307-5436

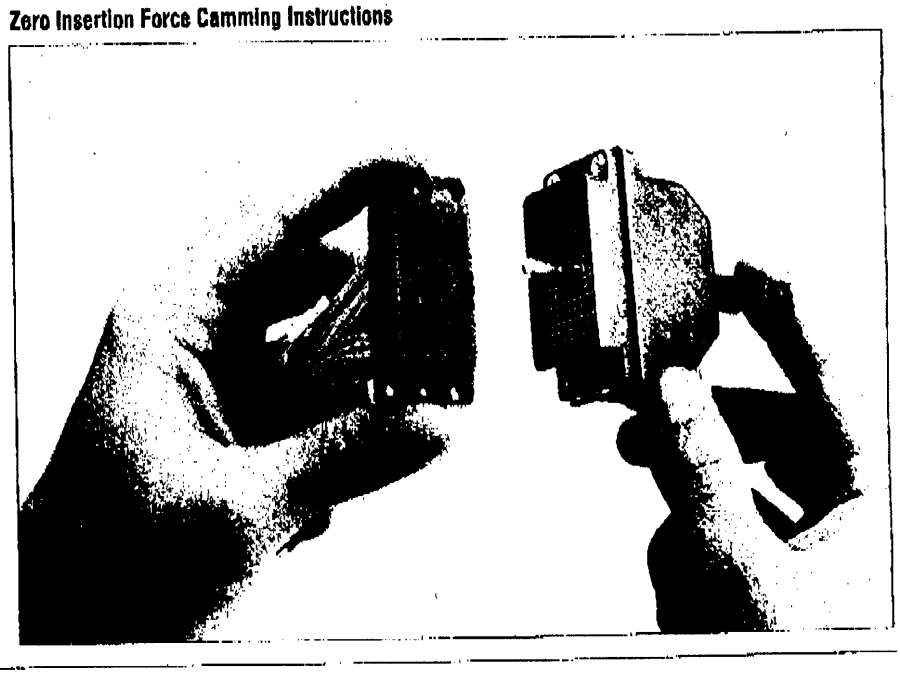
ZIF Connectors

DL/DLM Product Features

- High pin count: 60, 96, 156, 260, 360, 624, 1248* or 2496* contact positions.
- Variety of contacts:
  - Crimp
  - Square Post
  - Wrap Post
  - Buss
  - PC/RC
- Metal or plastic housing.
- Wide range of accessories.
- Easy actuation by screwdriver, socket wrench (DL1/2/3 only), allen wrench or actuating handle (see accessories page 47).

The long life and rapid mating are achieved through the use of our Zero Insertion Force design. Contacts in the plug and receptacle do not touch each other while the connector halves are being engaged.

Zero Insertion Force Camming Instructions



It's as easy as 1, 2, 3...

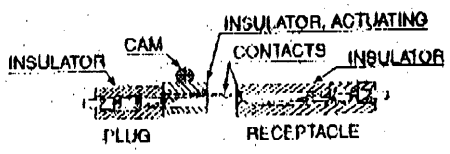
Step 1. The plug is placed over the receptacle.
Step 2. A "quarter turn" of an actuating shaft mates all the contacts at once.
Step 3. The "same quarter" turn also physically locks the connector halves together.

Connector engagement force is zero, and the only wear on the contacts occurs as they are pressed together and lightly wiped past each other during the camming and locking operation.

*Contact Cannon for details.

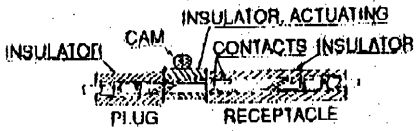
This is our "DL/DLM" series of connectors.

Step 1. Simply place it together.

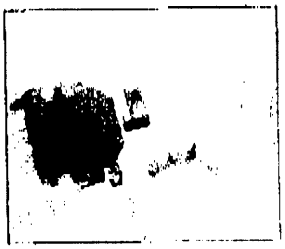


Contacts aligned.

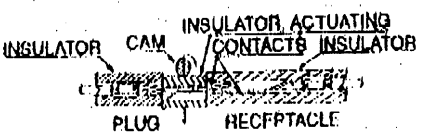
Step 2. Turn the cam a quarter turn.



Contacts engaged.



Step 3. It's locked and mated.



Contacts are mated.

Dimensions are shown in mm (inch)
Dimensions subject to change

DL/DLM/DLD Applications

Medical
- Ultrasound Diagnostic
- Patient Monitoring
- Hospital Equipment

Test & Instrumentation
- Avionics
- Automated Test Equipment
- Computer & Peripheral Equipment
- Semiconductor

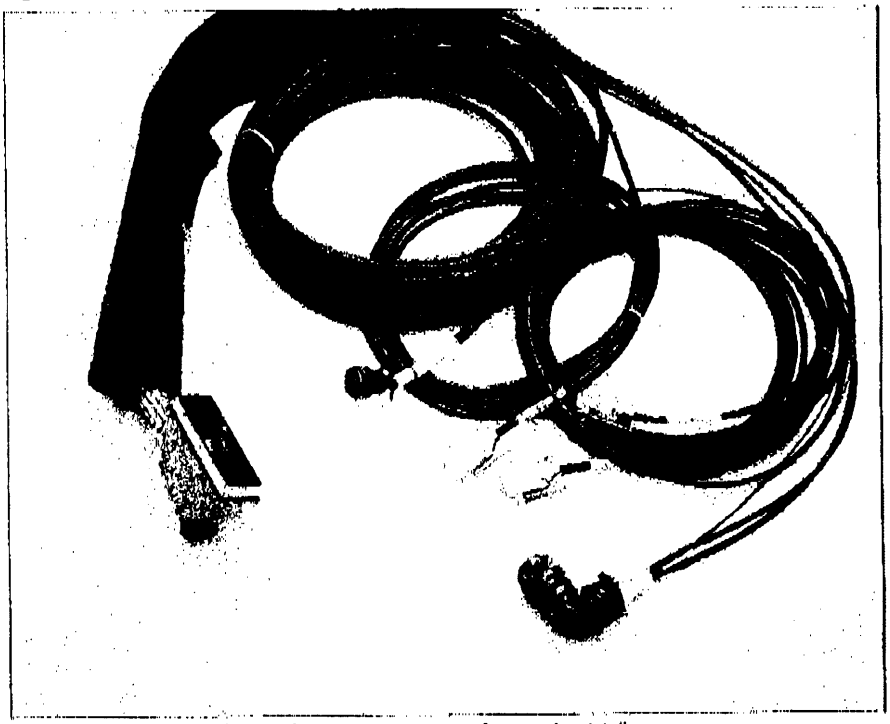
Commercial/Industrial Manufacturing
- Automation
- Robotics
- Electrical Controls

Entertainment
- Recording Studio Equipment
- Stage Lighting & Sound
- Broadcasting Equipment

Telecommunication
- Systems Interconnect
- Manufacturing Test Equipment
- Switching Systems

Transportation
- Locomotive Systems
- Automotive Electronics
- Aircraft Simulators

Signal and Power Distribution Cable Harness



For your complete cable harnessing resource, contact Cannon for details.

DL/DLM/DLD Performance Specifications

Current Rating	5 A max. - Crimp/Square Post/PCB Contact 4 A max. - PC/RC Contact 10 A, 20 A, 30 A, 40 A, 50 A, 60 A max. - Buss Contact
Dielectric Withstanding Voltage	1200 VAC RMS - Crimp/Square Post Contact 1000 VAC RMS - PC/RC Contact 750 VAC RMS - DL4
Operating Temperature	-55°C to 105°C (DL/DLM/DLD) -55°C to 71°C (DL4)
Durability	10,000 Cycles min. (DL/DLM) 20,000 Cycles min. (DL4) 100,000 Cycles min. (DLD)
Contact Resistance	15 mΩ max. - Crimp/Square Post Contact 20 mΩ max. - Crimp #32 AWG - #30 AWG Contact 30 mΩ max. - PC/RC Contact
Insulation Resistance	5000 MΩ min.
Wire Accommodation	#42 AWG-#18 AWG
Contact Spacing	2,54 (.100) Square Grid
Contact Retention:	8 lbs (35,585 N) min.

DL/DLM/DLD Mechanical Data

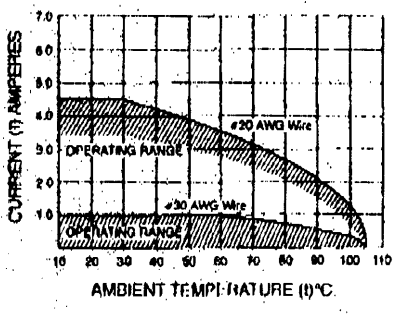
Polarization	Polarizing Posts
Contact Termination	PC Tails, Straight Crimp Square Post Wrap Post Buss

DL/DLM/DLD Temperature/Current Rating

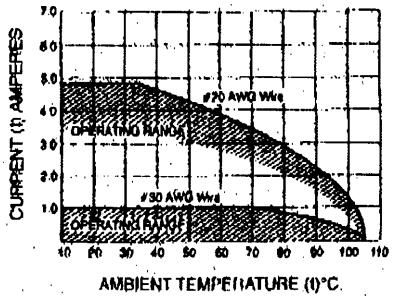
The ambient temperature curves shown represent the rated current carrying capacity of the Cannon DL1/2/3/4, DLM1/2/3 and DLD1/2 electrical connectors, derated to 80% of the values recorded using the methods specified by International Electro-Technical Commission Document 48 (1975).

Current was applied to the total connector (all contacts) in one-half ampere increments and maintained at each current level until thermal stability was achieved. A thermocouple inserted into the "hottest area" of each connector then measured the connector temperature at the same time that an ambient temperature reading was taken. The difference between the two measured values is the heat rise or self-heating created solely by the current flow, and this temperature rise for the current level was deducted from the insulator material rated temperature. These values were then derated to 80% to obtain the curves shown.

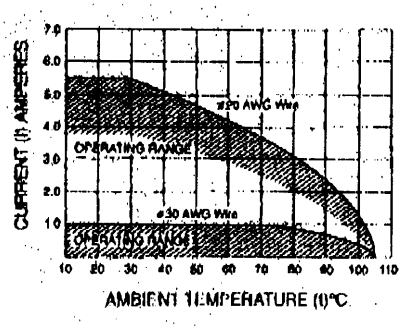
DL1/DLM1/DLD1



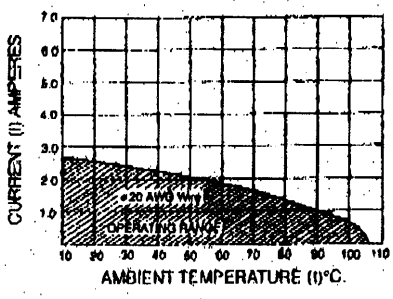
DL2/DLM2/DLD2



DL3/DLM3



DL4



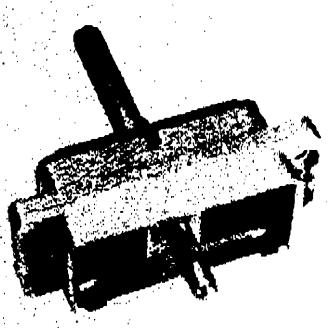
DL/DLM/DLD Test Data

Test Description	MIL Standard	Test Method
Dielectric Withstanding Voltage	MIL-STD-202	301
Contact Resistance	MIL-STD-202	307
Insulation Resistance	MIL-STD-202	302, Condition B
Humidity (Standard)	MIL-STD-202	103, Condition B
Humidity (DL4)	MIL-STD-202	106
Salt Spray	MIL-STD-202	101, Condition B (48 Hours)
Shock	MIL-STD-202	213, Condition A (50 G's)
Vibration (Standard)	MIL-STD-202	204, Condition C
Vibration (DL4)	MIL-STD 167-1/2 Modified	—

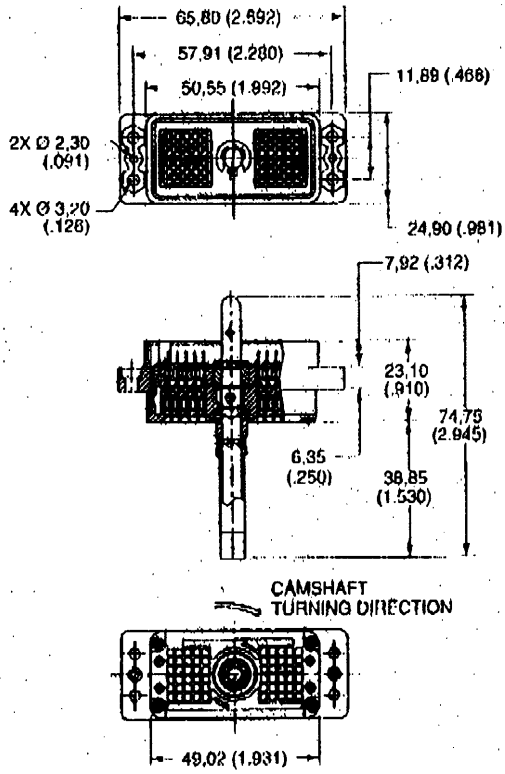
Dimensions are shown in mm (inch)
Dimensions subject to change

DLM3 — Metal Body — 60 Pin Connectors — Crimp Contacts

Plug

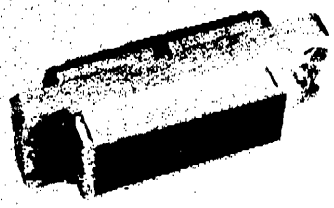


- For contact cavity arrangement, see page 68.
- For panel cutout and mounting hole pattern, see page 65.
- Crimp contacts are to be ordered separately and installed by customer, see pages 52-53.
- Order actuating handle kit separately, see page 47.



Part Number	Nomenclature
127050-0220	DLM3-60P

Receptacle



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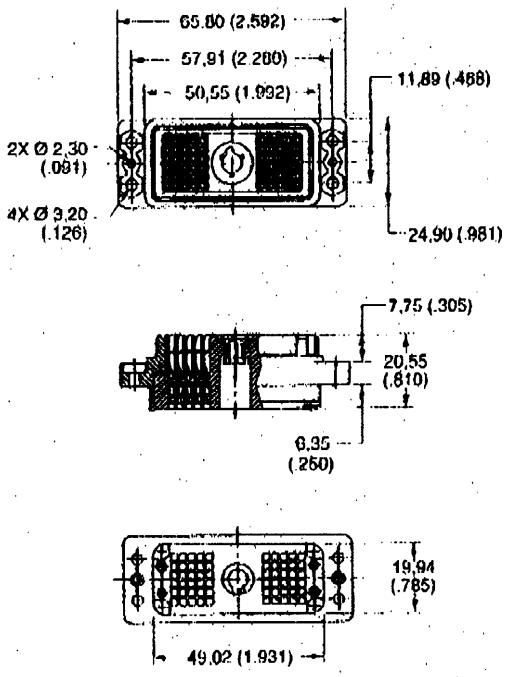
- Crimp contacts are to be ordered separately and installed by customer, see pages 52-53.



Part Number	Nomenclature
127050-0224	DLM3-60R

Dimensions are shown in mm (inch)
Dimensions subject to change

DL/DLM/DLD Applications

Medical
- Ultrasound Diagnostic
- Patient Monitoring
- Hospital Equipment

Test & Instrumentation
- Avionics
- Automated Test Equipment
- Computer & Peripheral Equipment
- Semiconductor

Commercial/Industrial Manufacturing
- Automation
- Robotics
- Electrical Controls

Entertainment
- Recording Studio Equipment
- Stage Lighting & Sound
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Telecommunication
- Systems Interconnect
- Manufacturing Test Equipment
- Switching Systems

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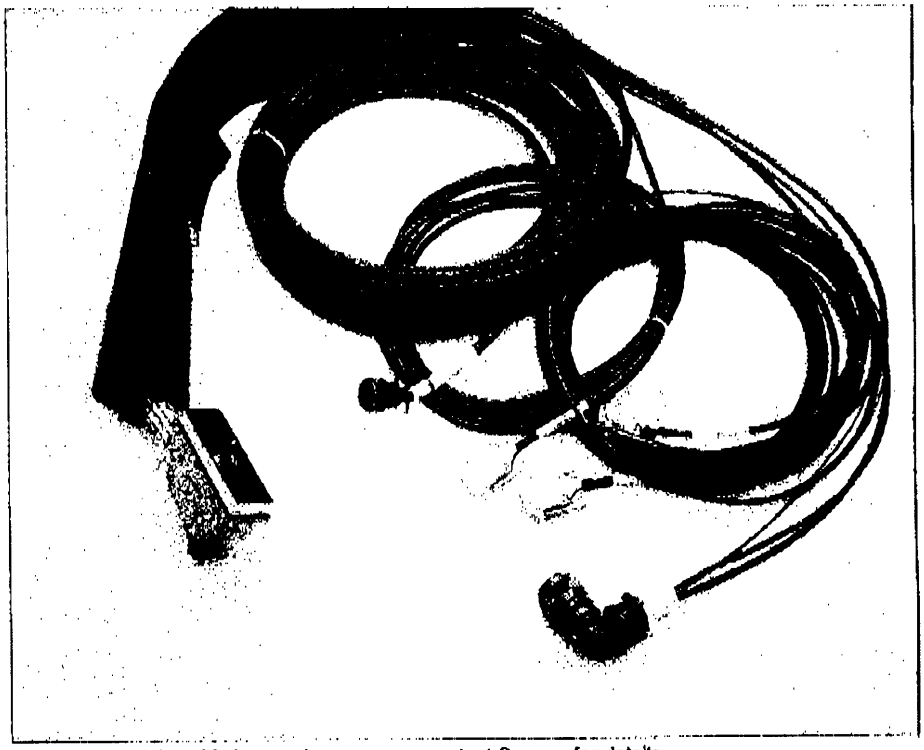
- Locomotive Systems
- Automotive Electronics
- Aircraft Simulators

Signal and Power Distribution Cable Harness



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DL/DLM/DLD Performance Specifications

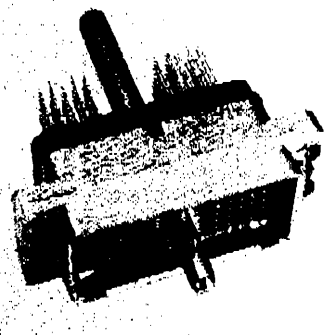
Current Rating	5 A max. - Crimp/Square Post/PCB Contact 4 A max. - PC/RC Contact 10 A, 20 A, 30 A, 40 A, 50 A, 60 A max. - Buss Contact
Dielectric Withstanding Voltage	1200 VAC RMS - Crimp/Square Post Contact 1000 VAC RMS - PC/RC Contact 750 VAC RMS - DL4
Operating Temperature	-55°C to 105°C (DL/DLM/DLD) -55°C to 71°C (DL4)
Durability	10,000 Cycles min. (DL/DLM) 20,000 Cycles min. (DL4) 100,000 Cycles min. (DLD)
Contact Resistance	15 mΩ max. - Crimp/Square Post Contact 20 mΩ max. - Crimp #32 AWG - #30 AWG Contact 30 mΩ max. - PC/RC Contact
Insulation Resistance	5000 MΩ min.
Wire Accommodation	#42 AWG-#18 AWG
Contact Spacing	2,54 (.100) Square Grid
Contact Retention:	8 lbs (35,585 N) min.

DL/DLM/DLD Mechanical Data

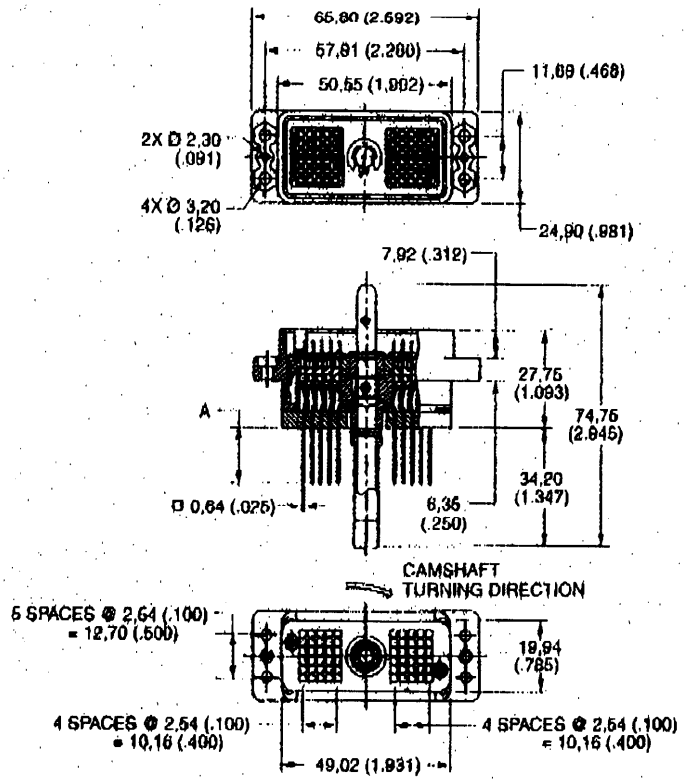
Polarization	Polarizing Posts
Contact Termination	PC Tails, Straight Crimp Square Post Wrap Post Buss

DLM3 — Metal Body — 60 Pin Connectors — Square Post Contacts

Plug

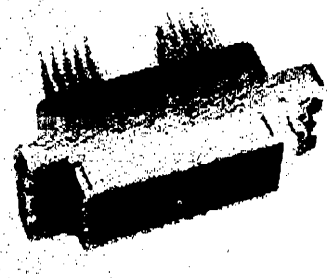


- For contact cavity arrangement, see page 68.
- For panel cutout and mounting hole pattern, see page 65.
- For PC hole pattern, see page 62.
- Front Removable 0,64 (.025) Square Posts 2,54 (.100) Centers.
- Order actuating handle kit separately, see page 47.



Part Number	Nomenclature	A
112138-0001	DLM3-60PW4A	15,37 (.605)
112138-0000	DLM3-60PW6A	7,11 (.280)
112138-0002	DLM112138-2	3,18 (.125)

Receptacle



- For contact cavity arrangement, see page 68.
- For panel cutout and mounting hole pattern, see page 65.
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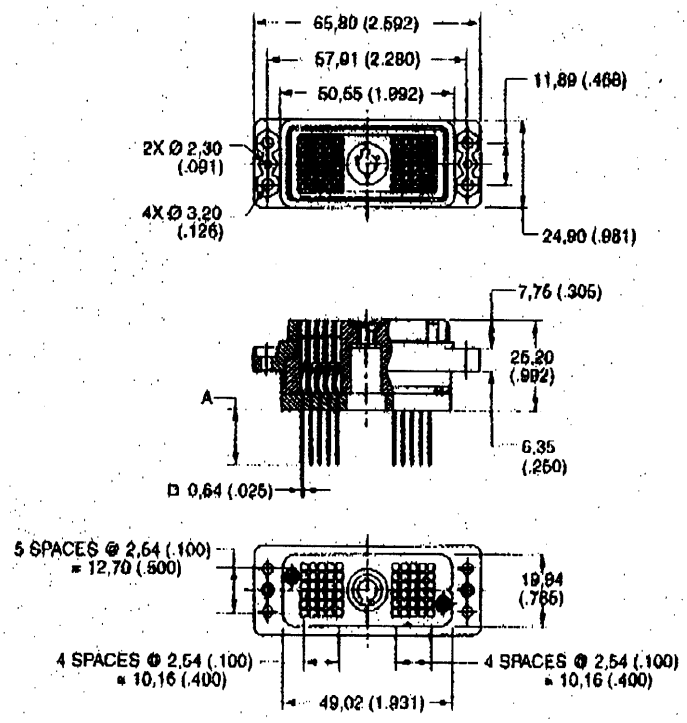

Part Number	Nomenclature	A
112139-0001	DLM3-60RW4B	15,37 (.605)
112139-0000	DLM3-60RW6B	7,11 (.280)
112139-0002	DLM112139-2	3,18 (.125)

Insertion Tool: None Required

Note: Automatic tooling is recommended for volume over 50K per year, see page 59.

Wire Accommodation	Plug 50µ inch Gold Bump ♦	Receptacle 50µ inch Gold Flat ♦	Plug and Receptacle 20µ inch Gold	Hand Tool (Page 55)
40 thru 42 AWG	—	—	127000-2278*	▲
36 thru 38 AWG	—	—	127000-1271*	▲
28 thru 32 AWG	110238-0482	110238-0486	110238-0403 ■	1
24 thru 26 AWG	110238-0480	110238-0484	110238-0401 ■	2
20 thru 22 AWG	110238-0479	110238-0483	110238-0400 ■	2
18 thru 20 AWG ♦	110238-0481	110238-0485	110238-0402 ■	3

Note: For more information on tools and assembly, see pages 54-59.

♦ Non Insulation Support
● For low current applications (less than 100 milliamps) use 50µ inch gold (bump) contact on plug side and 50µ inch gold (flat) contact on receptacle side.
▲ Contact Factory for tool.
* Finish: 20µ inch gold in mating area/Gold flash on balance (terminating end).
■ Finish: 20µ inch gold in mating area/Tin lead on balance (terminating end).