

Exceed high-current and reliability demands in top-end server and high-power applications with Molex's compact, EXTreme Guardian™ header and cable system assembly

EXTreme Guardian™ header and cable assemblies, previously named EXTreme Power™ Interconnect (EPIC), features small package sizes with a centerline pitch of 11.00mm. They system supports up to 80.0A per contact, provides good shielding characteristics in EMI-sensitive environments, features hot-plugging capabilities and UL safety features.

Headers are available in 2-circuit, single-flanged and 3-circuit, dual-flanged versions. Cable assemblies are available in 3-circuit, straight, shielded and unshielded versions for high-voltage applications and are UL touch-safe. Additionally, the 2-circuit cabled solutions include a straight, unshielded cable assembly; a right-angled, right-entry and left-entry unshielded version, as well as a left-entry shielded variant for space-saving connections to servers installed in confined spaces.

For additional information visit: www.molex.com/link/extremeguardian.html

FEATURES AND BENEFITS

- High-current density per inch supports up to 80.0A per blade (180.0A per inch)
- Redundant contact design handles up to 600V and supports AC or DC high-voltage applications with the lowest feasible voltage drop and 12R (irreversible dissipative power) losses
- Small centerline spacing of 11.00mm reduces PCB footprint compared to legacy power products
- Recessed terminals, First-Mate-Last-Break (FMLB) allow hot-swapping of power units and reduce network downtime
- Gold or tin contact plating provides flexibility to suit customer applications; gold plating provides low interface resistance
- UL and CSA certifications meet all accredited agency safety requirement and approvals

PCB Headers

- Locating pegs enable accurate through-hole positioning of connector on PCB
- Through-hole solder retention design provides flexible manufacturing options
- Insert-molded threaded nut provides secure panel attachment

Cable Assemblies

- Crimp terminal accepts 10, 8 and 12/12 or 6 AWG wires; supports heavier gauge wire with no terminal back-out issues
- EMI shielding options (for shielded versions) minimize cross-talk and improve immunity to external noise
- Terminal Position Assurance (TPA) option available secures cable from accidental cable disconnection
- Mounting jackscrews improve cable retention after mating to PCB header
- Standard overmold provides strain relief and wire management in rugged environments



EXTreme Guardian™ Power Connector System

46817 PCB Headers, Single and Dual Flange, 2 and 3 Circuits

46818 Power Harness Connector

46819 High Power Terminal

68790 Power Cable Assemblies, Straight, Unshielded, 2 Circuits

68790 Power Cable Assemblies, Right-Angle, Shielded or Unshielded, Left- or Right-Entry, 2 Circuits

111119 Power Cable Assemblies, Straight, Shielded or Unshielded, Low Profile, 3 Circuits

PRODUCT FAMILY



*PCB Header, Single-Flange, 2 Circuits
(Series 46817)*



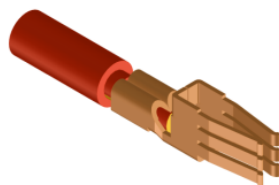
*PCB Header, Dual-Flange, 3 Circuits
(Series 46817)*



*Power Cable Assembly, Straight,
Unshielded, 2 Circuits
(Series 68790)*



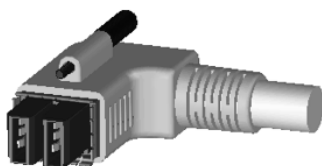
*Power Harness Connector, 3 Circuits
(Series 46818)*



*Power Terminal
(Series 46819)*



*Power Cable Assembly, Straight,
Shielded, Low-Profile, 3-Circuits
(Series 11119)*

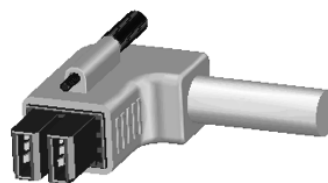


*Power Cable Assembly, Right-Angle,
Shielded, Left-Entry, 2 Circuits
(Series 68790)*

EXTreme Guardian™ Power Connector System 11.00mm Pitch with 80.A Per Blade



*Power Cable Assembly, Straight,
Unshielded, Low Profile, 3-Circuits
(Series 11119)*



*Power Cable Assembly, Right-Angle,
Unshielded, Left-Entry, 2 Circuits
(Series 68790)*



*Power Cable Assembly, Right-Angle,
Unshielded, Right-Entry, 2 Circuits
(Series 68790)*

APPLICATIONS

- Data Communication Equipment
 - High-end servers
- Telecommunication Equipment Manufacturers
 - Cellular base stations
 - Hubs
 - Servers
 - Routers
 - Switches
- Power Supplies
 - UPS (Uninterruptable Power Supply)
- Other Markets
 - Solar
 - Medical
 - Electric vehicles
 - Commercial applications that require small form factor interconnects delivering up to 200.0A



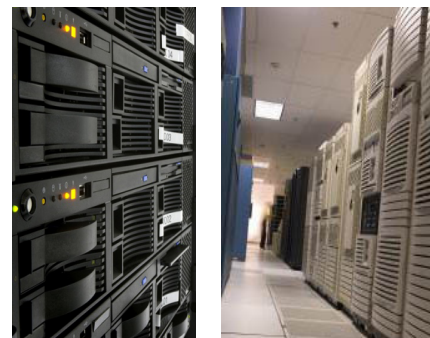
Uninterrupted Power Supplies



Medical



Solar-powered Cellular Base Station

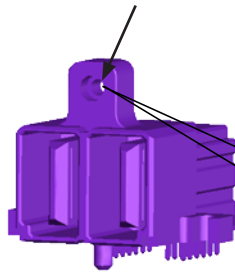


High End Servers

Headers

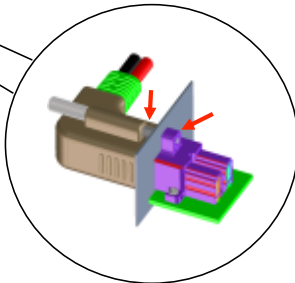
**EXTreme Guardian™
Power Connector System
11.00mm Pitch with
80.A Per Blade**

Overmold M3
Threaded Nut



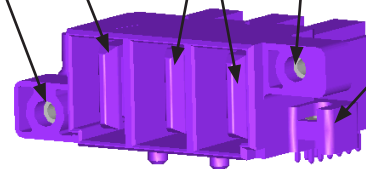
Integral screw-thread housing flange of (panel-mounted) 2-circuit header (Series 46817) enables easy and secure mating by tightening the jackscrew above the cable plug

Circuit 1 (Blade-type
Grounding Pin)
First-Mate-Last-Break

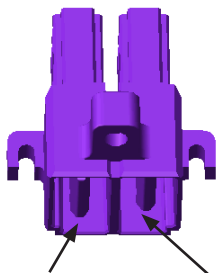


Flange

Recessed Pins
Round Nut
M3 Nut allows (optional) vertical screw-mounting to PCB



The insert-molded, 3-circuit header (Series 46817) with flanged horizontal and (optional) vertical mounting ensures accurate positioning and secured placement of the connector to both Tail Stock and PCB respectively



Circuit 1
First-Mate-Last-Break
Recessed Pin

Top view of 2-Circuit, Through-hole, Right-Angle Header showing position of First-Mate-Last-Break circuit for hot-swapping functions

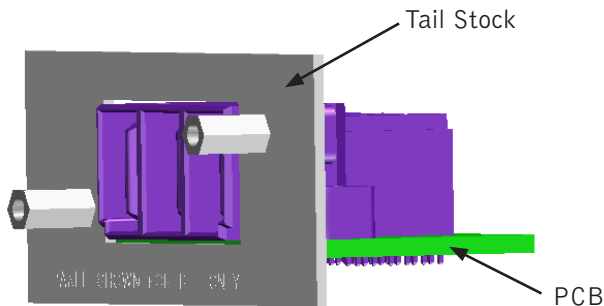
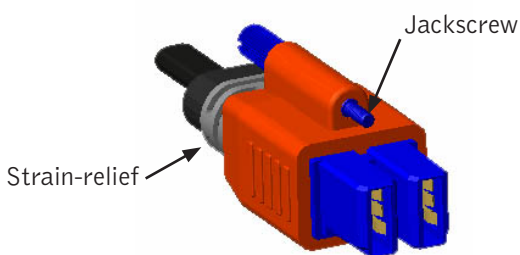
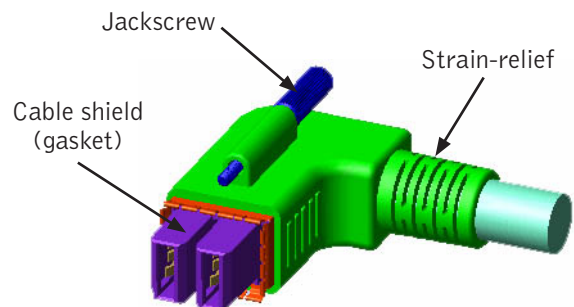


Illustration showing the mounted PCB Header Assembly complete with Tail Stock

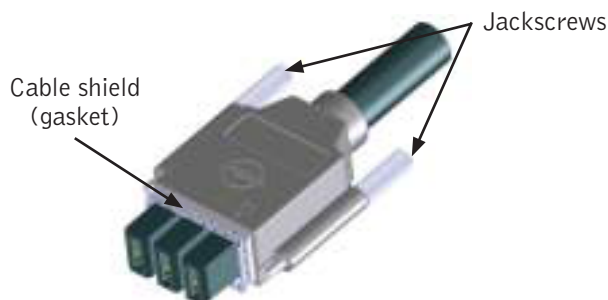
Cable Assemblies



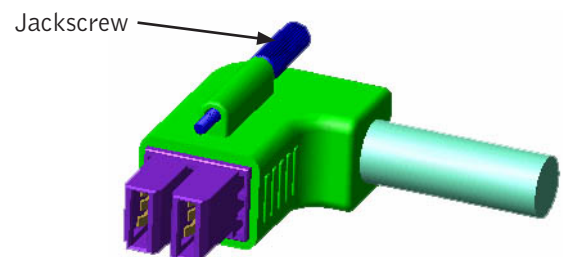
2-circuit, Straight, Unshielded Cable Assembly, showing cable overmold with jackscrew feature (Series 68790)



2-circuit, Left-Entry, Right-Angle, Shielded Cable Assembly showing cable shield (gasket) and jackscrew feature



3-circuit, Straight, Dual-ended Power Cable Assembly with reduced cable cross-talk shielding (Series 111119)



2-circuit, Left-Entry, Right-Angle, Unshielded Cable Assembly showing jackscrew feature on cable overmold

SPECIFICATIONS

Reference Information

Packaging: Tray

UL File No.: E29179

CSA File No.: LR19980 (1779070)

Mates With:

PCB Headers (Series 46817) mate with Cable Assemblies (Series 68790 or 111119)

Use With:

Power Harness 46818 uses with 46819 Terminals

Designed In: Millimeters

RoHS: Yes

Halogen Free: Yes

Glow Wire Compliant: No

Mechanical

Contact Retention to Housing: 26.61N average

Mating Force: 36.60N max.

Unmating Force: 34.39N max.

Durability (min.): 25 cycles

Physical

Housing: Polyester, 94V-0

Contact: Copper (Cu) Alloy

Plating:

Contact Area — Gold (Au)

Solder Tail Area — Tin (Sn)

Underplating — Nickel (Ni)

PCB Thickness: 1.40mm min.

Operating Temperature: -40 to +105°C

EXTreme Guardian™ Power Connector System 11.00mm Pitch with 80.A Per Blade

Electrical

Voltage (max.): 600V AC/DC max.

Current (max.): 80.0A

Dielectric Withstanding Voltage:
1,700V AC

ORDERING INFORMATION

PCB Headers

| Order No. | Product Description | PCB Thickness | Tail Length | Circuits |
|------------|---------------------|----------------|-------------|----------|
| 46817-1000 | Power Plug Assembly | 2.36mm | 3.86mm | 3 |
| 46817-1001 | | 3.18 or 3.60mm | 4.69mm | |
| 46817-1002 | | 2.36mm | 3.86mm | 2 |
| 46817-1003 | | 3.18 or 3.60mm | 4.69mm | |

Power Harness Connector

| Order No. | Product Description | Circuits | Terminal Lock |
|------------|--|----------|---------------|
| 46818-0001 | Crimp Housing | 3 | No |
| 46818-0030 | Crimp Housing Kit (includes crimp housing and terminal lock TPA) | | Yes |

Power Terminals

| Order No. | Product Description | Current | Wire Gauge | Plating |
|------------|---------------------------|---------|------------|------------------|
| 46819-0001 | High Power Crimp Terminal | 60.0A | 10 AWG | Tin (Sn) |
| 46819-0002 | | | 8 AWG | |
| 46819-0003 | | | 6 AWG | |
| 46819-0011 | | | 10 AWG | Gold (Au) 0.76µm |
| 46819-0012 | | | 8 AWG | |
| 46819-0013 | | | 6 AWG | |

Cable Assemblies

| Order No. | Product Description | AWG | Single or Double Ended | Cable Length |
|-------------|-----------------------------------|------|------------------------|--------------|
| 68790-0005 | EXTreme Guardian Cable Assemblies | 8 | Double | 2.0m |
| 68790-0007 | | 10 | | 1.20m |
| 68790-0008 | | | | 1.50m |
| 68790-0009 | | 6 | Single | 3.0m |
| 68790-0010 | | | | 15.0m |
| 111119-1000 | | 10/8 | Double | 1.0m |
| 111119-2000 | | | | |