

.093 [2.36] Soft Shell 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 —
114-9000

Performance Characteristics —

pg. 42 and 43

Housings —

.198 [5.03] Centerline — pg. 45 and 46

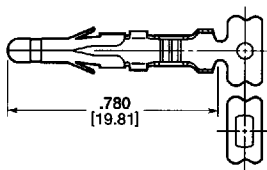
.250 [6.35] Centerline — pg. 47 and 48

Panel Cutouts —

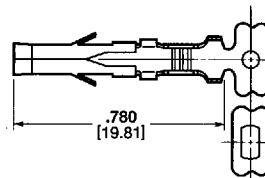
.198 [5.03] Centerline Housings — pg. 46

.250 [6.35] Centerline Housings — pg. 48

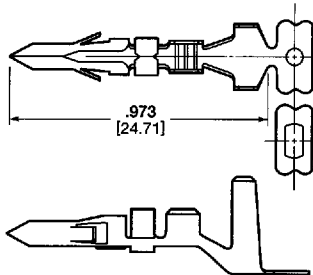
Application Tooling — pg. 81-85



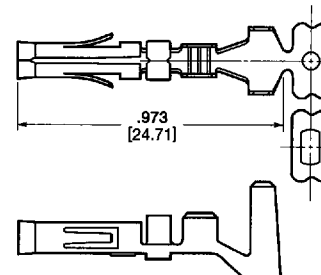
Pin



Socket



Pin
Part No. 770385-1



Socket
Part No. 770383-1

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 Form	Strip Form	Loose Form		
24-18	0.2-0.9	.110 2.79	Brass, Pre-tin	350418-1	770147-1	350417-1	770146-1	466656-1 ⁵ 466656-2 ⁵ 466656-3 ⁵	90872-1
			Brass, Gold ²	—	—	350417-3 ²	770146-3 ²		
			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	466878-1 ⁵ 466878-2 ⁵ 466878-3 ⁵	90871-1
			Brass, Select Gold ¹	350416-5 ¹	770145-5 ¹	350415-5 ¹	770144-5 ¹		
			Phos. Brz., Pre-tin	—	—	350415-6	770144-6		
18-14 or 2 (18)	0.8-2 or 2 (0.8-0.9)	.180 4.57 (per wire)	Brass, Pre-tin	770530-1 ⁴	770979-1 ⁴	770529-1 ⁴	—	567337-3 ⁶ 567337-4 ⁶ 567337-6 ⁶	—
			Phos. Brz., Pre-tin	770385-1 ³	—	—	—		
—	—	—	Phos. Brz., Pre-tin	—	—	770383-1 ³	—	—	—



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



Contact Extraction Tool
No. 458994-3
IS 408-9923

¹Select Gold — .000030 [.000762] min gold in mating area over .000050 [.00127] min nickel.

²Gold — .000050 [.00127] 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 48).

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 page 85 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 page 85 for further information.

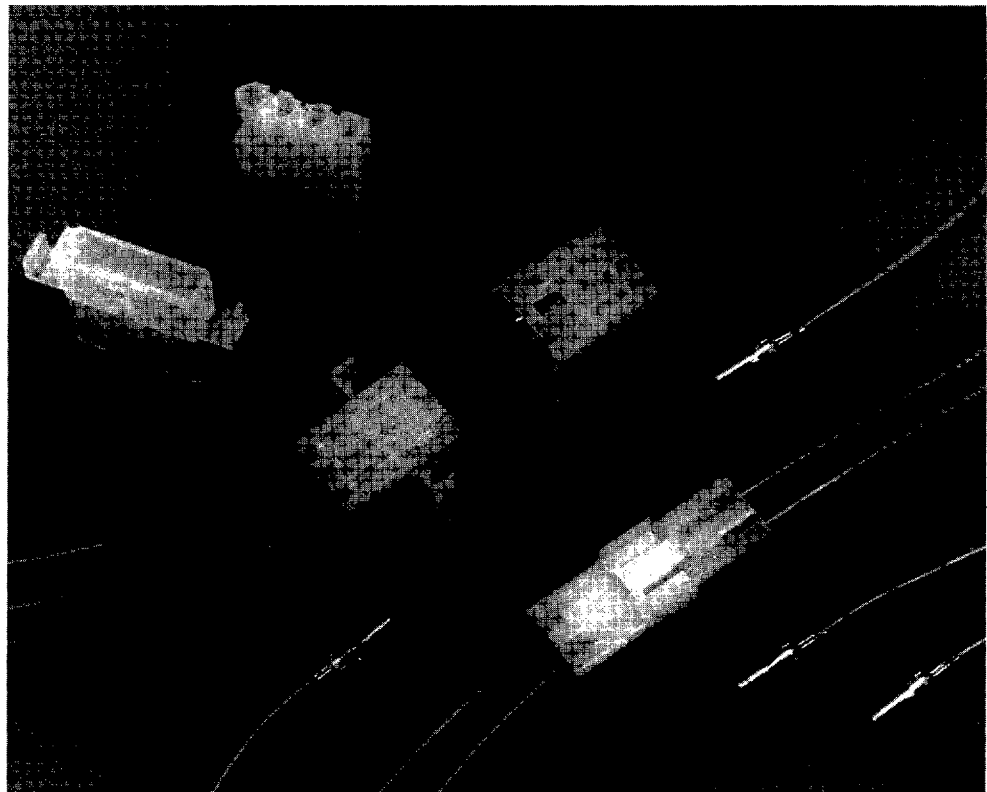
⁷HDM Applicator part number ending in -3 is used on AMPOMATOR CLS Machine with T or G Terminators, -2 is used on AMP-O-LECTRIC Model K Machine, -4 is used on AMP-O-LECTRIC Model G Machine. See page 85 for further information.

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

.093 [2.36] Soft Shell Commercial Pin and Socket Connectors

Product Facts

- Polarized
- Cavity identification
- Low contact-mating force
- Dual locking lances
- Detent and positive locking
- Available in brass and phosphor bronze with tin and gold plating
- Panel-mounting and free-hanging styles
- "F" crimping
- Applicator and hand tool available
- Economical commercial-grade connectors
- Compatible with high-speed application machinery and competitive soft shells
- Wire range from 24 to 14 AWG [0.2 to 2 mm²]
- Accepts wires with insulation diameters as broad as .180 [4.57]
- Housings available in 1 to 15 positions
- 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 Soft Shell Commercial Pin and Socket Connectors performance characteristics found on pages 42 and 43 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 G's sawtooth in 11 milliseconds

Durability 50 mating cycles

Dielectric Withstanding Voltage 1.0 kVAC

Insulation Resistance 1000 megohms min. initial

Voltage Rating 250 VAC

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

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.

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

Contact Retention 10 lb. [44.5 N] min.

Technical Documents

Application Specifications
114-49000

Product Specifications
108-1038

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

Performance Characteristics (continued)

Maximum Current Maximum current rating of .093 Soft Shell 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.

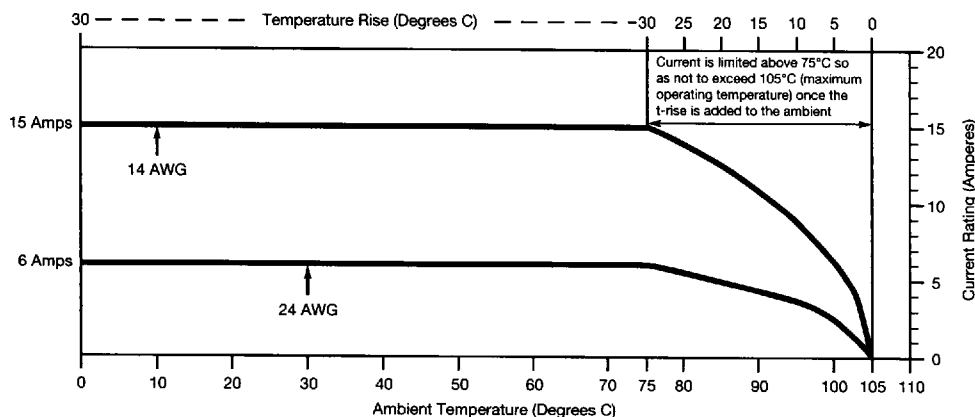
Ambient Temperature The higher the ambient temperature, the less current can be carried in any given connector.

Related Product Data

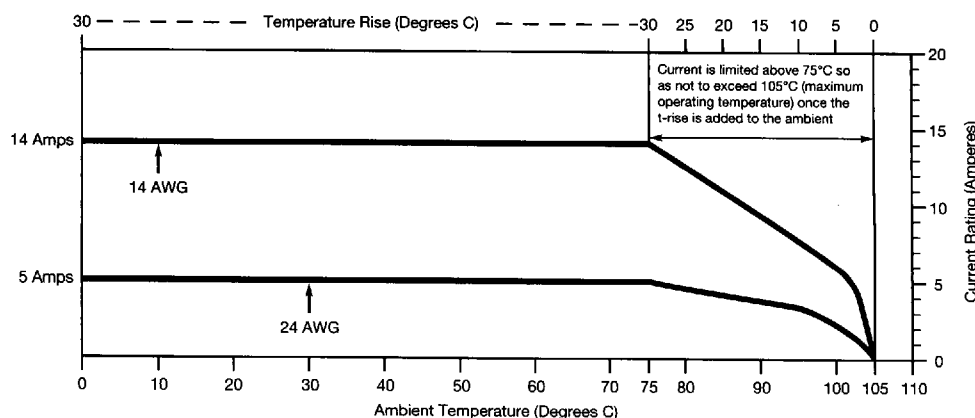
Product Specification — 108-1038

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

4 Circuit Connector (Wire-to-Wire)



15 Circuit Connector (Wire-to-Wire)



- Notes:**
1. Data for these curves based on initial T-Rise vs. Current Testing.
 2. Current is limited above 75°C so as not to exceed 105°C (maximum operating temperature) once the T-Rise is added to the ambient.
 3. Housings are fully loaded with all circuits 100% energized. Current rating is per circuit.