

Power
Connection
Systems

Technical Information

Power
Connection
Systems

U.S. Patent
#4,900,261

Patented in
Canada, 1992

POWER CONNECTION SYSTEMS TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulator: Glass-filled polyester, UL 94V-0.
Contacts: Precision machined copper alloy with 0.000010 inch (0.25 microns) gold over nickel, or 0.000030 inch (0.8 microns) gold over nickel. Solder coated terminations optional.
Mounting Clip: Beryllium copper with tin plate.
Hood: Glass filled polyester, UL 94V-0.
Mounting Bracket: Brass with tin plate.
Push-on Fastener: Spring tempered copper alloy, tin plate

ELECTRICAL CHARACTERISTICS:

Contact Current Rating: 25 amperes continuous, derated per IEC 512-3, Test 5b. See page 5 for performance curves.
Initial Contact Resistance: 0.003 ohms max. per IEC 512-2, Test 2b.
After 1000 Operations: 0.007 ohms max. per IEC 512-2, Test 2b.
Insulation Resistance: 5 G ohms per IEC 512-2, Test 3a, Method A.
Voltage Proof: 2000 V rms per IEC 512-2, Test 4a, Method C.
Creepage Distance: 0.157 inch (4 mm) minimum.
Clearance Distance: 0.125 inch (3.2 mm) minimum.
Working Voltage: Designed to meet UL 600 VAC and CSA 600 VAC.
Working Temperature: -55°C to +125°C

SHIELDED CONTACT TECHNICAL CHARACTERISTICS:

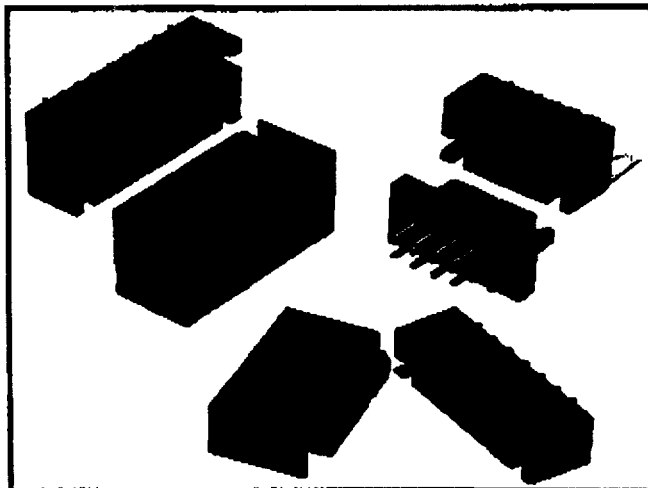
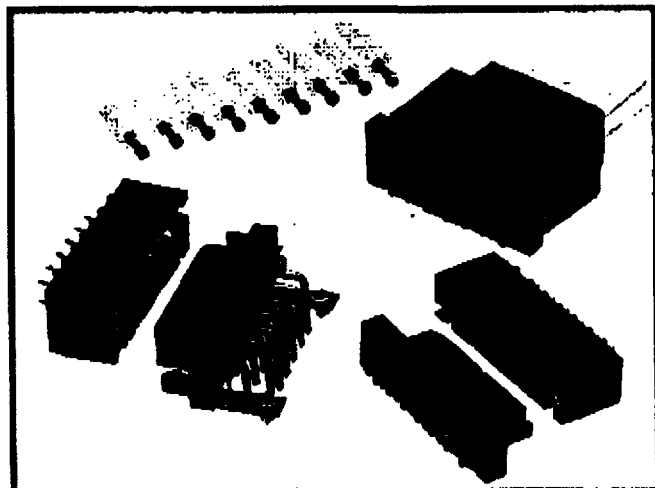
See page 22.

MECHANICAL CHARACTERISTICS:

Removable Contacts: Insert contact to rear face of insulator, release from front face of insulator. Size 16, 0.062 inch (1.57 mm) diameter male contact. Female contact "closed entry" design for highest reliability.
Removable Contact Retention in Insulator: 15 lbs. (67N) per IEC 512-8, Test 15a.
Fixed Contacts: Solder cup and printed board terminations. Size 16, 0.062 inch (1.57 mm) diameter male contact. Female contact has "closed entry" design for highest reliability.
Fixed Contact Retention in Insulator: 6 lbs. (26N).
Resistance to Solder Iron Heat: 500°F (260°C) for 10 seconds duration per IEC 512-6, Test 12a, 25 watt soldering iron.
Contact Terminations: Crimp or solder removable contacts from wire sizes 12 AWG (4.0 mm²) through 24 AWG (0.25 mm²). Straight and 90° solder printed board mount, 0.062 inch (1.57 mm) tail diameter. Compliant termination press-fit. Fixed contact solder cup termination, 18 AWG (1.0 mm²) maximum.
Contact Insertion and Withdrawal Forces: 8 oz. (2.2N) nominal per contact.
Connection Systems: Connector provides cable to cable, cable to printed board, cable to panel mount and printed board to printed board application.
Sequential Mating System: Cable and printed board mount connectors. Male contacts provide as many as three mating lengths.
Locking System: Insulators provide locking between cable to cable, cable to printed board and cable to panel mount applications.
Polarizations: Provided in insulator design. Further polarization in cable connectors can be provided by mixing male contacts in female insulators and female contacts in male insulators.
Mounting to Printed Board: Rapid installation push-on fasteners.
Mechanical Operations: 1000 operations per IEC 512-5.

U.L. Recognized
File #E49351

CSA Recognized
File #LR54219



POSTIS00013

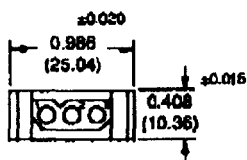
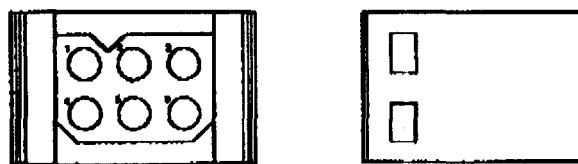
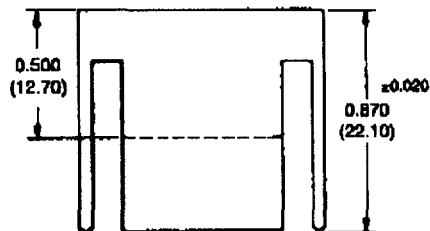
Power Connection Systems

Insulator Dimensions

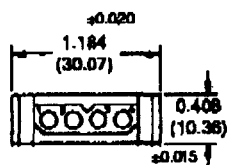
Power Connection Systems

POWER CONNECTION SYSTEMS MALE INSULATOR DIMENSIONS

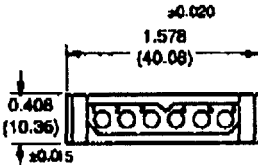
REMOVABLE CONTACT TYPE CABLE CONNECTORS



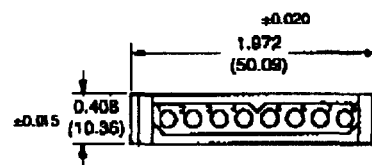
PLA 03



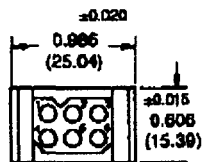
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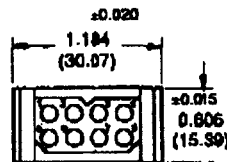
PLA 06



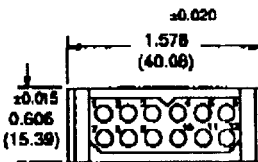
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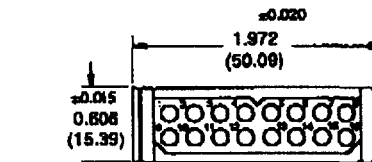
PLB 06



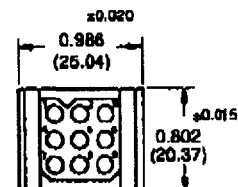
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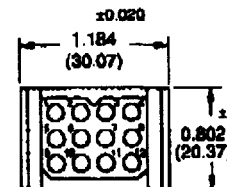
PLB 12



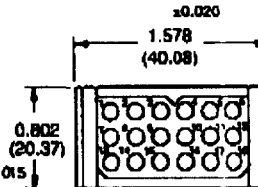
PLB 16



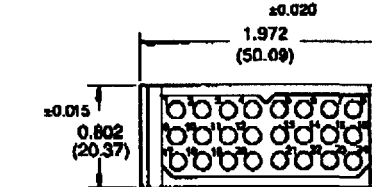
PLC 09



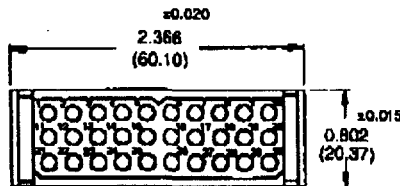
PLC 12



PLC 18



PLC 24



PLC 30

DIMENSIONS ARE IN INCHES (MILLIMETERS). ALL DIMENSIONS ARE SUBJECT TO CHANGE.

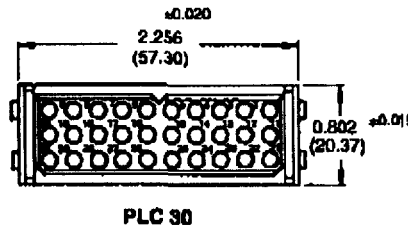
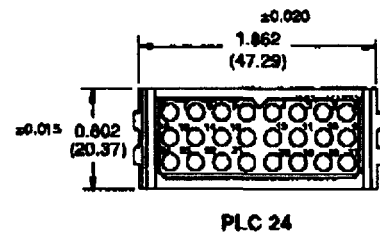
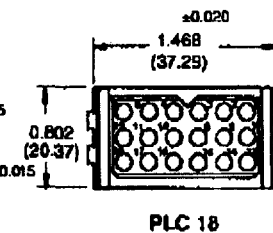
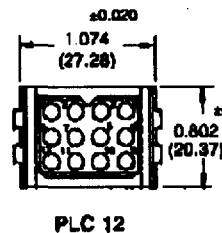
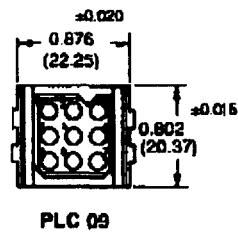
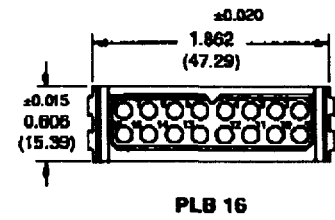
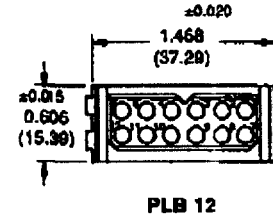
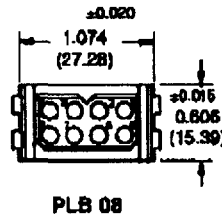
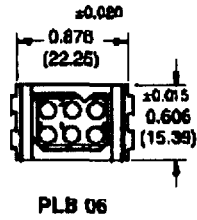
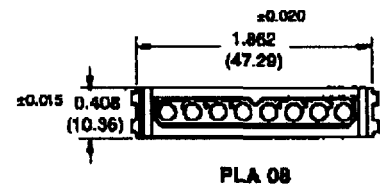
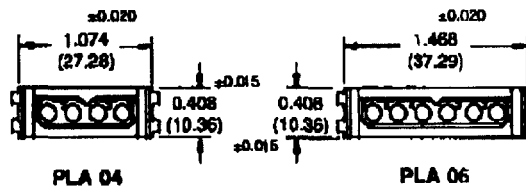
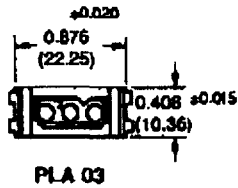
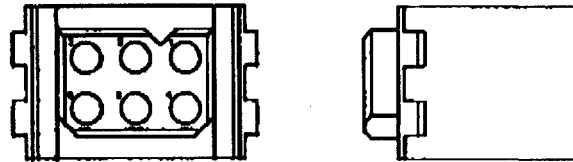
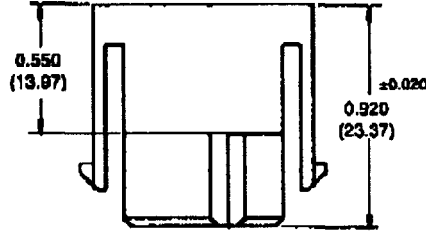
Power Connection Systems

Insulator Dimensions

Power Connection Systems

POWER CONNECTION SYSTEMS FEMALE INSULATOR DIMENSIONS

REMOVABLE CONTACT TYPE
CABLE CONNECTORS



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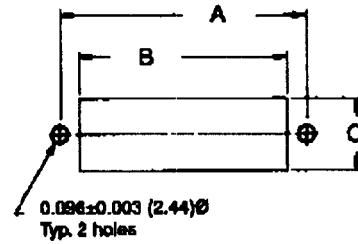
Power
Connection
Systems

Panel Cutout

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Connection
Systems

PANEL CUTOUT

CONNECTOR VARIANT	A ±0.005	B ±0.006	C ±0.005
PLA 03	0.822 (22.40)	0.650 (16.51)	0.430 (10.92)
PLA 04	1.079 (27.41)	0.847 (21.51)	0.430 (10.92)
PLA 06	1.473 (37.41)	1.241 (31.52)	0.430 (10.92)
PLA 08	1.867 (47.42)	1.635 (41.53)	0.430 (10.92)
PLB 06	0.822 (22.40)	0.850 (21.51)	0.627 (15.93)
PLB 08	1.079 (27.41)	0.847 (21.51)	0.827 (20.93)
PLB 12	1.473 (37.41)	1.241 (31.52)	0.627 (15.93)
PLB 18	1.867 (47.42)	1.635 (41.53)	0.827 (20.93)
PLC 08	0.822 (22.40)	0.650 (16.51)	0.824 (20.93)
PLC 12	1.079 (27.41)	0.847 (21.51)	0.824 (20.93)
PLC 18	1.473 (37.41)	1.241 (31.52)	0.824 (20.93)
PLC 24	1.867 (47.42)	1.635 (41.53)	0.824 (20.93)
PLC 30	2.262 (57.45)	2.028 (51.54)	0.824 (20.93)



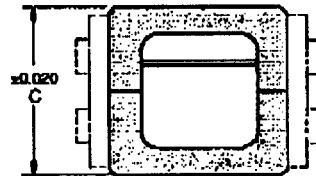
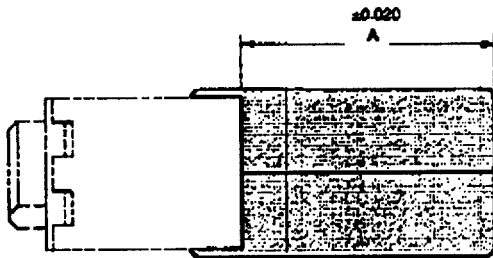
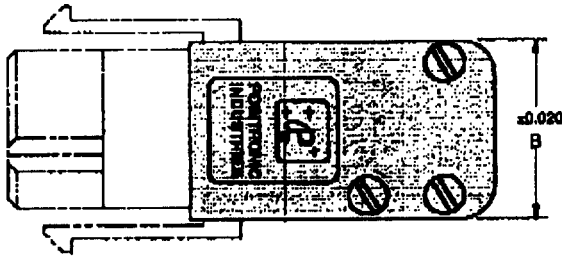
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Connection
Systems

Accessories

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Connection
Systems

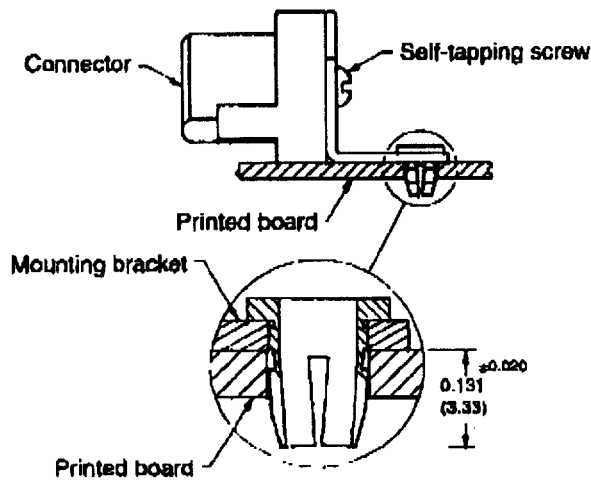
POWER CONECTION SYSTEMS CABLE ADAPTERS



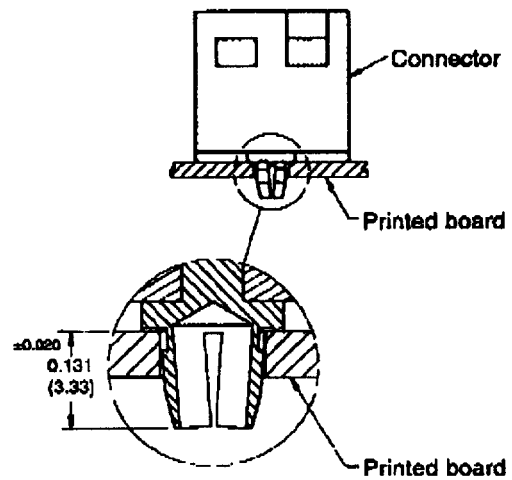
CONNECTOR VARIANT	A	B	C
PLA 03	1.000 (25.40)	0.752 (19.10)	0.594 (15.09)
PLA 04	1.000 (25.40)	0.950 (24.13)	0.594 (15.09)
PLA 06	1.000 (25.40)	1.344 (34.14)	0.594 (15.09)
PLA 08	1.000 (25.40)	1.738 (44.15)	0.594 (15.09)
PLB 06	1.000 (25.40)	0.752 (19.10)	0.792 (20.12)
PLB 08	1.000 (25.40)	0.950 (24.13)	0.792 (20.12)
PLB 12	1.000 (25.40)	1.344 (34.14)	0.792 (20.12)
PLB 16	1.000 (25.40)	1.738 (44.15)	0.792 (20.12)
PLC 08	1.000 (25.40)	0.752 (19.10)	0.990 (25.15)
PLC 12	1.000 (25.40)	0.950 (24.13)	0.990 (25.15)
PLC 16	1.000 (25.40)	1.344 (34.14)	0.990 (25.15)
PLC 24	1.000 (25.40)	1.738 (44.15)	0.990 (25.15)
PLC 30	1.000 (25.40)	2.132 (54.15)	0.990 (25.15)

PUSH-ON FASTENERS

RIGHT ANGLE CONNECTORS



STRAIGHT SOLDER CONNECTORS



Material-

Spring tempered copper alloy, tin plated.

Suggest 0.123 ±0.002 (3.12) Ø hole in printed board for mounting connector with push-on fasteners.

Power
Connection
Systems

Ordering Information

Power
Connection
Systems

ORDERING INFORMATION – CODE NUMBERING SYSTEM

Specify Complete Connector By Following Steps 1 Through 8
Insert "0" When Step Is Not Used

STEP	1	2	3	4	5	6	7	8
	PLB	06	F	3	N	0	A1	

STEP 1 - Basic Series

- PLA - 1 Row
- PLB - 2 Row
- PLC - 3 Row

STEP 2 - Connector Variants

- 1 Row - 03, 04, 06, 08
- 2 Row - 06, 08, 12, 16
- 3 Row - 09, 12, 18, 24, 30

STEP 3 - Connector Gender

- M - Male
- F - Female

STEP 4 - Type of Contact

- 0 - Order contacts separately for cable connectors for connection systems 5, 6, 7, 8 and 9.
- 1 - Removable contact, panel mounted connector for connection system 8. Order contacts separately.
- 2 - Solder, 18 AWG (1.0mm²) max. for panel mount connector, for connection system 8.
- 3 - Solder, Straight Printed Board Mount with 0.146 (3.71) tail extension for connection systems 1, 4 and 6.
- 32 - Solder, Straight Printed Board Mount with 0.377 (9.58) tail extension for connection system 3 and systems 1, 4 and 6.
- 4 - Solder, 90° Printed Board Mount with 0.146 (3.71) tail extension for connection systems 1, 2 and 5.
- 42 - Solder, 90° Printed Board Mount with 0.377 (9.58) tail extension for connection system 3 and systems 1, 2 and 5.
- 7 - Order contacts separately for cable connectors for connection systems 5, 6, 7, 8 and 9. Terminating side of insulator has 0.165 (4.19) ø c'bore for large wire sizes.
- 8 - Removable contact, panel mounted connector for connection system 8. Order contacts separately. Terminating side of insulator has 0.165 (4.19) ø c'bore for large wire sizes.

STEP 8 - Special Options

See page 13 for sequential mating systems. Consult factory for other options.

STEP 7 - Contact Plating for Printed Board Connectors

- 0 - Crimp Contacts ordered separately.
- A1 - 0.00010 inch (0.25 microns) gold over nickel on mating end and 0.00010 inch (0.25 microns) gold over nickel on termination end.
- A2 - 0.00010 inch (0.25 microns) gold over nickel on mating end and 0.00020 inch (5.0 microns) solder coat on termination end.
- C1 - 0.00030 inch (0.8 microns) gold over nickel on mating end and 0.00030 inch (0.8 microns) gold over nickel on termination end.
- C2 - 0.00030 inch (0.8 microns) gold over nickel on mating end and 0.00020 inch (5.0 microns) solder coat on termination end.

STEP 6 - Hoods and Panel Mount

- 0 - None.
- 5 - Top Opening Hood.
- 6 - Panel Mount, quick release.
- B1 - Panel Mount, fixed for 0.040 (1.02) thick panel.
- B2 - Panel Mount, fixed for 0.060 (1.52) thick panel.
- B3 - Panel Mount, fixed for 0.090 (2.29) thick panel.
- 11 - Blind Mating System for 0.040 (1.02) thick panel.
- 12 - Blind Mating System for 0.060 (1.52) thick panel.
- 13 - Blind Mating System for 0.090 (2.29) thick panel.
- 14 - Blind Mating System for 0.120 (3.05) thick panel.

STEP 5 - Mounting Style

- 0 - No added accessories.
- B - Metal 90° Mounting Bracket.
- BN - Metal 90° Mounting Bracket, with Push-on Fastener.
- BSN - Plastic 90° Mounting Bracket, with Cross Bar and Push-on Fastener.
- N - Push-On Fastener For Straight Printed Board Mount Connectors

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