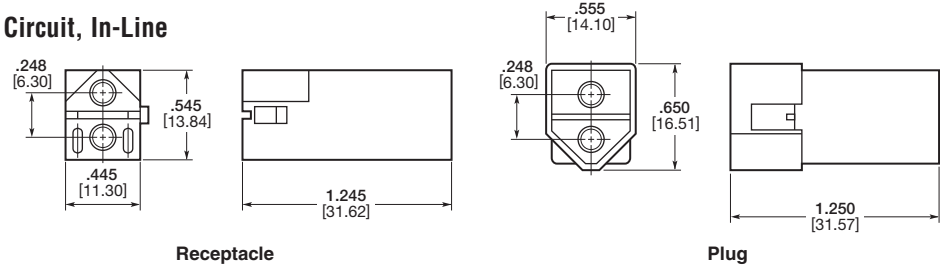
Related Product Data

Contacts—page 145

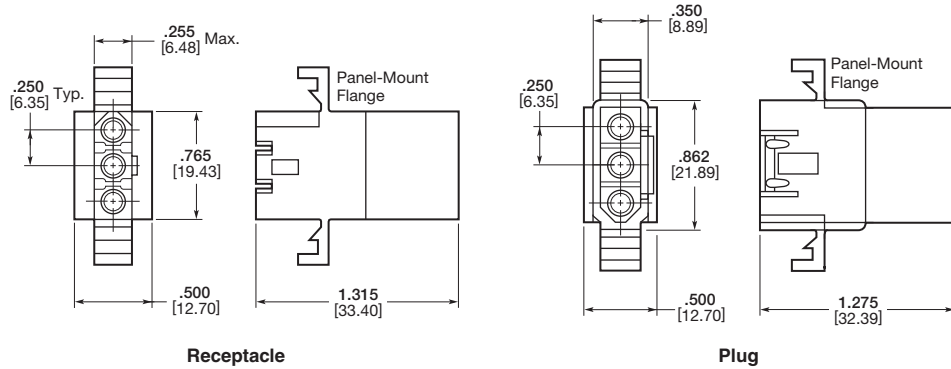
Product Specification—108-1038

Dual Wire

2 Circuit, In-Line



3 Circuit, In-Line



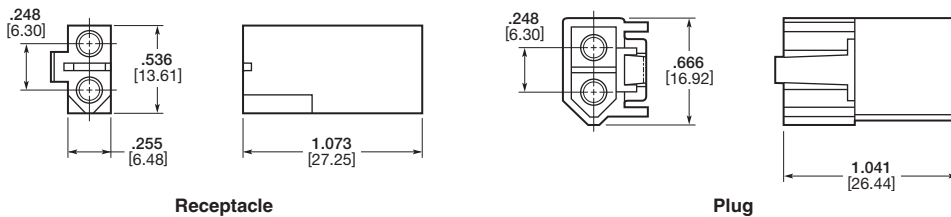
No. of Circuits	Receptacle Part Numbers		Plug Part Numbers	
	Panel Mount	Free-Hanging	Panel Mount	Free-Hanging
2	—	770364-1 ¹	—	770365-1 ¹
3	770453-1 ²	770451-1	770452-1 ²	770450-1

¹1.248 [6.30] centerline.

²See panel cutout dimensions on page 58.

Positive Lock

2, 3 and 4 Circuit, In-Line

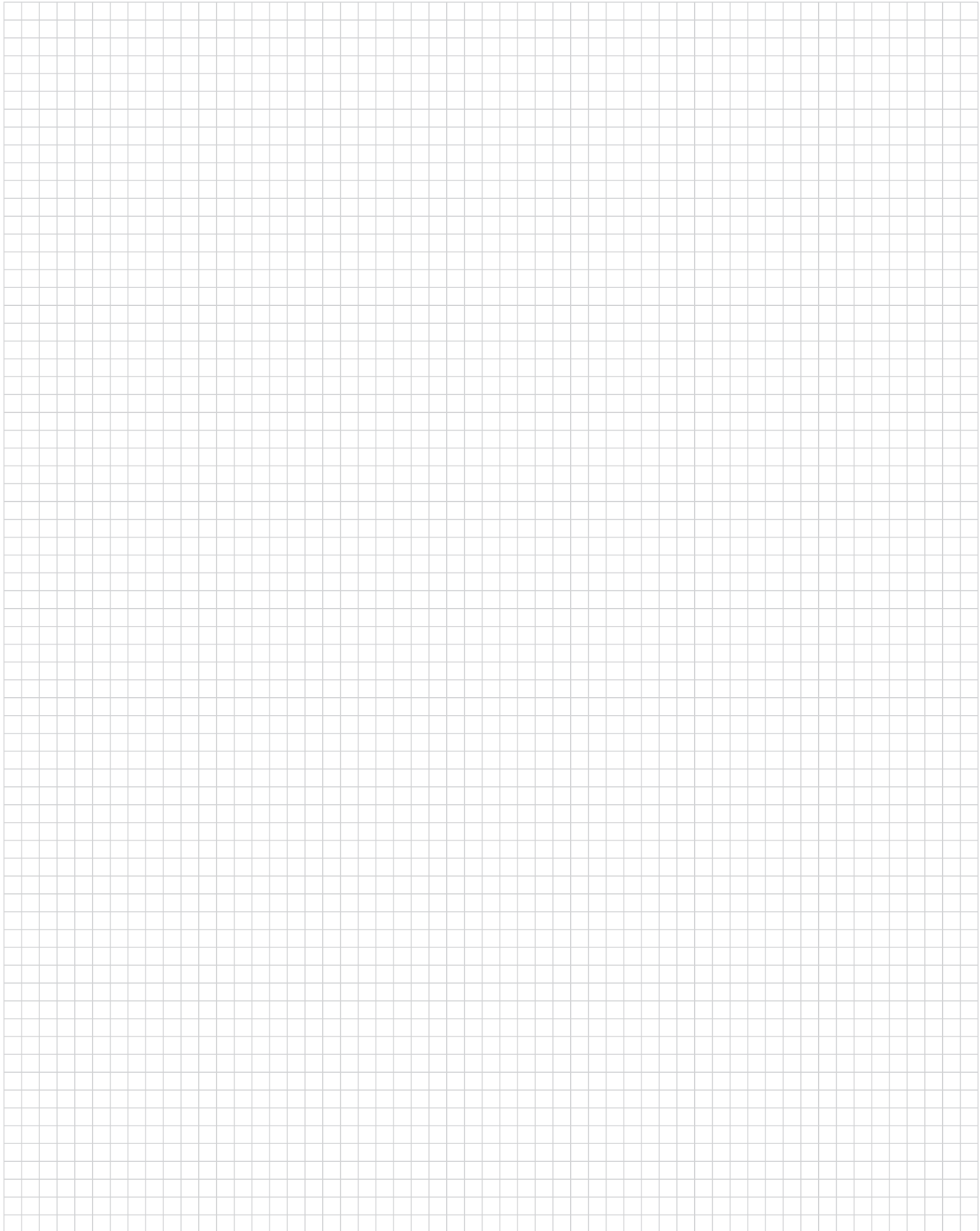


No. of Circuits	Receptacle Part Numbers	Plug Part Numbers
	Free-Hanging	Free-Hanging
2	770424-1 ¹	770425-1 ¹
3	770785-1	770783-1
4	770784-1	770810-1

¹1.248 [6.30] centerline.

Note: All part numbers are RoHS Compliant.

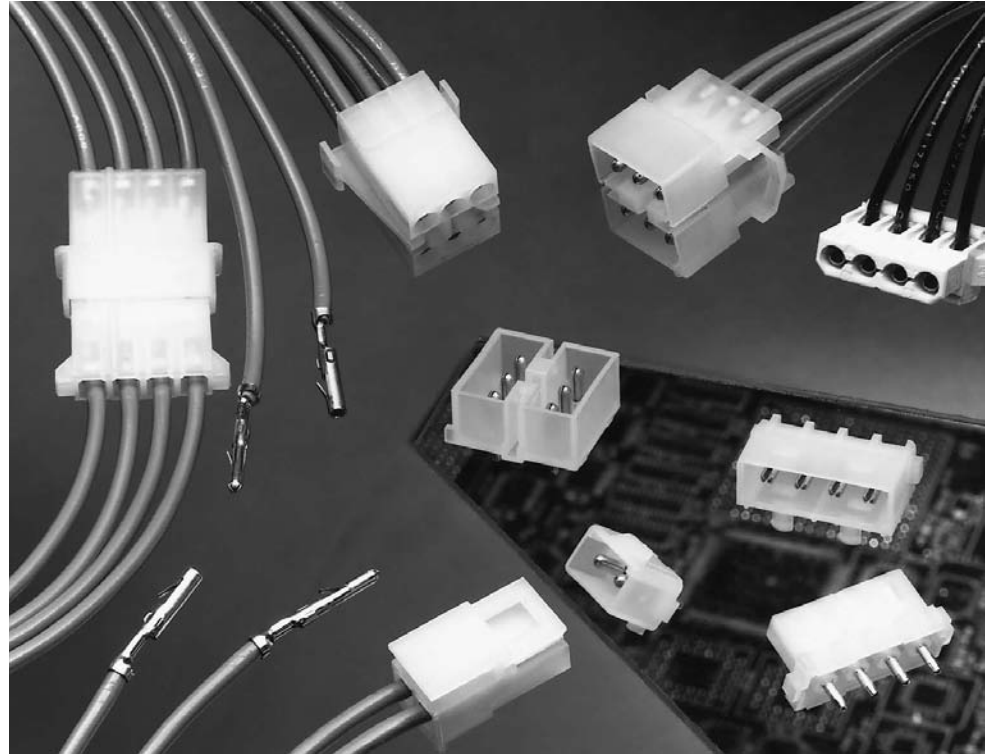
Engineering Notes



Commercial MATE-N-LOK Connectors

Product Facts

- Fully polarized nylon housings
- Easy cavity identification
- Locking devices are integral part of design. Connector halves will hold together under severe conditions of vibration and shock
- Built-in contact stabilization and self-aligning features
- Hot side egg-crate design for safety
- Precision molded to exacting tolerances
- Contacts accept a wire size range of 30-14 AWG [.05-2.0 mm²]
- Keying plug available
- “Clean” design contact—no sharp projections to impede insertion or damage housings
- Low insertion/extraction forces
- Contacts available in pre-tin or gold over nickel plated to fit the application requirements
- Wire-to-PC Board capability using pin or socket headers
- Solderability—Headers meet MIL-STD 202 method 208
- Four circuit PC Board-to-PC Board capability available by mating vertical socket header with either vertical, right-angle or surface mount pin header
- Four circuit insulation displacement connector (IDC) available
- Ultraviolet (UV) stable housings available in 1, 2 and 3 circuit
- Not for interrupting current
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476
- Certified by Canadian Standards Association, File No. LR 7189A



Performance Characteristics

The Commercial MATE-N-LOK Connector performance characteristics found on pages 151-152 are based on free-hanging and panel mount connectors, loaded with contacts crimped on stranded wire.

Dielectric Withstanding Voltage—1.5 KVAC between adjacent circuits

Insulation Resistance—500 megohms minimum initial between adjacent circuits

Voltage Rating—250 V AC or DC

Connector Mating—4 lb. max. per circuit

Connector Unmating—0.7 lb. min. per circuit

Contact Retention—15 lb. min. per contact

Durability—50 cycles, mating and unmating

Technical Documents

Product Specifications

108-1000 Commercial MATE-N-LOK Connectors

108-1077 Commercial MATE-N-LOK PC Board Headers

108-49000 IDC Connectors

Application Specifications

114-1012 Commercial MATE-N-LOK Contacts

114-49001 IDC Connectors

Instruction Sheets

408-7209, 408-7166, 408-7200, 408-7201, 408-7215, 408-3186, 408-7300

Commercial MATE-N-LOK Connectors (Continued)

Performance Characteristics (Continued)

Maximum Current—Maximum current rating of Commercial MATE-N-LOK connectors is limited by the maximum operating temperature of the housings which is 105°C 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.

Commercial 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 11 milliseconds

Housing Panel Mount Retention—40 lb. min. 3 and 4 circuit
65 lb. min. 6, 9, 12, and 15 circuit

Housing Lock Strength with Positive Locking Devices Engaged—25 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

- 108-1000 Commercial MATE-N-LOK Connectors
- 108-1077 Commercial MATE-N-LOK PC Board Headers

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

Wire-to-Wire

Motor Mount Calculated Current Table

Number of Circuits	Wire Gauge						
	14	16	18	20	22	24	30
6	13.00	10.50	9.50	7.50	6.00	5.00	2.50
8	12.00	9.50	8.50	7.00	5.50	4.50	2.50
10	11.00	9.00	8.00	6.50	5.00	4.50	2.00
12	10.50	8.50	7.50	6.00	5.00	4.00	2.00
16	9.50	8.00	7.00	5.50	4.50	3.50	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.

Calculated Current Table

Number of Circuits	Wire Gauge						
	14	16	18	20	22	24	30
1	19.00	15.50	14.00	11.00	9.00	7.50	4.00
2	18.00	14.50	13.00	10.50	8.50	7.00	4.00
3	16.00	13.00	12.00	9.50	7.50	6.50	3.50
4	15.00	12.50	11.00	9.00	7.00	6.00	3.00
6 Matrix	13.00	10.50	9.50	7.50	6.00	5.00	3.00
8	12.50	10.50	9.00	7.50	6.00	5.00	2.50
9	11.00	9.00	8.00	6.50	5.50	4.50	2.50
10	12.00	9.50	8.50	7.00	5.50	4.50	2.50
12	10.50	8.50	7.50	6.00	5.00	4.00	2.00
15	9.50	8.00	7.00	5.50	4.50	4.00	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.

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.

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.

Termination Resistance/Contact Crimp Tensile Force

Wire Size		Termination Resistance		Contact Crimp Tensile Force	
AWG	mm ²	Test Current (Amps)	Resistance Milliohms (Max. Init.)	Force (Min.) lbs.	N
30	.05	.50	4.00	2	9
28	.08	.75	3.50	3	13
26	.12	1.00	3.50	7	31
24	.2	1.5	3.50	10	44
22	.3	3	3.50	15	67
20	.5	4.5	3.00	20	89
18	.8	6	3.00	30	133
16	1.2	8	2.75	30	133
14	2.0	10	2.75	35	156

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

Standard Density

Commercial MATE-N-LOK Connectors
.200 [5.08] Centerline

Commercial MATE-N-LOK Connectors (Continued)

Commercial MATE-N-LOK Connector Mating Combinations

Connector Part Number					Mating Connector Part Number							
Number of Circuits	Flammability Rating	Style	Housing Type	Connector Part No.	Housing Part No.	Housing Type	PC Board Headers					
							Plating	Vertical Pin		Right-Angle Pin	Vertical Socket	
							Standard Tail	Long Tail		Standard Tail	Long Tail	
1	UL94V-2	In-Line	Socket: FH	1-480349-0	1-480350-0	Pin: FH	—	—	—	—	—	—
			Socket: FH UV Stable	1-480400-0	1-480401-1	Pin: FH UV Stable	—	—	—	—	—	—
			Socket: FH Positive Lock	1-480318-0	1-480319-0	Pin: FH	Pre-tin	350209-1	350422-1	794120-1	—	—
2	UL94V-2	In-Line	Socket: FH UV Stable	1-480393-1	1-480498-1	Pin: FH UV Stable	—	—	—	—	—	—
			Socket: FH Positive Lock	1-480720-0	794012-1	Pin: FH Positive Lock	Pre-tin	350539-1	350540-1	—	—	—
			Socket: FH UV Stable	1-480303-0	1-480305-0	Pin: FH	Duplex ¹	1586530-2	—	—	—	—
3	UL94V-2	In-Line	Socket: PM	1-480304-0	—	—	—	—	—	—	—	—
			Socket: FH Positive Lock	1-480721-0	—	—	Pre-tin	350210-1	350423-1	643488-1	—	—
			Socket: FH UV Stable	1-480388-0	1-480387-0	Pin: FH UV Stable	Duplex ¹	1586514-2	—	—	—	—
4			See next page for 4 position mating combinations									
6	UL94V-2	Matrix	Socket: FH Positive Lock	1-480270-0	1-480340-0	Pin: FH Positive Lock	Pre-tin	1-380999-0	350425-1	—	—	—
			Socket: PM Positive Lock	1-480273-0	1-480271-0	Pin: MM Positive Lock	Duplex ¹	2-1586546-0	1586526-2	—	—	—
			Pin: PM Positive Lock	1-480276-0	1-480276-0	Pin: PM Positive Lock	Pre-tin	—	—	—	—	—
8	UL94V-2	Dual Row	Socket: FH Positive Lock	1-480283-0	1-480273-0	Socket: PM Positive Lock	Pre-tin	—	—	350641-1	350576-1	—
			Socket: FH Positive Lock	1-480283-0	1-480345-0	Pin: FH Positive Lock	Duplex ¹	—	—	—	—	—
			Socket: FH Positive Lock	1-480283-0	1-480284-0	Pin: MM Positive Lock	Pre-tin	350212-1	350426-1	—	—	—
9	UL94V-2	Matrix	Pin: PM Positive Lock	1-480277-0	1-480274-0	Socket: PM Positive Lock	Duplex ¹	—	—	—	350642-1	350577-1
			Socket: FH Positive Lock	1-480285-0	1-480339-0	Pin: FH Positive Lock	Pre-tin	1-380991-0	350219-1	—	—	—
			Socket: FH Positive Lock	1-480285-0	1-480286-0	Pin: MM Positive Lock	Duplex ¹	2-1586544-0	—	—	—	—
12	UL94V-2	Dual Row	Socket: MM Positive Lock	1-480287-0	1-480288-0	Pin: MM Positive Lock	Pre-tin	350213-1	350220-1	—	—	—
			Pin: PM Positive Lock	1-480278-0	1-480275-0	Socket: PM Positive Lock	Duplex ¹	1586520-2	1586524-2	—	—	—
		Matrix	Pin: PM Positive Lock	1-480324-0	1-480323-0	Socket: PM Positive Lock	Pre-tin	—	—	—	350643-1	350578-1
15	UL94V-2	Matrix	Pin: PM Positive Lock	1-480324-0	1-480323-0	Socket: PM Positive Lock	Duplex ¹	—	—	—	350644-1	350579-1
			Socket: MM Positive Lock	1-480438-0	1-480439-0	Pin: MM Positive Lock	Pre-tin	350214-1	350427-1	—	—	—
			Socket: MM Positive Lock	1-480438-0	1-480439-0	Pin: MM Positive Lock	Duplex ¹	1586522-2	1586529-2	—	—	—

FH: Free-Hanging **PM: Panel Mount** **MM: Motor Mount**
¹Duplex 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.

Note: All part numbers are RoHS Compliant.

Commercial MATE-N-LOK 4 Position In-Line Mating Combinations (Note: These connectors are used by the disk drive industry.)

Commercial MATE-N-LOK Connectors (Continued)

Connector Part Number			Mating Connector Part Number													
Flammability Rating	Connector Type	Connector Part No.	Housing Part No.	Housing Type	Socket Connectors			PC Board Pin Headers								
					Plating	Insulation Displacement Connector	AWG	PC Board Vertical Socket Header	Vertical		Surface Mount	Right-Angle				
								Standard Tail	Long Tail		Standard	W/Fixed Belt	W/Fixed Belt Reverse Pol.			
UL94V-2	Socket Housing Positive Lock	1-480772-0	—	—	Pre-tin	—	—	—	350543-1	350544-1	—	—	—	—		
					Duplex ¹	—	—	—	1586534-2	1586536-2	—	—	—	—		
	Socket Housing Detent Lock	1-480424-0	1-480426-0	Pin	Pre-tin	—	—	—	350211-1	350424-1	770829-1	641737-1	174804-1	174552-1		
					Duplex ¹	—	—	—	770328-1 ³	—	770846-1	—	—	—		
	Pin Housing Detent Lock	1-480426-0	1-480426-0	Socket	Pre-tin	770156-2	22	770997-1 794287-1 ²	—	—	—	—	—	—	—	
					Duplex ¹	770156-3	18		—	—	—	—	—	—		
				Socket PM	Pre-tin	770156-4	20	—	—	—	—	—	—	—	—	—
					Duplex ¹	770156-5	16	—	—	—	—	—	—	—	—	—
	Pin Housing Detent Lock High Temp	3-480426-0	3-480425-0	Socket High Temp	—	—	—	—	—	—	—	—	—	—		
	Socket Header	770997-1 794287-12	1-480426-0	Pin	Pre-tin	—	—	—	350211-1	350424-1	770829-1	641737-1 770846-1	174804-1	174552-1		
					Duplex ¹	—	—	—	1586515-2	1586525-2	—	—	—	—		
	Insulation Displacement Connector (IDC)	770156-2 770156-3 770156-4 770156-5 770526-1	1-480426-0	Pin	Pre-tin	—	—	—	350211-1	350424-1	770829-1	641737-1 770846-1	174804-1	174552-1		
Duplex ¹					—	—	—	1586515-2	1586525-2	—	—	—	—			
Socket Housing	770827-1	794132-1	Pin	Pre-tin	—	—	—	—	—	—	1-641737-1	—	—			
				Duplex ¹	—	—	—	—	—	—	—	—	—			
Insulation Displacement Connector (IDC)	794036-1 794036-2 794036-3 794036-4	794132-1	—	Pre-tin	—	—	—	—	—	—	1-641737-1	—	—			
				Duplex ¹	—	—	—	—	—	—	—	—	—			
Right-Angle Pin Header	1-641737-1	770827-1	Socket	Pre-tin	794036-1	18	—	794236-1	—	—	—	—	—			
				Duplex ¹	794036-2	20		—	—	—	—					
				Pre-tin	794036-3	22		—	—	—	—					
				Duplex ¹	794036-4	16		—	—	—	—					

PM: Panel Mount

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

²Surface Mount Compatible.

³With Drainholes

Note: All part numbers are RoHS Compliant.

Commercial MATE-N-LOK Connectors (Continued)

Contacts

Pin diameter .084 [2.13]
Stock thickness .012 [.305]
These contacts are to be used in Commercial MATE-N-LOK housings **only**.

Related Product Data

Product Specification

108-1000 Commercial MATE-N-LOK Connectors

Application Specification

114-1012 Commercial MATE-N-LOK Contacts

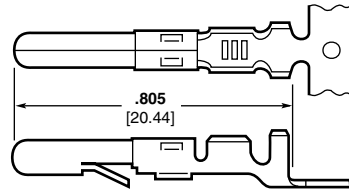
Performance Characteristics—

pages 151-152

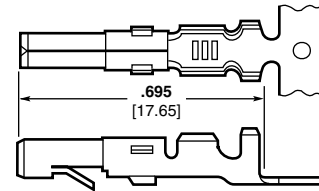
Housings—pages 157-159

Technical Documents—pages 151 and 205-206

Application Tooling—pages 207-210



Pin



Socket

Wire Size Range AWG [mm ²]	Ins. Dia. Range	Material & Finish	Contact Part Numbers				HDM Applicator Part No.	Hand Tool Part No.
			Pin		Socket			
			Strip Form	Loose Piece	Strip Form	Loose Piece		
30-22 [.05-.3]	.040-.075 1.02-1.91	Brass, Pre-tin	350079-1	61174-1	350078-1	61173-1	466426-1 ³ 466426-2 ³ 466426-3 ³	91515-1
		Phos. Brz., Pre-tin	350079-4	—	350078-4	61173-4		
		Brass, Gold ¹	350079-5	61174-5	350078-5	61173-5		
		Brass, Pre-tin	61116-1	60618-1	61314-1	60617-1		
24-18 [.2-.8]	.060-.100 1.52-2.54	Phos. Brz., Pre-tin	61116-4	60618-4	61314-4	60617-4	466320-1 ³ 466320-2 ³ 466320-4 ³	91512-1 91528-1 ⁴
		Brass, Gold ¹	61116-5	60618-5	61314-5	60617-5		
		Phos. Brz., Select Gold ²	61116-6	60618-6	61314-6	60617-6		
		Brass, Select Gold ²	61116-7	—	61314-7	—		
		Brass, Pre-tin	61118-1	60620-1	61117-1	60619-1		
20-14 [.5-2.0]	.100-.130 2.54-3.30	Phos. Brz., Pre-tin	61118-4	60620-4	61117-4	60619-4	687763-1 ³ 687763-2 ³ 687763-6 ³	91504-1
		Brass, Gold ¹	61118-5	60620-5	61117-5	60619-5		
		Phos. Brz., Gold ¹	61118-6	—	61117-6	60619-7		
		Brass, Select Gold ²	61118-7	—	61117-7	—		
(2) 18 [.8] or (2) .115 Max. (1) 18 [.8] and 2.92 (1) 16 [1.2] (stacked)		Brass, Pre-tin	350558-1	350639-1	350557-1	—	687898-1 ³ 687898-2 ³ 687898-4 ³	91504-1
		Phos. Brz., Pre-tin	350558-4	—	350557-4	350638-4		

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

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

³HDM 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, or -6 is used on AMP-O-LECTRIC Model G Machine. See pages 207-210 for further information.

⁴Use Hand Tool No. 91528-1 for .043-.075 [1.09-1.90] insulation diameter.

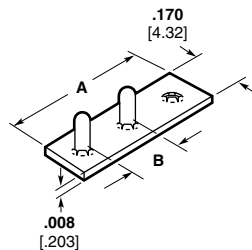
Notes:

1. Extraction Tools: Pins — No. **1-305183-1** (IS 408-7158); Sockets — No. **1-305183-2** (IS 408-7158); Pins and Sockets — No. **465644-1** (IS 408-7211)
2. Insertion Tools: No. **455830-1** (IS 408-7984)

Commoning Tabs

Material and Finish

Brass, tin plated
Stock thickness .008 [.203]



Number of Holes	Dimensions		Part Number
	A	B	
2	.377 9.58	.203 5.16	60843-1
2	.355 9.02	.195 4.95	350444-1
3	.579 14.71	.203 5.16	60842-1
3	.550 13.97	.195 4.95	350444-2

Note: Commoning tabs are designed to be used with pin housings.

Note: All part numbers are RoHS Compliant.

Commercial MATE-N-LOK Connectors (Continued)

Contacts

Pin diameter .084 [2.13]
Stock thickness .012 [.305]
These contacts are to be used in Commercial MATE-N-LOK housings only.

Related Product Data

Product Specification

108-1000 Commercial MATE-N-LOK Connectors

Application Specification

114-1012 Commercial MATE-N-LOK Contacts

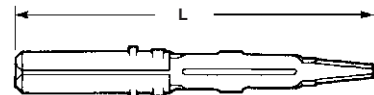
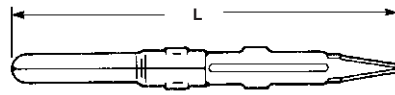
Performance Characteristics—pages 151-152

Housings—pages 157-159

Technical Documents—pages 151 and 205-206

Application Tooling—pages 207-210

PC Board Contacts



Pin

Socket

Type of Contact	L Dim.		Material & Finish	Part Numbers	
	Pin	Socket		Pin	Socket
				Loose Piece	Loose Piece
PC Board	1.110 [28.19]	1.010 [25.65]	Phos. Brz., Pre-tin	61518-11	61320-11
	1.210 [30.73]	1.110 [28.19]	Phos. Brz., Pre-tin	350074-12	350073-12

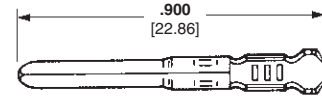
¹For .062 [1.57] max. board thickness—Board hole size .057 [1.45]

²For .125 [3.14] max. board thickness—Board hole size .057 [1.45]

Grounding Pin

(.095 [2.41] longer than standard pin)

(Mate first, break last, not for interrupting current)



Wire Size Range AWG [mm ²]	Ins. Dia. Range	Material & Finish	Contact Part Numbers		HDM Applicator Part No.	Hand Tool Part No.
			Strip Form	Loose Piece		
24-18 [2-.8]	.060-.100 1.52-2.54	Brass, Pre-tin	61527-2	—	466320-11 466320-21 466320-41	91512-1

¹HDM 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, or -6 is used on AMP-O-LECTRIC Model G Machine. See pages 207-210 for further information.

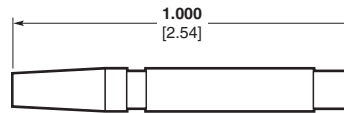
Keying Plug

IS 408-7582

Material

Housing—Nylon, natural color

Flammability Rating—UL94V-2



Part Number
200821-1

Note: Keying plug snaps into socket housing

Note: All part numbers are RoHS Compliant.

Commercial MATE-N-LOK Connectors (Continued)

Housings

Free-Hanging

.200 [5.08] Centerline spacing

Material

Housing—Nylon, natural color

Flammability Rating—UL94V-2

Related Product Data

Product Specification

108-1000 Commercial MATE-N-LOK Connectors

Performance Characteristics—pages 151-152

Contacts—pages 155-156

Commoning Tabs—page 155

Keying Plug—page 156

Technical Documents—pages 151 and 205-206

Mating Pin Headers—pages 161-164

Mating Socket Headers—page 162

Mating IDC—page 163

1 Circuit



Pin Housing (Cap) Detent Lock

Socket Housing (Plug)



Pin Housing (Cap) Positive Lock

2, 3 and 4 Circuit, In-Line



Pin Housing (Cap)

Socket Housing (Plug)

Number of Circuits	Dimensions						Part Numbers	
	A	B	C	D	E	F	Pin Housing (Cap)	Socket Housing (Plug)
1	.300	1.200	—	.260	.870	—	1-480350-01	1-480349-0
	7.62	30.48	—	6.60	22.10	—	1-480351-02	1-480349-0
	.300	1.240	—	.260	.870	—	1-480401-01.3	1-480400-03
2	.300	1.325	—	.260	.995	—	1-480401-01.3	1-480400-03
	7.62	33.65	—	6.60	25.27	—	1-480319-01.5	1-480318-05
	.610	.930	.330	.530	.860	.295	1-480498-11.3,5	1-480393-13,5
3	.610	.930	.330	.530	.860	.295	1-480305-01.5	1-480303-05
	15.49	23.62	8.38	13.46	21.84	7.49	1-480387-01.3,5	1-480388-03,5
	.810	.930	.325	.825	.850	.290	1-480426-01.5,6	1-480424-05,6
4	.810	.930	.325	.825	.850	.290	1-480426-01.5,6	1-480424-05,6
	20.57	23.62	8.25	20.95	21.60	7.37	794132-14.5,6	770827-14.5,6
	1.010	.930	.330	1.030	.850	.310		
	25.65	23.62	8.38	26.16	21.60	7.88		
	—	—	—	1.030	.850	.310		
				26.16	21.60	7.88		

¹Detent lock

²Positive lock

³UV Stable black color

⁴Housing Material UL94V-0 rated

⁵Housing accepts double wire applications where individual insulation diameters do not exceed .115 [2.92].

⁶Used by the disk drive industry.

Note: All part numbers are RoHS Compliant.

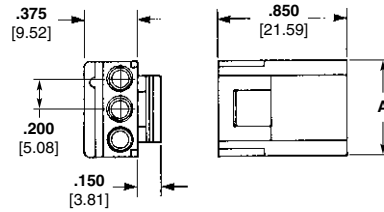
Commercial MATE-N-LOK Connectors (Continued)

Housings
Free-Hanging, Positive Lock

Material

Housing—Nylon, natural color
Flammability Rating—UL94V-2

2, 3, and 4 Circuit, In-Line
.200 [5.08] Centerline spacing



Socket Housing (Plug)

Number of Circuits	A Dim.	Part Numbers		
		Socket Housing (Plug)	Mates with Pin Headers	Mates with Cap Housing
2	.435 11.04	1-480720-0	350539, 350540	794012-1
3	.630 16.00	1-480721-0	350541	—
4	.830 21.09	1-480722-0 ¹	350543 ¹ , 350544 ¹	—

¹Used by the disk drive industry.

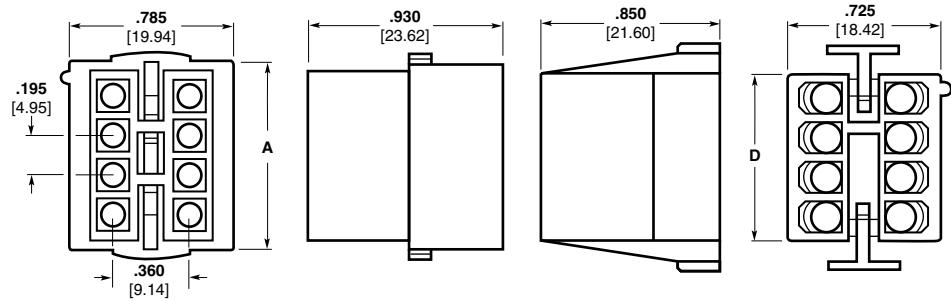
6 Circuit, Dual Row



Pin Housing (Cap)

Socket Housing (Plug)

8 and 10 Circuit, Dual Row



Pin Housing (Cap)

Socket Housing (Plug)

Related Product Data

Product Specification

108-1000 Commercial MATE-N-LOK Connectors

Performance Characteristics—pages 151-152

Contacts—pages 155-156

Commoning Tabs—page 155

Keying Plug—page 156

Technical Documents—pages 151 and 205-206

Mating Headers—pages 161-164

Number of Circuits	Dimensions		Part Numbers	
	A	D	Pin Housing (Cap)	Socket Housing (Plug)
6	.705 17.91	.610 15.49	1-480340-0	1-480270-01
8	.900 22.86	.805 20.44	1-480345-0	1-480283-0 ¹
10	1.095 27.81	1.000 25.40	1-480339-0	1-480285-0 ¹

¹Housing accepts double wire applications where individual insulation diameters do not exceed .115 [2.92].

Note: All part numbers are RoHS Compliant.

Standard Density

Commercial MATE-N-LOK Connectors
.200 [5.08] Centerline

Commercial MATE-N-LOK Connectors (Continued)

Housings

Panel Mount, Positive Lock

Material

Housing—Nylon, natural color

Flammability Rating—UL94V-2

Related Product Data

Product Specification

108-1000 Commercial MATE-N-LOK Connectors

Performance Characteristics—pages 151-152

Contacts—pages 155-156

Commoning Tabs—page 155

Keying Plug—page 156

Technical Documents—pages 151 and 205-206

Mating Socket Headers—page 162

Mating IDC—page 163

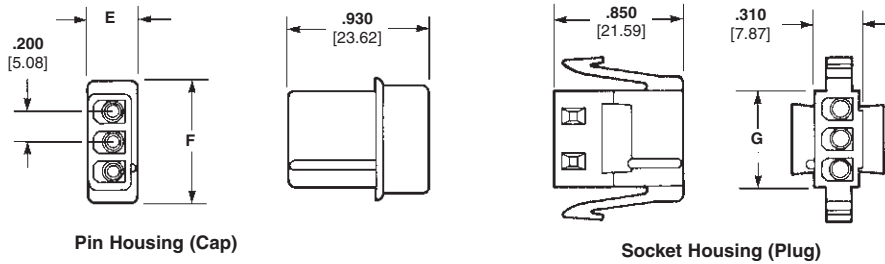
**Recommended Panel
Cutout for Panel Mount
Socket Housing**

View is from socket housing entry side

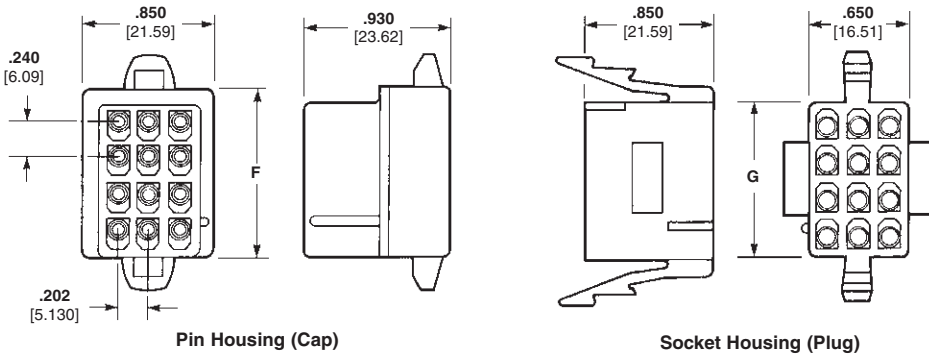
Mounting Information

1. Recommended panel thickness—.025-.065 [.635-1.65].
2. Both locking legs are to be squeezed together and the housing is to be inserted "straight-in", as opposed to a rocking manner.
3. The panel should be punched so that the housing enters the panel in the same direction as the punch.
4. The panel must not have any material (paint, porcelain, etc.) applied in the mounting hole area that would decrease the retention of the housing in the panel.
5. If the two items above are not complied with, the "A" dimension should be reduced .020 [5.08] for proper retention.

3 and 4 Circuit, In-Line



**6, 9, 12 and 15 Circuit,
Matrix**

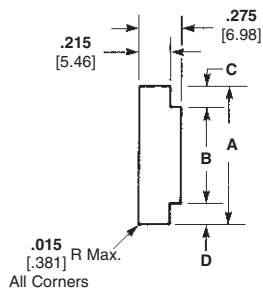


Number of Circuits	Dimensions			Part Numbers	
	E	F	G	Pin Housing (Cap)	Socket Housing (Plug)
3	.325 8.26	.810 20.57	.630 16.00	1-480305-0 ²	1-480304-0
4	.330 8.38	1.010 25.65	.825 20.96	1-480426-0 ^{2,4} 3-480426-01.2.4	1-480425-0 ⁴ 3-480425-01.4
6	—	.665 16.89	.555 14.10	1-480276-0 ³	1-480273-0
9	—	.905 22.99	.795 20.19	1-480277-0 ³	1-480274-0
12	—	1.145 29.08	1.045 26.54	1-480278-0 ³	1-480275-0
15	—	1.382 35.10	1.280 32.51	1-480324-0 ³	1-480323-0

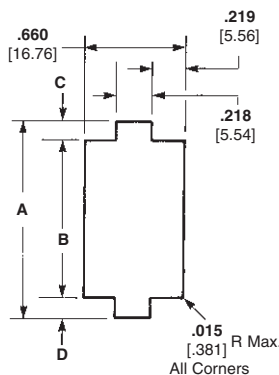
¹Housing material has 125°C temperature rating
²Detent lock
³Positive lock
⁴Used by disk drive industry

Note: All part numbers are RoHS Compliant.

3 and 4 Circuit, In-Line



**6, 9, 12 and 15 Circuit,
Matrix**



Number Circuits	Dimensions	
	A	B
3	.890 22.61	.645-.635 16.38-16.13
4	1.100 27.94	.845-.835 21.46-21.21
6	.840 21.34	.575-.570 14.61-14.48
9	1.075 27.31	.815-.810 20.70-20.57
12	1.320 33.53	1.055-1.050 26.80-26.67
15	1.550 39.37	1.290-1.285 32.77-32.64

Note: Dimensions "C" and "D" are to be equal.