

## HomePlug AV200 Ethernet Powerline Module

Model: 7TM120

Ver:V1.0

Date: March, 2021

## Introduction:

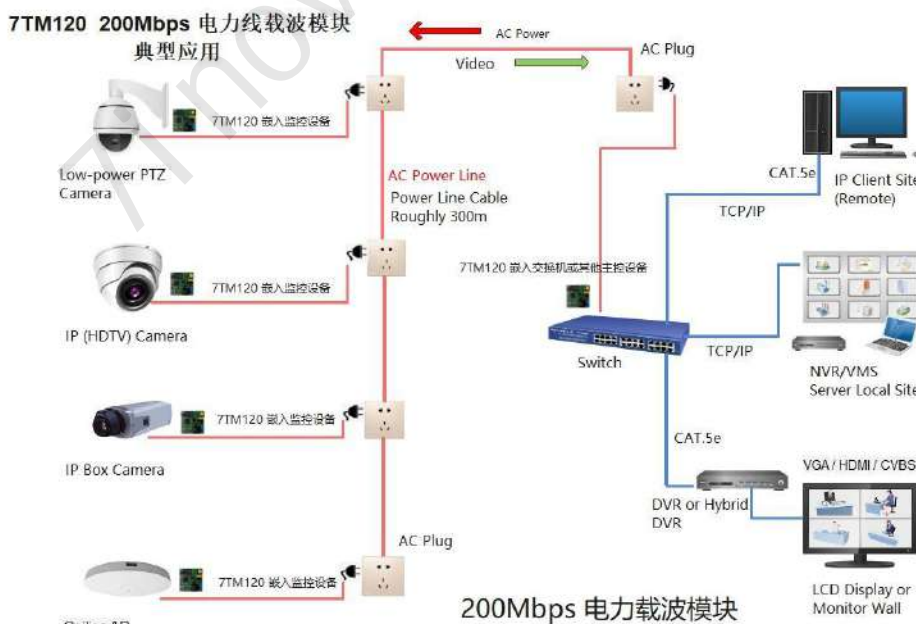
The 7TM120 AV200 power communication module adopts Atheros design as the main chipset. It has the characteristics of high integration and small size. It can provide up to 200Mbps powerline transmission rate, stable operation and reliable performance.

7TM120 power communication module provides users with AC power interface, general GPIO interface, working status indication interface and network interface.

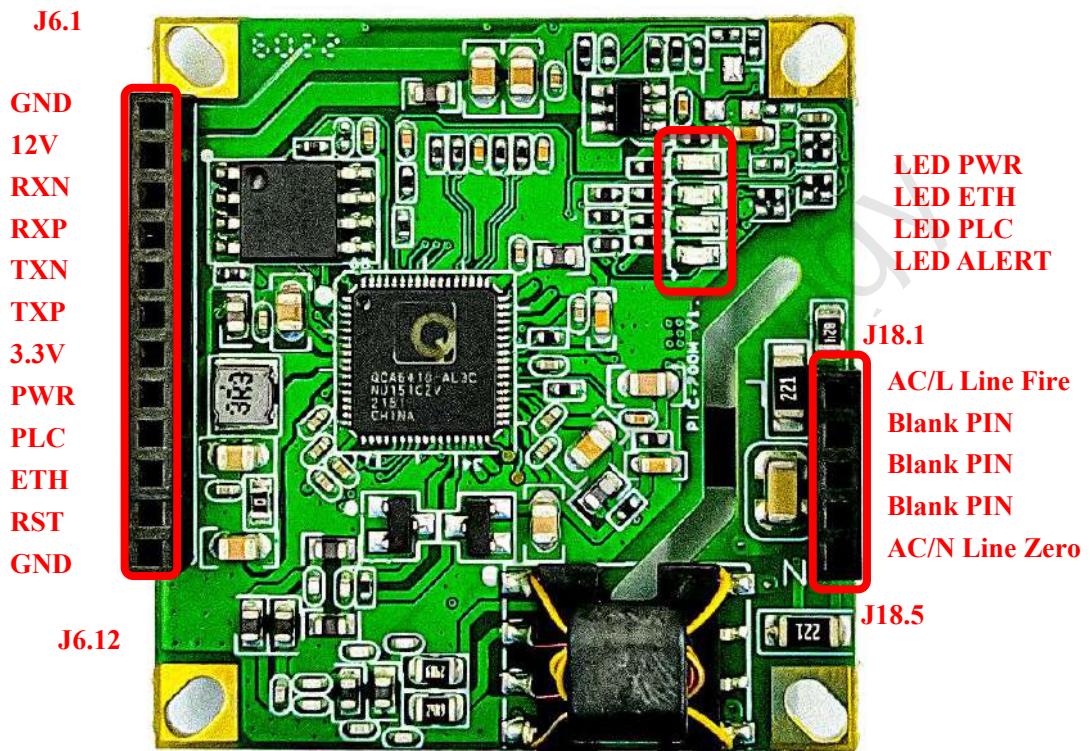
## Features:

- \*Support up to 8 nodes;
- \*Support IEEE802.3, IEEE802.3u, standard;
- \*Support HomePlug AV;
- \*Data transmission through the existing power line, providing up to 200Mbps transmission rate;
- \*10 / 100Mbps adaptive Ethernet interface;
- \*Support 300m transmission distance (within the same meter);
- \*Support 128-bit AES encryption to ensure the security of network data transmission;
- \*Support any operating system, including Mac, Linux.

## Typical Application Topology:



## Pin Definition:



## Pin Function Details:

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

Pin Number	Pin Definition	Input/Output	Pin Function
1	L	\	FireWire
2	L	\	BLANK PIN
3	BLANK		BLANK PIN
4	N		BLANK PIN
5	N		Zero Line

J6: 12V power supply, ETH and GPIO interface (J6 pin sequence is shown in the figure above)

Pin Number	Pin Definition	Input/Output	Pin Function
1	GND		GND
2	12V	Input	Module Power Supply
3	RX-	Input	Network receiving signal is negative
4	RX+	Input	Network receiving signal is positive
5	TX-	Output	Network transmission signal negative
6	TX+	Output	Network transmission signal positive
7	3.3V	Output	Module Power Supply
8	PWR	Input/Output	External LED pin
9	PLC	Input/Output	External LED pin
10	ETH	Input/Output	External LED pin
11	RST	Input/Output	External RESET pin
12	GND		GND

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

LED No.	Indication	Function
PWR	Power	Green On: Power On
ETH	LAN	Green On: Lan Port Connected; Blinking: Data Transmitting.
PLC	Connection	Blinking: Pairing search is in progress. Slow flashing: normal connection.
ALERT	LOW SPEED	Normally Off. Blinking: The connection rate is lower than 10Mbps

## Electrical Characteristics

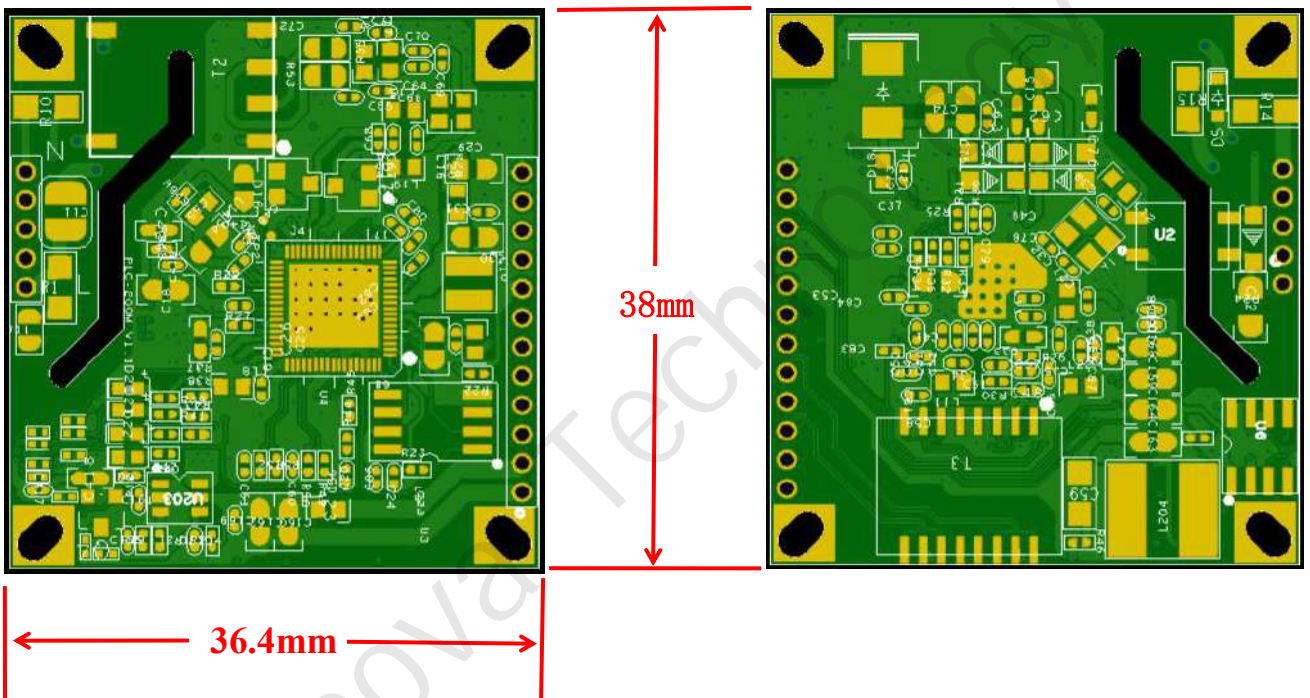
	Min.	Typical	Max.	Unit
12V working Voltage	11.8V	12	12.2	V
12V working Current	\	0.5	\	A

## Module Size:

Front view:

TOP (PCB Front)

BOT (PCB Back)



## Specifications:

Hardware Specification	
Model Number	7TM120
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,ROBO Modulation)
Frequency Band	2-28MHz
Speed (PHY)	200Mbps
Interface	AC Interface, Ethernet Interface, GPIO Interface
LED Indicator	Power, Ethernet, PLC
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-12V-1A
Consumption	Normal≤1.5W
Size	38x36.4x15mm (LxWxH)
Weight	20g
Environment	
Working Temperature	0℃~70℃
Storage Temperature	-20℃~70℃
Working Humidity	10%~90%RH Non-Condensing
Storage Humidity	5%~90%RH Non-Condensing