



Exceed high-current and reliability requirements in top-end server and high-power applications with Molex's compact, EXTreme Guardian™ Power Connector System, providing EMI/RFI shielding, overmolding and discrete-wire options for design flexibility

EXTreme Guardian™ header and cable assemblies, previously named EXTreme Power™ Interconnect (EPIC), feature small package sizes with a centerline pitch of 11.00mm. The 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

EXTreme Guardian Solutions

High-current density per inch	Supports up to 80.0A per blade (185.0A per inch)
Redundant contact design handles up to 600V	Supports AC or DC high-voltage applications with the lowest feasible voltage drop and I2R (irreversible dissipative power) losses
Small centerline spacing of 11.00mm	Reduced PCB footprint compared to legacy power products
Recessed terminals, First-Mate-Last-Break (FMLB)	Allow hot-swapping of power units. Reduce network downtime
Gold or Tin contact plating	Provides flexibility to suit customer applications; Gold plating provides low interface resistance
UL and CSA certification	Meets 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

Cable shield gasket	Provides Electromagnetic Interference (EMI) and Radio Frequency Interference (RFI) shielding
Standard overmolds and discrete wire capable	Provides strain relief and wire management in rugged environments
Crimp terminal accepts 10, 8, 12/12 or 6 AWG wire	Supports heavier gauge wire with no terminal back-out issues
EMI shielding options (for shielded versions)	Minimizes cross-talk and improves immunity to external noise
Terminal Position Assurance (TPA) option available	Secures cable from accidental cable disconnection
Mounting jackscrews	Improves cable retention after mating to PCB header

EXTreme Guardian™ Power Connector System

- 46817** PCB Headers, Single and Dual Flange, 2 and 3 Circuits
- 46818, 170351** Power Crimp Receptacles
- 46821, 170352** Power Harness TPA Clips
- 46819** High-Power Terminals
- 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



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 Crimp Receptacles (Series 46818, 170351) use High-Power Terminals (Series 46819) and TPA Clips (Series 46821, 170352)

Designed In: Millimeters

RoHS: Yes

Halogen Free: Yes

Glow Wire Compliant: No

Electrical

Voltage (max.): 600V AC/DC

Current (max.): 80.0A

Dielectric Withstanding Voltage:
1,700V AC

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
 - Military/Aerospace
 - Solar
 - Medical
 - Electric vehicles
 - Commercial applications that require small form factor interconnects delivering up to 200.0A

Mechanical

Contact Retention to Housing (average):
26.61N

Mating Force (max.): 36.60N

Unmating Force (max.): 34.39N

Durability (min.): 25 cycles

Physical

Housing: Polyester, 94V-0

Contact: Copper (Cu) Alloy Plating:

Contact Area — Gold (Au)

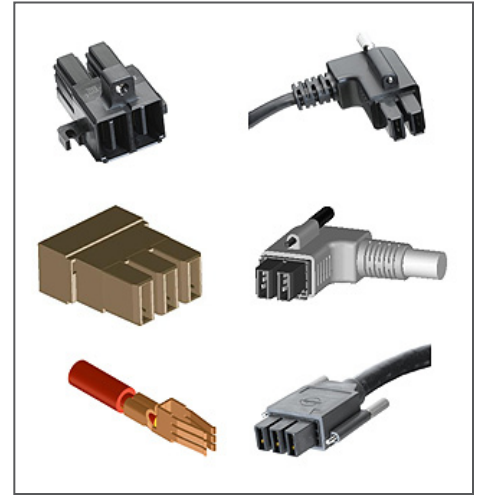
Solder Tail Area — Tin (Sn)

Underplating — Nickel (Ni)

PCB Thickness: 1.40mm min.

Operating Temperature:
-40 to +105°C

EXTreme Guardian™ Power Connector System



EXTreme Guardian™ Power Connector System



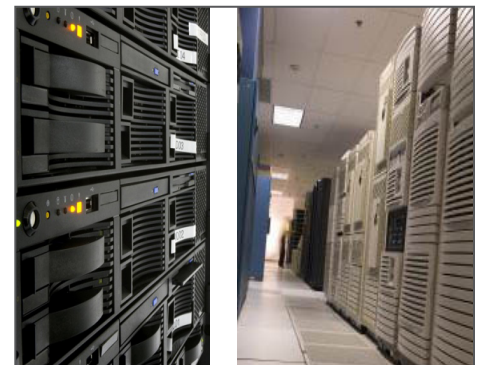
Uninterrupted Power Supplies



Medical Equipment



Solar-Powered Cellular Base Station



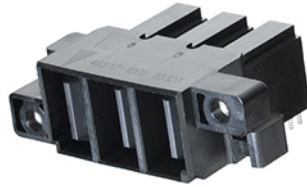
High-End Servers

Product Family

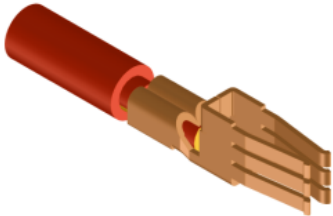
EXTreme Guardian™ Power Connector System



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



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



Power Terminal
(Series 46819)



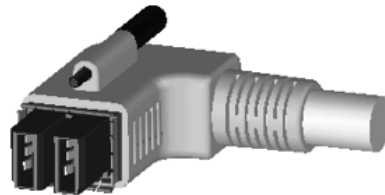
Power Harness TPA Clip
(Series 46821, 170352)
(2 Circuit Clip shown)



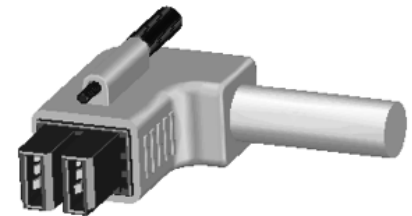
Power Harness Crimp Receptacle
2 and 3 Circuits
(Series 170351, 46818)



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



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



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



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



Power Cable Assembly, Straight,
Shielded, Low-Profile, 3 Circuits
(Series 111119)



Power Cable Assembly, Straight,
Unshielded, Low Profile, 3 Circuits
(Series 111119)

Additional Product Features Headers

Overmold M3 threaded nut

Circuit 1 (blade-type grounding pin) first-mate-last-break

Flange

Recessed pins

Round nut

M3 nut allows (optional) vertical screw-mounting to PCB

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

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

Tail stock

PCB

Illustration showing the mounted PCB header assembly complete with tail stock

Top view of 2-circuit, through-hole, right-angle header (Series 46817) showing position of first-mate-last-break circuit for hot-swapping functions

Cable Assemblies

Jackscrew

Strain-relief

2-circuit, straight, unshielded cable assembly, showing cable overmold with jackscrew feature (Series 68790)

Jackscrew

Strain-relief

Cable shield (gasket)

2-circuit, left-entry, right-angle, shielded cable assembly showing cable shield (gasket) and jackscrew feature

Jackscrews

Cable shield (gasket)

3-circuit, straight, dual-ended power cable assembly with reduced cable cross-talk shielding (Series 111119)

Jackscrew

2-circuit, left-entry, right-angle, unshielded cable assembly showing jackscrew feature on cable overmold



Ordering Information

EXTreme Guardian™ Power Connector System

PCB Headers (Series 46817)

Order No.	PCB Thickness (mm)	Tail Length (mm)	Circuits
46817-1000	2.36	3.86	3
46817-1001	3.18 or 3.60	4.69	
46817-1002	2.36	3.86	2
46817-1003	3.18 or 3.60	4.69	

Power Crimp Receptacles (Series 46818, 170351)

Order No.	Circuits	Wire Gauge (AWG)
46818-0001	3	8, 10
46818-0003		6
170351-0002	2	8, 10
170351-0003		6

High-Power Terminals (Series 46819)

Order No.	Wire Gauge (AWG)	Plating
46819-0011	10	Gold (Au)
46819-0012	8	
46819-0013	6	

Power Harness Terminal Position Assurance (TPA) Clips (Series 46821, 170532)

Order No.	Circuits	Note
46821-0001	3	TPA's must be used with housings; they are ordered separately.
170352-0002	2	

Power Cable Assemblies (Series 68790, 111119)

Order No.	Wire Gauge (AWG)	Single or Double Ended	Cable Length (m)
68790-0005	8	Double	2.00
68790-0007	10		1.20
68790-0008			1.50
68790-0009	6	Single	3.00
68790-0010			15.00
111119-1000	8, 10	Double	1.00
111119-2000			

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