

## HomePlug AV200 Ethernet Powerline Module

Model: 7LP120



### Introduction:

The 7LP120 AV200 power communication module adopts Atheros design as the main chipset. It has the characteristics of high integration and small size. It can provide up to 200Mbps powerline transmission rate, stable operation and reliable performance.

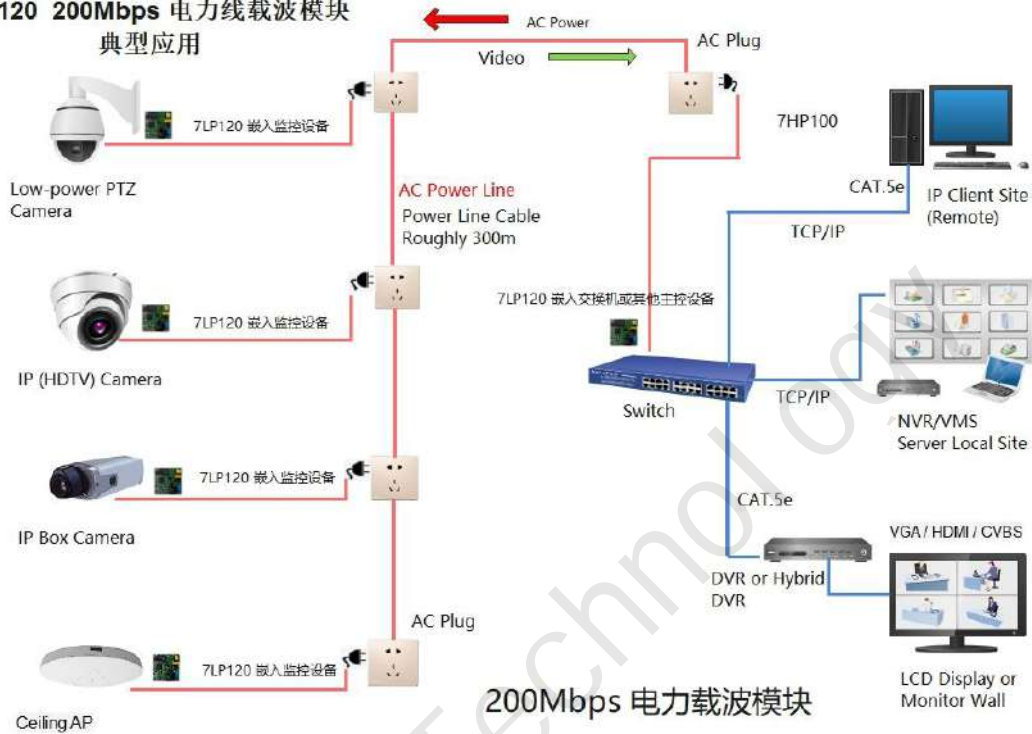
7LP120 power communication module provides users with AC power interface, PLC filter interface, general GPIO interface, working status indication interface and network interface.

### Features:

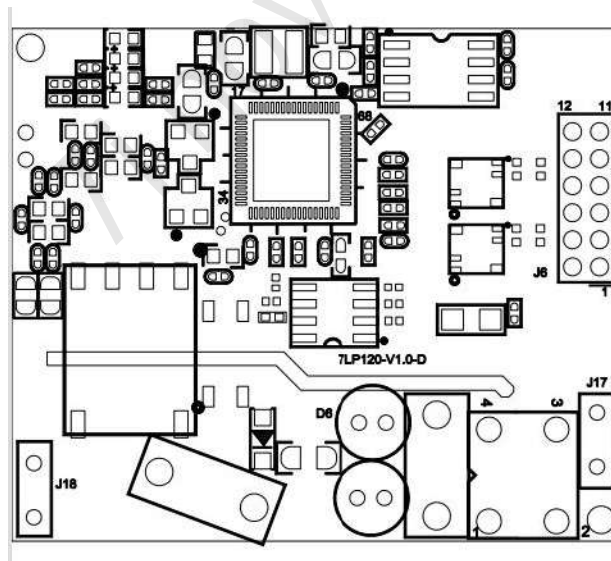
- \* Supports up to 8 nodes;
- \* Support IEEE802.3, IEEE802.3u, standards;
- \* Support HomePlug AV;
- \* Transmission of data through the existing power line, providing a transmission rate of up to 200Mbps;
- \* 10/100Mbps adaptive Ethernet interface;
- \* Support 300m transmission distance (within the same meter range);
- \* Support 128-bit AES encryption to ensure the security of network data transmission;
- \* Support any operating system, including Mac, Linux, Windows7/10, etc.;
- \* Support fault self-recovery;
- \* Support PLC filtering, over-current and lightning protection, customers are free to choose;
- \* Flexible application of GPIO interface;
- \* Ultra-thin and pin design, the thickness is up to 8mm, suitable for small space PCB motherboard embedding

### Typical Application Topology:

**7LP120 200Mbps 电力线载波模块  
典型应用**



**Pin Definition:**



- 引定义  
 J18: 信号线接入L / N交流不分极性。  
 J17: 交流电源出用。  
 J6: 1, QCA6410 GPIO 引  
 2, QCA6410 GPIO 引  
 3, QCA6410 GPIO 引  
 4, QCA6410 GPIO 引  
 5, RD-, 入网络接收信号  
 6, RD+, 入网络接收信号正  
 7, TD-, 出网络发射信号  
 8, TD+, 出网络发射信号正  
 9, GND, 模块地  
 10, GND, 模块地  
 11, 3.3V, 模块电源入  
 12, 3.3V, 模块电源入

**Pin Function Details:**

**J18: Mains Input Interface (AC 85-265V;50/60HZ)**

Pin Number	Pin Definition	Input/Output	Pin Function
1	L	\	FireWire
2	N	\	Zero Line

**J17: PLC filter output interface (AC 85-265V;50/60HZ),  
15W with load**

Pin Number	Pin Definition	Input/Output	Pin Function
1	L	\	FireWire
2	N	\	Zero Line

**If the mains power of the product is taken from J18, the PLC filter provided by this module is not used. When taken from J17, the PLC filter, overcurrent and lightning protection provided by this module are used.**

**J6: 3.3V power supply, ETH and GPIO interface (J6 pin sequence is shown in the figure above)**

Pin Number	Pin Definition	Input/Output	Pin Function
1	GPIO3	Input/Output	QCA6410 GPIO Pin
2	GPIO2	Input/Output	QCA6410 GPIO Pin
3	GPIO1	Input/Output	QCA6410 GPIO Pin
4	GPIO0	Input/Output	QCA6410 GPIO Pin
5	RD-	Input	Network receiving signal is negative
6	RD+	Input	Network receiving signal is positive
7	TD-	Output	Network transmission signal negative
8	TD+	Output	Network transmission signal positive
9	GND		GND
10	GND		GND
11	3.3V	Input	Module Power Supply
12	3.3V	Input	Module Power Supply

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

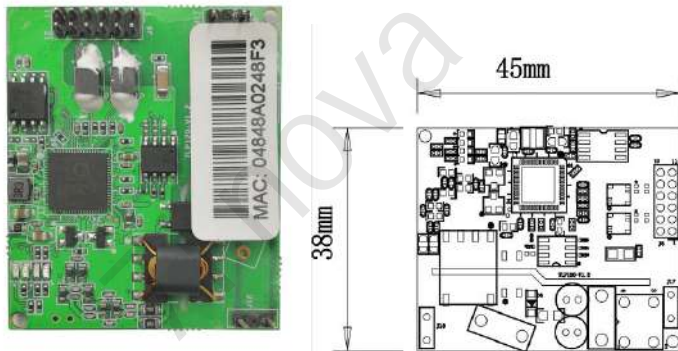
LED No.	Indication	Function
1	Lan	Green On: Lan Port Connected; Blinking: Data Transmitting.
2	Data	Green On: Powerline Communication Connected; Blinking: Data Transmitting.
3	Power	Green On: Power On; Blinking: Searching to Pair

## Electrical Characteristics

	Min.	Typical	Max.	Unit
3.3V working Voltage	3.13V	3.3	3.47	V
3.3V working Current	\	1	\	A

## Module Size:

Front view:



注：板子最高处厚度为 8mm.

## Specifications:

Hardware Specification	
Model Number	7LP120
Standard	HomePlug AV, IEEE 802.3, IEEE 802.3u
Protocol	TCP/IP, IGMP, CSMA/CA, QoS
Modulation	OFDM (1024/256/64/16-QAM, QPSK, BPSK 和 ROBO Modulation)
Frequency Band	2-28MHz
Speed (PHY)	200Mbps
Interface	AC Interface, Ethernet Interface, GPIO Interface, PLC filter Interface
LED Indicator	Power, Data, LAN
OS	Windows 98SE/ME/2000/2003/XP/Vista, Windows7, Linux, Mac OS

Transmission Distance	300m (The same Power Meter)
Coverage	5000 Square Inches
Security	128-bit AES Encryption
Working Voltage	DC-3.3V-1A
Consumption	Normal≤1.5W
Size	45x38x8mm (LxWxH)
Weight	20g
<b>Environment</b>	
Working Temperature	0°C~70°C
Storage Temperature	-20°C~70°C
Working Humidity	10%~90%RH Non-Condensing
Storage Humidity	5%~90%RH Non-Condensing