

## Hybrid Power Twin Leaf Connectors

### Product Facts

- Specified for use in Thin Power Supplies (TPS) per the Server Systems Infrastructure (SSI) standard
- High conductivity contacts — deliver 33% more current than traditional card edge connectors
- Max. Operating temperature 105°C
- 29 Dual Positions
- Housing Accepts
  - 4 – 18-20 AWG contacts — input power
  - 24 – 20 AWG Contacts — output power
  - 24 – 24-28 AWG contacts — signals

### Input Power Contacts

**Part Number 147431-2**  
18-20 AWG

### Output Power Contacts

**Part Number 147439-2**  
20 AWG

### Signal Contacts

**Part Number 583616-2**  
24-28 AWG

### Product Specification

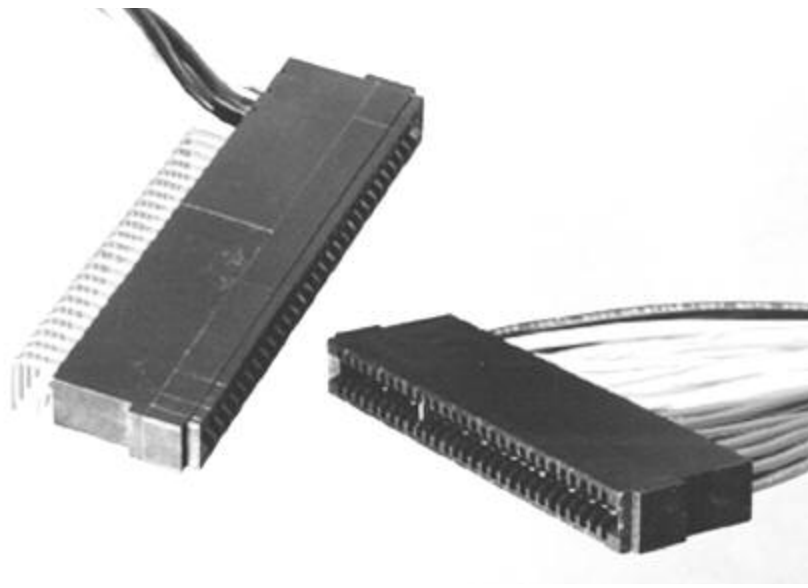
108-2081

UL File NO. E28476

CSA File No. LR7189



\*Consult Tyco Electronics engineering when paralleling contacts for power applications.



The Hybrid Power Twin Leaf product combines the industry proven AMP Twin Leaf Card-Edge connector with high temperature plastics, high conductivity metals and a housing designed for both pcb or wire connection.

Due to its thin overall profile and high current density performance, the Hybrid Power Twin Leaf connector was selected for the I/O connector of the "Thin Power Supply" section of the Server Systems Infrastructure (SSI) standard. This standard has been adopted throughout the high-end computer industry to allow interoperability of subsystems in a computer server.

The Wire-to-Board version has been designed to accommodate up to 300V AC Input on 18 AWG wire and offers 24 DC Output wires (each on 20 AWG)

and 24 Signal wires (each on 24-28 AWG). The cable-to-board solution allows flexibility in routing inputs and outputs directly to input filtering devices and to the point of load for the outputs.

The Hybrid version combines the wire inputs with traditional printed circuit board (pcb) solder tail outputs all in one connector. This can be appealing in some applications where the input power may not be suitably located near, or desired to be integrated with the output power. The hybrid version combines a right angle pcb mount section for the DC Signals and Output Power, along with a traditional crimp-snap contact for the Input Power.

A key concern with any power connector is the temperature rise when the connector is under load.

These connectors have been qualified to meet UL and CSA requirements and are rated at the industry standard 30°C T-Rise criteria. In addition, the connectors pass the finger probe test so the connectors can be energized while unmated. This is a requirement in N + 1 redundant power supply applications where power supplies may be removed, while the system is still powered.

## Hybrid Power Twin Leaf Connectors (Continued)

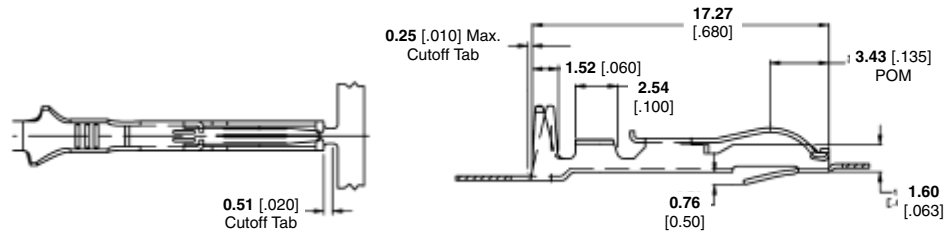
### Contacts

#### Materials and Finish

**Power** — High Conductivity Copper Alloy

**Signal** — Phosphor Bronze

**Plating** — .000030 [0.00076] gold over nickel in contact area, tin plated in crimp area.

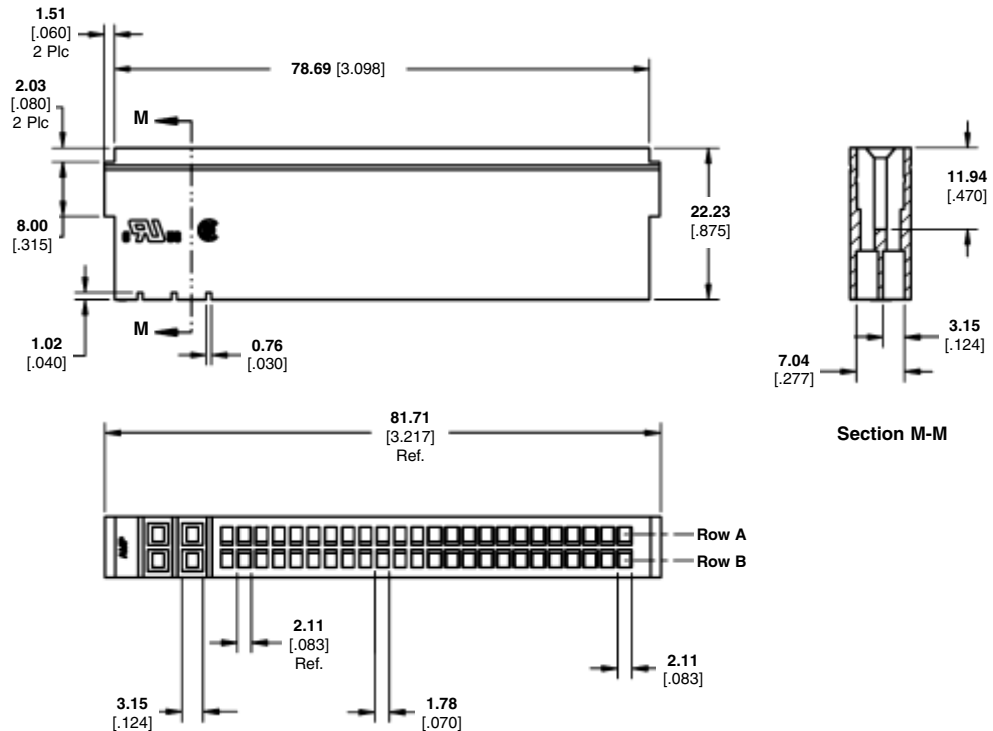


Contact Type	Wire Range AWG/mm <sup>2</sup>	Contact Part Numbers	Applicator
P	16-20	5147431-2	1385306-3
	0.6-1.4	5147439-2	—
S	24-28 0.08-0.2	5-583616-2	466577-4

### Wire-to-Board

#### Materials and Finish

**Housing** — High temperature glass filled polyester  
Max. Operating temperature 105°C



Number of Positions	Key Location	Part Number
4-Input Power	14,15	147354-8
24-Signal		
24-Output Power		

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

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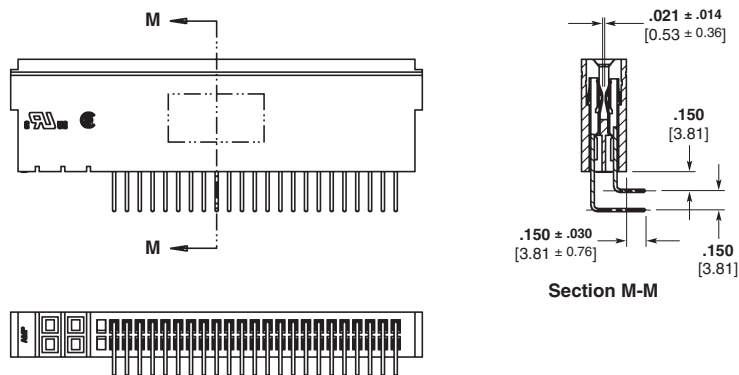
### Hybrids Wire/PCB-to-Board

#### Materials and Finish

**Housing** — High temperature glass filled polyester

**Max. Operating temperature** — 105°C

High Conductivity copper alloy PCB contacts



Number of Positions	Key Location	Part Number
4-Input Power		
24-Signal	9,10	147351-1
24-Output Power		

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