

7ZP250 POWER LINE MODULE

TECHNICAL MANUAL

Version: V1.0

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一. Introduction

The main chip of 7ZP250 power communication module adopts Atheros design. It has the characteristics of high integration and small size. It can provide up to 600Mbps power line transmission rate, stable work and reliable performance.

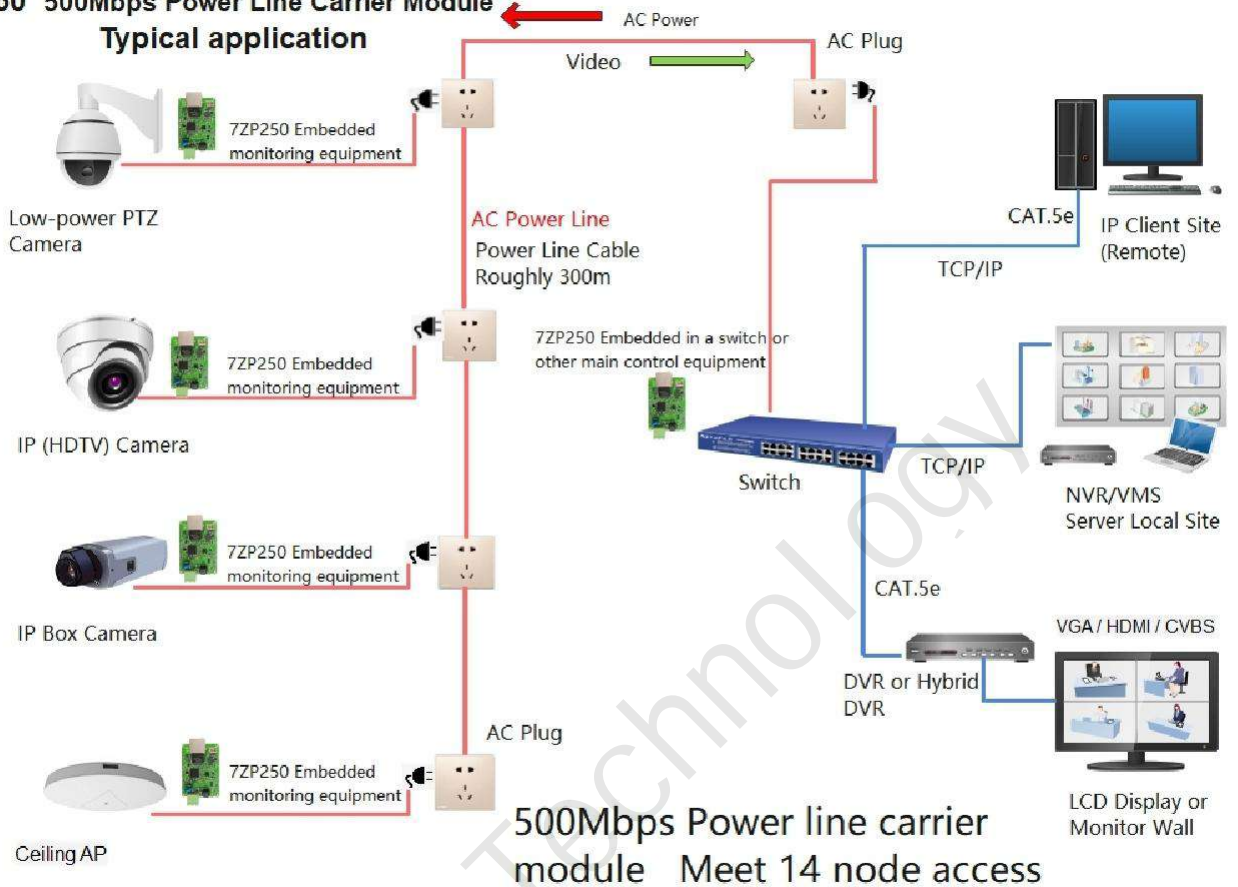
The 7ZP250 power communication module provides users with AC power interface, PLC filter interface, general GPIO interface, working status indicator interface and network interface.

二. Features

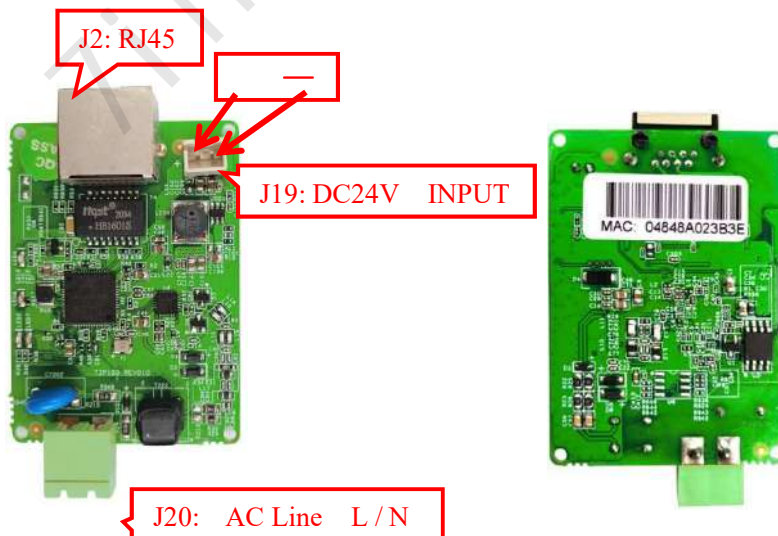
- Support up to 14 nodes;
- Support IEEE802.3, IEEE802.3u, standard;
- Support HomePlug AV;
- Transmission of data through existing power lines, providing up to 600Mbps transmission rate;
- 10/100Mbps adaptive Ethernet interface;
- Support 300m transmission distance (within the same meter range) ;
- Support 128-bit AES encryption to ensure the security of network data transmission;
- Support any operating system, including Mac, Linux;
- Universal direct current (DC) 24V power input power supply;

三. Typical application topology

7ZP250 500Mbps Power Line Carrier Module Typical application



四、Typical interface definition



五、Interface function details

J19: DC12V Power input Port (DC 24V)

| Port number | Pin definition | Input | Function description |
|-------------|----------------|-------|----------------------|
| J19 | \ | DC24V | Power input (DC24V) |

J20: PLC signal access port (AC 85–265V, 50/60HZ OR DC 0–250V)

| Pin number | Pin definition | input/Output | Pin function description |
|------------|----------------|--------------|--------------------------|
| - | L | \ | Live line(L) |
| - | N | \ | Neutral line(N) |

J2: RJ45 Network Port

ETH 10/100MbpsPort

LED: Status indicator, indicating the working status of the module

| LED | Instructions | Function description |
|-----|--------------|-------------------------------------------------------------------------|
| 1 | Network port | Steady on: The network port is connected. Flashing: Data exchange |
| 2 | Signal | Steady on: Power line communication connection. Flashing: data exchange |
| 3 | Power | Steady on: The power supply is normal. Flashing: Pairing and searching |

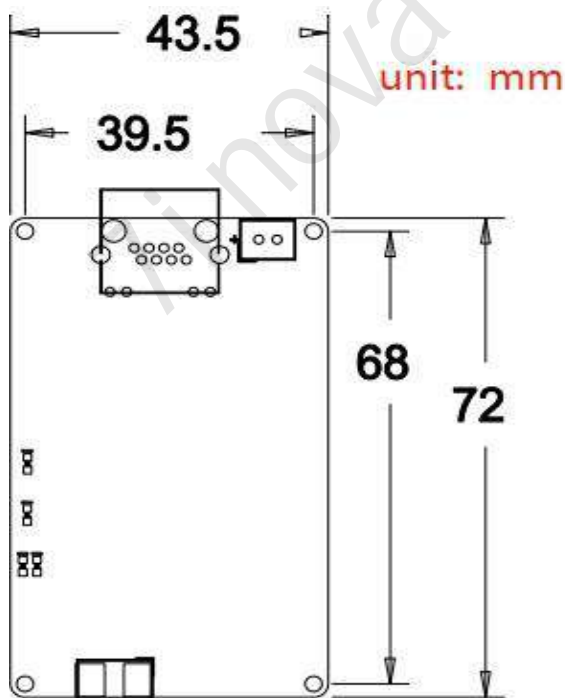
六、Electrical characteristics

| | Minimum value | Typical value | Maximum value | Unit |
|-----------------------|---------------|---------------|---------------|------|
| 12V Operating Voltage | 18.0 | 24.0 | 25.2 | V |
| 12V Working current | \ | 0.2 | \ | A |

七、Module size



Front view:



八、Specifications

| Hardware parameters | |
|-----------------------------|---------------------------------------------------------------------------------------|
| Model | 7ZP250 |
| Agreement/standard | HomePlug AV, IEEE 802.3, IEEE 802.3u |
| Letter of agreement | TCP/IP, IGMP, CSMA/CA, QoS |
| Modulation rule | OFDM (1024/256/64/16-QAM, QPSK, BPSK and ROBO Modulation rule) |
| Transmission frequency band | 2-68MHz |
| Transmission rate (PHY) | 600Mbps |
| Port | AC interface, Ethernet interface, PLC interface |
| LED Instructions | Power indicator, power line data transmission indicator, Ethernet interface indicator |
| Operating system | Windows 98SE/ME/2000/2003/XP/Vista, Windows7/10, Linux, Mac OS |
| Transmission distance | 300m (Within the same meter) |
| Coverage | 5000 Square feet |
| Data Security | 128-bit AES Encryption |
| Operating Voltage | DC-24V-0.2A |
| Power consumption | Conventional ≤4.8W |
| Size | 72x43.5x15mm (LxWxH) |
| Weight | 20g |
| Use environment | |
| Operating temperature | 0°C~70°C |
| Storage temperature | -20°C~70°C |
| Working humidity | 10%~90%RH No condensation |
| Storage humidity | 5%~90%RH No condensation |