6 Power Supply and Cabling Design

Power Supply Design

On main roads and pedestrian streets of wireless city projects, the power supply for APs is designed based on the following principles:

- Power supply by PoE devices

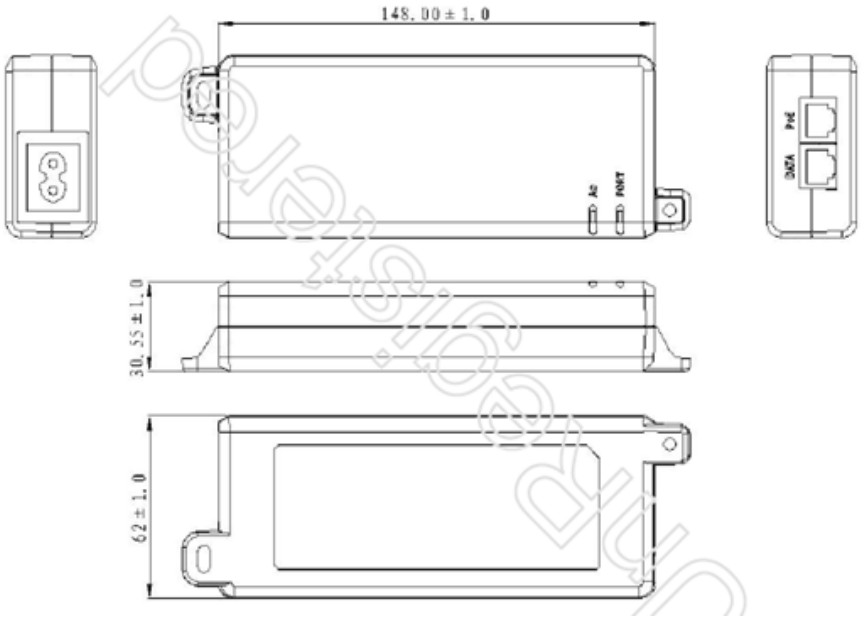
  PoE switches, industrial switches, ARs, and ONUs can supply PoE power to APs. It is recommended that Ethernet cables between the PSE and APs be no longer than 80 m. When deploying industrial PoE devices outdoors and installing non-industrial PoE devices, ensure that installation conditions are met.

- Power supply by PoE adapters

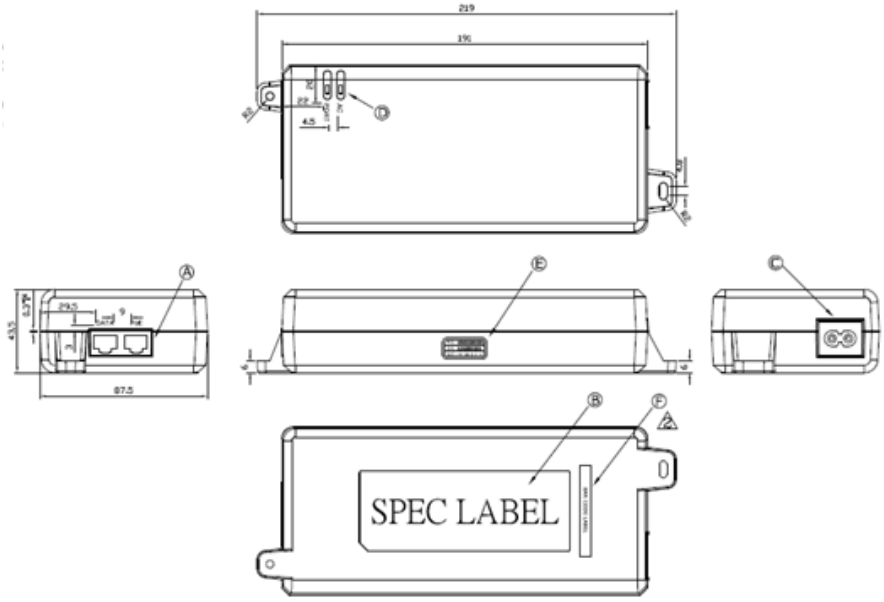
  If upstream switches do not support PoE power supply and APs use optical fibers for data transmission, use PoE adapters to supply power to the APs. In outdoor scenarios, install PoE adapters in the equipment boxes or cabinets to meet the requirements for the operating temperature, as well as waterproof, electric protection, and lightning protection requirements.

  The following PoE adapter models are available:

  - 02220369 (Adapter,-40degC,50degC,90V,264V,54V/0.65A,C8/RJ45-GE)
    - 802.3at 30 W power supply
    - Operating temperature: –40°C to +50°C
    - It is not waterproof and must be installed in a waterproof box in outdoor scenarios.
    - The following figure shows the structure and dimensions of this PoE adapter.



- 02220154 (Adapter,-25degC,60degC,90V,264V,56V/1.52A,C8/RI45,POE ADAPTER)
  - UPoE power supply with the rated power of 84 W
  - Operating temperature: –25°C to +60°C
  - It is not waterproof and must be installed in a waterproof box in outdoor scenarios.
  - The following figure shows the structure and dimensions of this PoE adapter.



NOTE

For APs with high power consumption (over 12.95 W), use PoE+ power supply (30 W) instead of non-standard PoE power supply (15.4 W).

Table 1 lists available AP power supply modes.

Table 6-1 AP power supply mode

Scenario	AP Model	Power Supply Mode
Main roads and pedestrian streets	AP8050DN	PoE
	AP8150DN	PoE

Cabling Design

On main roads and pedestrian streets of wireless city projects, cabling is designed based on the following principles:

- It is recommended that the length of Ethernet cables between APs and switches be no longer than 80 m and 5-meter length be reserved for future adjustment.
- Avoid signal interference and heavy electromagnetic interference.
- Communicate with customers about feasible cabling routes in advance to ensure that cabling will not be affected by asset management or decoration requirements.

