

Four Port Gigabit Passive PoE Midspan

User Manual | Model P1G-4CH-4PAIR-MID

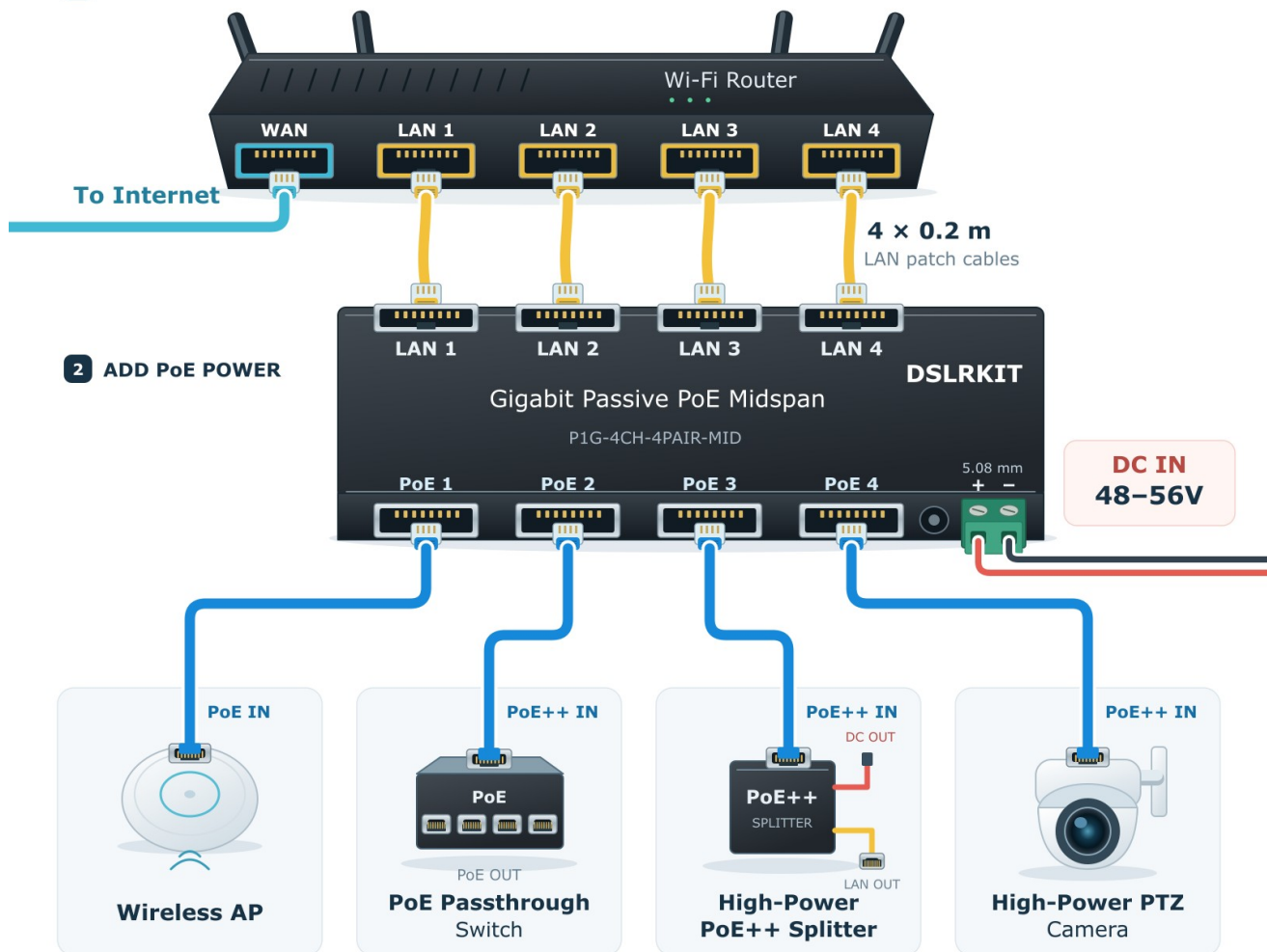
Add DC power to four Ethernet links from an existing router or switch. Each LAN IN port connects only to the same-numbered PoE OUT port. This unit is not an Ethernet switch. No software setup is required.

ADD PoE TO YOUR EXISTING ROUTER

4 independent Gigabit connections. Data and power on one cable.

— Data only — Data + power — DC power

1 NON-PoE ROUTER



Passive PoE • No negotiation • Confirm powered-device compatibility
DC power supply not included • Use one DC input only

Before use: This is a passive injector with no automatic PoE detection or power negotiation. Read the compatibility and power instructions before connecting equipment.

Installation and power supply

Choose one DC input

DC input	Voltage	Maximum total input
5.08 mm two-pin terminal	12-56 V DC	8 A; 448 W at 56 V (about 450 W)
5.5 x 2.5 mm barrel jack	12-56 V DC	6 A; 336 W at 56 V

Polarity and limits: Use only one input at a time. The barrel jack is center-positive and outer-negative. On the terminal, connect positive to + and negative to -. Input limits apply to the whole unit, not to each port.

Use a regulated DC supply with sufficient capacity for all connected devices. Include startup demand and cable losses in the power budget. The 448 W figure is the maximum DC input rating, not a guaranteed output power budget.

The midspan does not increase or decrease voltage. All four outputs share the same supply voltage. Use 48-56 V for suitable PoE devices; for high-power applications, select 52-56 V where permitted by the device manufacturer. Use lower voltages only for devices explicitly designed for them.

Connect the system

- 1. Switch off the DC supply.** Make all power and Ethernet connections with the supply off.
- 2. Connect the data inputs.** Use the four supplied 0.2 m patch cables to connect four router or switch LAN ports to LAN IN 1-4. Leave the router WAN connection connected to the Internet as usual.
- 3. Connect the powered devices.** Connect each PoE OUT port to the PoE input of a compatible device. On a passthrough switch, use its PoE IN or PoE++ IN port, not a downstream PoE OUT port.
- 4. Connect DC power.** Use either the terminal or the barrel jack. Check voltage and polarity; secure the terminal wires and leave no exposed strands that could short together.
- 5. Power on and check.** Confirm that each device starts and establishes its Ethernet link. Check operation at the intended load before leaving the installation unattended.

Device compatibility

Supports compatible IEEE 802.3af (PoE), 802.3at (PoE+) and 802.3bt (PoE++) powered devices that can operate from passive power at the supplied voltage and pinout. Compatibility is device-dependent; an IEEE PoE label alone does not guarantee operation with a passive injector.

Some devices require active detection, classification or power negotiation. Without this, they may limit power, disable features or refuse to start. This midspan does not perform those functions. Never connect PoE OUT to an ordinary non-PoE Ethernet device unless it is explicitly rated to accept this power.

Port ratings and pin assignments

Item	Specification
Ethernet channels	4 independent links; Gigabit Ethernet up to 1000 Mbps
RJ45 interfaces	4 x LAN IN and 4 x PoE OUT; same-numbered ports are paired
Four-pair power	Up to 2.0 A total per port; enclosure marking: 2.2 A peak
Two-pair power	Mode A or Mode B; up to 1.1 A per port when using one pairset
High-power output	Up to 90 W per port with a suitable supply and compatible four-pair device
Voltage conversion	None; all outputs use the same DC supply voltage
PoE control	Passive power; no detection, classification or power negotiation

The 2.0 A rating is the combined current of both power pairsets, not the current on each conductor. The 2.2 A peak marking is not a continuous operating rating. Available device power depends on supply capacity, cable length, device compatibility and cooling. The 90 W figure is at the injector output; power at the remote device is lower.

Power pinout on each PoE OUT port

Power path	Positive pins	Negative pins	Maximum current
Mode A pairset	1, 2	3, 6	1.1 A in two-pair use
Mode B pairset	4, 5	7, 8	1.1 A in two-pair use
Four-pair operation	1, 2, 4, 5	3, 6, 7, 8	2.0 A total per port

Both pairsets are powered when DC is applied. Mode A and Mode B describe the power paths, not a manual selector or automatic negotiation mode. The connected device determines which supported paths it uses. Follow the numbered pin diagram on the enclosure when checking polarity.

Protection and enclosure markings

Dual PTC protection: Eight resettable PTC devices provide two separately protected supply paths per port. In two-pair Mode A or Mode B use, one PTC protects the active pairset. In four-pair use, both PTCs operate together, each protecting its own pairset.

PTC protection responds to excess current and temperature; it is not a precise electronic current limiter. If protection activates, switch off power, remove the fault or overload, and allow the unit to cool before reconnecting.

Reverse-polarity protection: The input NMOS helps protect against reversed DC input polarity. Always wire the supply correctly; this feature does not correct an incompatible output voltage or pinout.

Label guide: LAN IN marks data inputs. PoE OUT marks powered data outputs. DC IN marks the supply connections. The earth symbol identifies the chassis grounding point; it is separate from the DC negative terminal.

Mounting and everyday use

Cooling and grounding

The metal enclosure and thermal interface materials above and below the board help transfer heat to the case. Install in a dry location with free airflow. Keep the enclosure uncovered and away from other heat sources.

Sustained high load: If the unit frequently operates at full load, or total current stays above 5 A for long periods, provide good ventilation or mount it to a metal surface that helps dissipate heat. Use both measures where practical. Reduce the load if the unit becomes excessively hot or protection repeatedly activates.

Use the two included mounting brackets to secure the enclosure. Where chassis grounding is required, connect the marked grounding point to the installation grounding system. Do not use the DC negative terminal as the chassis grounding point or add a jumper between them.

Cables and connected equipment

Use correctly terminated, full-copper Cat5e or better Ethernet cables with all eight conductors connected. Keep the complete Ethernet channel within 100 m, including patch leads. The usable power distance may be shorter, especially at high load or low supply voltage.

Typical applications include high-power PoE++ splitters, PoE++ passthrough switches, wireless APs, wireless bridges, network cameras and IP phones. For a passthrough switch, budget for the switch itself and all of its downstream loads. For a splitter, include conversion losses and its connected load.

Troubleshooting

Symptom	What to check
No device power	Check the supply, polarity, voltage and selected input. Confirm passive-PoE compatibility and the correct PoE IN port on the device.
Starts, then restarts or stops	Check total load, supply capacity, cable quality and heat. Remove the overload, switch off power and allow the PTCs to cool.
Reduced device functionality	The device may require active PoE negotiation for full power. Check its documentation or use a suitable active PoE injector.
No link or only 100 Mbps	Check matching LAN IN / PoE OUT numbers, all four cable pairs and both endpoint speeds. Try a known-good short cable.
Repeated overheating	Improve ventilation or contact with a heat-dissipating metal surface. Reduce load and check for loose power connections.

Package contents and dimensions

1 x midspan; 4 x 0.2 m Ethernet patch cables; 2 x mounting brackets; 1 x detachable two-pin 5.08 mm terminal plug (may be preinstalled). DC power supply is not included.

Midspan body: 106 x 40.6 x 25.6 mm. Body weight: 150 g. Packed weight including accessories: 240 g.