



HyperJack™ PoE+ PSE Integrated Connector Modules

Molex offers a complete drop-in, Power Source Equipment solution integrating all PoE+ functionality in 8-Port (2x4) and 12-Port (2x6) connector modules to provide customers with an easy migration path from non PoE to fully integrated PoE+ designs, allowing faster time-to-market

Power over Ethernet (PoE) is a technology that defines the transmission of both data and power to networked devices over a standard Ethernet cable, eliminating the need for separate power supplies. PoE+ is the new IEEE 802.3af Power over Ethernet standard. It provides the opportunity for switch makers to increase port-power output to 30 watts and will supersede the existing 15 watt 802.3af standard. The specification of this new 802.3af standard is backward compatible, supporting legacy 802.3af devices.

Molex has developed the HyperJack PoE+ Power Source Equipment (PSE), Integrated Connector Module (ICM) in a 2x4 and 2x6 configuration. Based on the RJ-45 jack, the ICM has integrated PoE+ controller silicon to manage and deliver 30 watt Power over Ethernet. This is coupled with Gigabit PoE+ magnetics, thermal management and a high level of protection against electro static discharge (ESD), electrical fast transient (EFT) and electro magnetic interference (EMI). The modules are available with four (two bi-colour) light emitting diodes (LEDs) per port with a capability to indicate up to eight operating states. The 12-port and 8-port ICMs are also available without LEDs. PoE+ according to the IEEE standard requires Cat5 cable or higher.

The Molex PoE+ ICM complies to PoTEc V2.0 with a standardized footprint and register set, allowing for simple drop-in upgrades and product expansion.

PSE Integrated Modules provide the customer with flexible port configurations and a fast migration path from non-PoE to fully integrated PoE+ designs. Simply provide a 51-56V and 3.3V power supply to automatically manage and control power to connected Ethernet devices such as Voice over Internet Protocol (VoIP) phones, wireless access points and security cameras. Extra management can be achieved through I²C communication.



- 85729 8-port 2x4 Ganged Modular Jacks with Optional LEDs**
- 85719 12-port 2x6 Ganged Modular Jacks with Optional LEDs**

FEATURES AND BENEFITS

- Fully integrated design with power and thermal management and optional LEDs
- Gigabit Ethernet magnetics
- Efficient 30W PoE+ controller silicon for an increased range of PoE+ powered devices
- High level protection circuitry
- Optional 2 bi-colour light emitting diodes (LEDs) per port with the capability to indicate up to 8 operating states
- Thermally optimized design with excellent heat dissipation
- IEEE802.3af and PoTEc V2.0 compliant
- Fast time to market by using a drop-in solution to add PoE+ technology to a customer's switch
- High-speed data transfer to 1000BASE-T
- Sophisticated protection against external disturbances: ESD, EFT, EMI
- Provides 0 to +70°C operating temperature rating
- PoE+ technology in an industry standard footprint
- Automatic, semi-automatic and manual power management modes

MARKETS AND APPLICATIONS

- Networking equipment with PoE function to support IP phones, security cameras, wireless access points, sensors and actuators, card readers and vision systems
 - Gigabit Ethernet Switches
 - Routers
 - Hubs
 - Midspans
- Industrial Ethernet Applications
 - Switches and Routers

SPECIFICATIONS



HyperJack™ PoE+ PSE Integrated Connector Modules

Electrical

Hipot isolation: 2250.0V DC
OCL: 350µH at 24.0mA min.
Insertion loss: -0.8dB at 100 MHz (typical)
Return loss: -13.5dB at 100 MHz (typical)
NEXT: -33dB at 100MHz (typical)
CMR: -40dB at 100 MHz (typical)
Input voltage: 51.0 to 56.0V

Mechanical

Connector insertion and removal force:
20N (4.5 lbf)

Locking force: 50N (11 lbf) min.
Durability: 750 cycles

Physical

Housing: Thermoplastic UL94V-0, black
Contact: Phosphor bronze
Plating
Contact Area: Gold (Au)
Solder Tail Area: Tin (Sn)
Underplating: Nickel (Ni)
PCB Thickness: 3.56 mm (.140")
Ambient Operating Temperature: 0 to +70°C

PoE Output Power

Power: 30W per port supplied over RJ-45 contacts 1
and 2 (-) and 3 and 6 (+)
All PoE+ parameters according to IEEE802.3at

Optional LEDs

Connection: Bi-polar
Colors: Green and reddish orange
Forward voltage: 2.4V max at 20mA

Reference Information

Packaging: PK-85719-001
cTUVus: CU72090061.02
Mates with: Plugs according to IEC 60603-7
(series 95043, 44915, 85568)
Designed-In: Millimeters

- 85729** 8-port 2x4 Ganged
Modular Jacks with
Optional LEDs
- 85719** 12-port 2x6 Ganged
Modular Jacks with
Optional LEDs

ORDERING INFORMATION

Order No.	Protocol	Ports	LEDs	Power per Port	Plant No. for Samples
85719-0101*	PoE+	12	2 bi-colour per port	30 Watt	6201
85719-0003	PoE+	12	No LEDs	30 Watt	6201
85729-0101	PoE+	8	2 bi-colour per port	30 Watt	6201
85729-0102	PoE+	8	No LEDs	30 Watt	6201

*85719-0101 has replaced previously released p/no. 85719-0001 with no specification changes

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