

Industrial Ultra PoE Injector



This industrial single-port high-power POE++ injector is fully compliant with IEEE 802.3 af/at/bt standards, featuring a rated output of 90W and peak power of 110W. It transmits 2.5G high-speed data and DC power simultaneously over Cat5e or higher Ethernet cables with a maximum transmission distance of 100 meters.

The unit adopts a fanless metal enclosure with IP40 dust protection, supporting both DIN rail and wall mounting. It can operate continuously over a wide temperature range of -40°C to $+80^{\circ}\text{C}$. Equipped with four-fold electrical protection against under-voltage, overvoltage, overcurrent and short circuit, plus 6KV surge protection and 6KV ESD protection, it boasts a streamlined circuit design with low heat generation. It is ideal for indoor machine rooms, standardized weak current closets and other scenarios with stable power supply conditions.

Performance Features

- High-power POE Output: Rated output power 90W, peak power 110W, compatible with all Class 0 ~ Class 8 powered devices ;
- 2.5G High-speed Ethernet: Supports auto-negotiation of 10/100/1000/2500 Mbps with full-duplex bidirectional simultaneous transmission ;
- Long-distance Power & Data Transmission: Hierarchical transmission via Cat3/Cat5/Cat5e Ethernet cables; 4-pair cable realizes synchronous data and power delivery up to 100m at 2.5G rate ;
- Plug-and-Play, Zero Configuration: No software adjustment required; automatically identifies all types of POE PD terminals after power-up ;
- Standard 48V Direct Power Supply Architecture: Without Boost step-up circuit, featuring simplified circuit design, low overall temperature rise and reduced electromagnetic interference (EMI) ;
- Comprehensive Electrical Protection: Automatic protection against undervoltage, overvoltage, overcurrent and short circuit with auto fault recovery ;
- Industrial-grade Lightning & ESD Protection: 6KV surge protection (8/20 μs waveform) and 6KV contact discharge ESD protection ;
- Stable Operation Over Ultra-wide Temperature Range: Operating temperature: -40°C ~ $+80^{\circ}\text{C}$; storage temperature: -60°C ~ $+90^{\circ}\text{C}$;
- IP40 Dustproof Metal Enclosure with Fanless Silent Design ;
- Multi-stage Power Indicator LEDs to display real-time load power intuitively.

Application Scenarios

- Standardized IDC computer rooms and campus weak current rooms with 48V DC power supply projects ;
- Indoor heavy-duty 4K/8K high-definition dome and bullet surveillance cameras ;
- High-power indoor wireless APs and fixed industrial gateways for machine rooms ;
- New indoor standardized weak current engineering projects with stable supply voltage and no long-line voltage drop ;
- Mass deployment inside enclosed cabinets for scenarios requiring low heat generation and low electromagnetic interference.

Note: This model is not equipped with a boost circuit. It is not applicable to power supply scenarios featuring fluctuating low voltage, such as solar energy storage, 12/24V vehicle-mounted systems, long-distance cable voltage drop, and 60V high-voltage DC systems. Please select the wide-voltage boost version PSE90W-H for such applications.

Technical Specifications

Parameter Items	KBPOEI-110W
POE Standards	IEEE 802.3 / 802.3u / 802.3ab / 802.3af / 802.3at / 802.3bt
POE Output Power	Rated 90W, Peak 110W
DC Input Voltage	DC 44V ~ 57V
POE Output Voltage	DC 44V ~ 57V
Network Transmission Rate	Auto-negotiation 10/100/1000/2500 Mbps
Ethernet Cable Transmission Distance	10Base-T: Cat3 or higher twisted pair, max. 250m 100Base-TX: Cat5 or higher twisted pair, max. 150m 1000/2500Base-T: Cat5e or higher 4-pair twisted pair, max. 100m
Protection Functions	Undervoltage / Overvoltage / Overcurrent / Short Circuit
Dimensions	90mm (L) × 30mm (W) × 105mm (H)
Weight	≤ 0.50kg
Interfaces	Data IN: RJ45 port PoE OUT: RJ45 port, full power supply via 4 pairs: Pin 1/2 & 4/5 = DC+; Pin 3/6 & 7/8 = DC- 5.08mm 3-pin pluggable terminal block (DC Positive, Ground, DC Negative)
Indicators	PWR Power Indicator: Steady on = Normal input power; Off = No input / Undervoltage fault 15W Power LED: Lights when load > 0W and ≤ 15W 30W Power LED: Lights when load > 15W and ≤ 30W 60W Power LED: Lights when load > 30W and ≤ 60W 90W Power LED: Lights when load > 60W and ≤ 90W 110W Power LED: Lights when load > 90W (Max. 110W)
Operating Temperature	-40 ℃ ~ +80 ℃
Storage Temperature	-60 ℃ ~ +90 ℃
Operating Humidity	10% ~ 95% RH, non-condensing
Storage Humidity	5% ~ 95% RH, non-condensing
Lightning & ESD Protection	6KV 8/20μs surge protection, 6KV ESD protection
Ingress Protection Grade	IP40
MTBF	> 100,000 hours under 25 ℃ normal temperature
Mounting Method	Standard 35mm DIN rail
Warranty	2 years

Mechanical Drawing

