diymore module Store

97.0% Positive feedback

+ Follow

2340 Followers

I'm shopping for 90

On AliExpress | In this store

AC Digital Multifunction Meter Watt Power Volt Amp TTL Current Test Module PZEM-004T With Coil 0-100A 80-260V AC For Arduino

★★★★★ 5.0 11 Reviews 93 orders

€ 4,07 - 6,04 ~~€ 6,17 - 9,15~~ -34%

Store Discount: Buy 10 get 1% off

€ 9,95 Off Store Coupon Get coupons

Color:

Quantity: 1 Additional 1% off (2 Pieces or more)
853 Pieces available

Ships to Thailand

Shipping: € 2,28
From China to Thailand via Cainiao Standard For Special Goods
Estimated delivery on Oct 08 More options

Buy Now | Add to Cart | 87

75-Day Buyer Protection
Money back guarantee

diymore module Store

Store Categories

- **Electronic Components Supplies**
  - Integrated Circuits
  - Battery Protection Board
  - Driver Board
  - Power Supply
  - Decoder Board
  - Relay Module
  - Amplifier Board
  - MCU Microcontroller
  - IC Chip
  - LCD OLED
  - Sensor Module
  - Wifi Bluetooth Module
- **Others**

diymore module St...

97.0% Positive Feedback
2340 Followers
Contact
+ Follow Visit Store

€ 1,89

€ 0,66

€ 0,43

€ 1,98

€ 25,27

€ 3,19

DESCRIPTION | CUSTOMER REVIEWS (11) | SPECIFICATIONS

PZEM-004T AC Digital Multifunction Meter Watt Power Volt Amp Current Test Module For Arduino TTL COM2\COM3\COM4 0-100A 80-260V

Model: PZEM-004T

Overview

This document describes the specification of the PZEM-004T AC communication module, the module is mainly used for measuring AC voltage, current, active power, frequency, power factor and active energy, the module is without display function, the data is read through the TTL interface.

PZEM-004T-10A: Measuring Range 10A (Built-in Shunt)

PZEM-004T-100A: Measuring Range 100A (external transformer)

1.Function description

1.1 Voltage

1.1.1 Measuring range:80 ~ 260V

1.1.2 Resolution: 0.1V

1.1.3 Measurement accuracy: 0.5%

1.2 Current

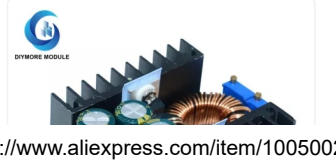
1.2.1 Measuring range: 0 ~ 10A(PZEM-004T-10A); 0 ~ 100A(PZEM-004T-100A)

1.2.2 Starting measure current: 0.01A(PZEM-004T-10A); 0.02A(PZEM-004T-100A)

Top Selling

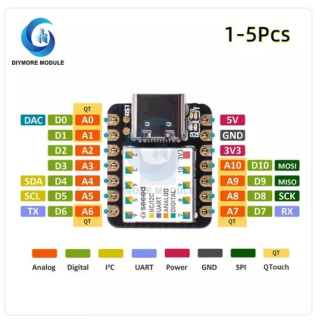
€ 0,70

★ 4.9 1020 Sold



€ 3,59
★ 4.8 237 Sold

€ 2,73
★ 4.8 316 Sold



€ 5,35
★ 5.0 169 Sold

€ 3,66
★ 4.8 341 Sold

View More >

1.3 Active power
1.3.1 Measuring range: 0 ~ 2.3kW(PZEM-004T-10A); 0 ~ 23kW(PZEM-004T-100A)
1.3.2 Starting measure power: 0.4W
1.3.3 Resolution: 0.1W
1.3.4 Display format:
< 1000W, it display one decimal, such as: 999.9W
≥1000W, it display only integer, such as: 1000W
1.3.5 Measurement accuracy: 0.5%
1.4 Power factor
1.4.1 Measuring range: 0.00 ~ 1.00
1.4.2 Resolution: 0.01
1.4.3 Measurement accuracy: 1%
1.5 Frequency
1.5.1 Measuring range: 45Hz ~ 65Hz
1.5.2 Resolution: 0.1Hz
1.5.3 Measurement accuracy: 0.5%
1.6 Active energy
1.6.1 Measuring range: 0 ~ 9999.99kWh
1.6.2 Resolution: 1Wh
1.6.3 Measurement accuracy: 0.5%
1.6.4 Display format:
< 10kWh, the display unit is Wh(1kWh=1000Wh), such as: 9999Wh
≥10kWh, the display unit is kWh, such as: 9999.99kWh
1.6.5 Reset energy: use software to reset.
1.7 Over power alarm
Active power threshold can be set, when the measured active power exceeds the threshold, it can alarm
1.8 Communication interface
RS485 interface。
2 Communication protocol
2.1 Physical layer protocol
Physical layer use UART to RS485 communication interface
Baud rate is 9600, 8 data bits, 1 stop bit, no parity
2.2 Application layer protocol
The application layer use the Modbus-RTU protocol to communicate. At present, it only supports function codes such as 0x03 (Read Holding Register), 0x04 (Read Input Register), 0x06 (Write Single Register), 0x41 (Calibration), 0x42 (Reset energy).etc.
0x41 function code is only for internal use (address can be only 0xF8), used for factory calibration and return to factory maintenance occasions, after the function code to increase 16-bit password, the default password is 0x3721
The address range of the slave is 0x01 ~ 0xF7. The address 0x00 is used as the broadcast address, the slave does not need to reply the master. The address 0xF8 is used as the general address, this address can be only used in single-slave environment and can be used for calibration etc.operation.
2.3 Read the measurement result
The command format of the master reads the measurement result is(total of 8 bytes):
Slave Address + 0x04 + Register Address High Byte + Register Address Low Byte + Number of Registers High Byte + Number of Registers Low Byte + CRC Check High Byte + CRC Check Low Byte.
The command format of the reply from the slave is divided into two kinds:
Correct Reply: Slave Address + 0x04 + Number of Bytes + Register 1 Data High Byte + Register 1 Data Low Byte + ... + CRC Check High Byte + CRC Check Low Byte
Error Reply: Slave address + 0x84 + Abnormal code + CRC check high byte + CRC check low byte
Abnormal code analyzed as following (the same below)
- 0x01,Illegal function
- 0x02,Illegal address
- 0x03,Illegal data
- 0x04,Slave error

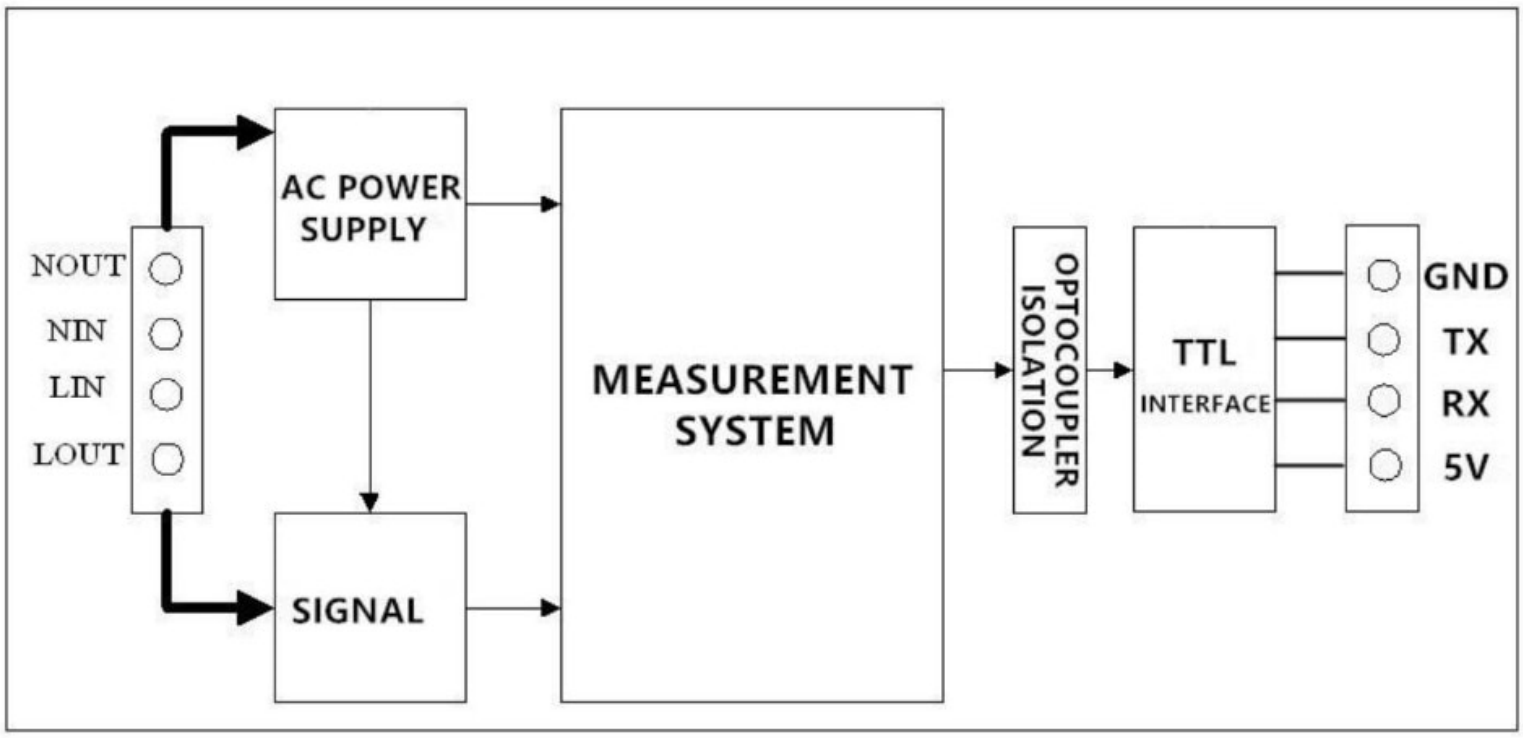
Register address	Description	Resolution
0x0000	Voltage value	1LSB correspond to 0.1V
0x0001	Current value low 16 bits	1LSB correspond to 0.001A
0x0002	Current value high 16 bits	
0x0003	Power value low 16 bits	1LSB correspond to 0.1W
0x0004	Power value high 16 bits	
0x0005	Energy value low 16 bits	1LSB correspond to 1Wh
0x0006	Energy value high 16 bits	
0x0007	Frequency value	1LSB correspond to 0.1Hz
0x0008	Power factor value	1LSB correspond to 0.01
0x0009	Alarm status	0xFFFF is alarm, 0x0000is not alarm

For example, the master sends the following command (CRC check code is replaced by 0xHH and 0xLL, the same below)
0x01 + 0x04 + 0x00 + 0x00 + 0x00 + 0x0A + 0xHH + 0xLL
Indicates that the master needs to read 10 registers with slave address 0x01 and the start address of the register is 0x0000
The correct reply from the slave is as following:
0x01 + 0x04 + 0x14 + 0x08 + 0x98 + 0x03 + 0xE8+0x00 + 0x00 +0x08 + 0x98+ 0x00 + 0x00 + 0x00 + 0x00 + 0x00 + 0x00 + 0x01 + 0xF4 + 0x00 + 0x64 + 0x00 + 0x00 + 0xHH + 0xLL
The above data shows
⚫ Voltage is 0x0898, converted to decimal is 2200, display 220.0V
⚫ Current is 0x000003E8, converted to decimal is 1000, display 1.000A
⚫ Power is 0x00000898, converted to decimal is 2200, display 220.0W
⚫ Energy is 0x00000000, converted to decimal is 0, display 0Wh
⚫ Frequency is 0x01F4, converted to decimal is 500, display 50.0Hz
⚫ Power factor is 0x0064, converted to decimal is 100, display 1.00
⚫ Alarm status is 0x0000, indicates that the current power is lower than the alarm power threshold
2.4 Read and modify the slave parameters
At present,it only supports reading and modifying slave address and power alarm threshold
The register is arranged as the following table

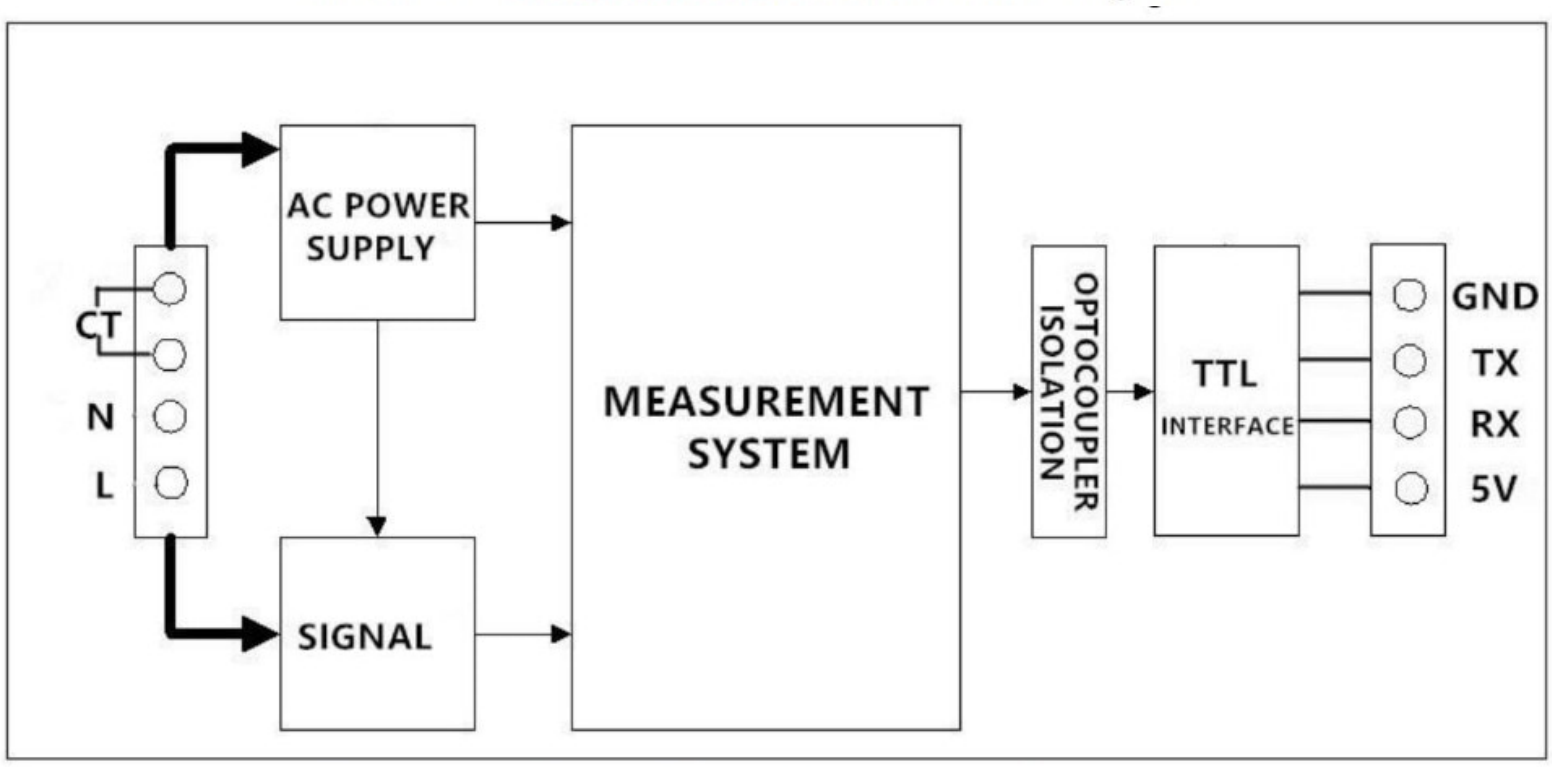
Register address	Description	Resolution
0x0001	Power alarm threshold	1LSB correspond to 1W
0x0002	Modbus-RTU address	The range is 0x0001~0x00F7

The command format of the master to read the slave parameters and read the measurement results are same(descrybed in details in Section 2.3), only need to change the function code from 0x04 to 0x03.
The command format of the master to modify the slave parameters is (total of 8 bytes):
Slave Address + 0x06 + Register Address High Byte + Register Address Low Byte + Register Value High Byte + Register Value Low Byte + CRC Check High Byte + CRC Check Low Byte.
The command format of the reply from the slave is divided into two kinds:
Correct Response: Slave Address + 0x06 + Number of Bytes + Register Address Low Byte + Register Value High Byte + Register Value Low Byte + CRC Check High Byte + CRC Check Low Byte.
Error Reply: Slave address + 0x86 + Abnormal code + CRC check high byte + CRC check low byte.
For example, the master sets the slave's power alarm threshold:
0x01 + 0x06 + 0x00 + 0x01 + 0x08 + 0xFC + 0xHH + 0xLL
Indicates that the master needs to set the 0x0001 register (power alarm threshold) to 0x08FC (2300W).
Set up correctly, the slave return to the data which is sent from the master.
For example, the master sets the address of the slave
0x01 + 0x06 + 0x00 + 0x02 + 0x00 + 0x05 + 0xHH + 0xLL
Indicates that the master needs to set the 0x0002 register (Modbus-RTU address) to 0x0005
Set up correctly, the slave return to the data which is sent from the master.
2.5 Reset energy
The command format of the master to reset the slave's energy is (total 4 bytes):
Slave address + 0x42 + CRC check high byte + CRC check low byte.
Correct reply: slave address + 0x42 + CRC check high byte + CRC check low byte.
Error Reply: Slave address + 0xC2 + Abnormal code + CRC check high byte + CRC check

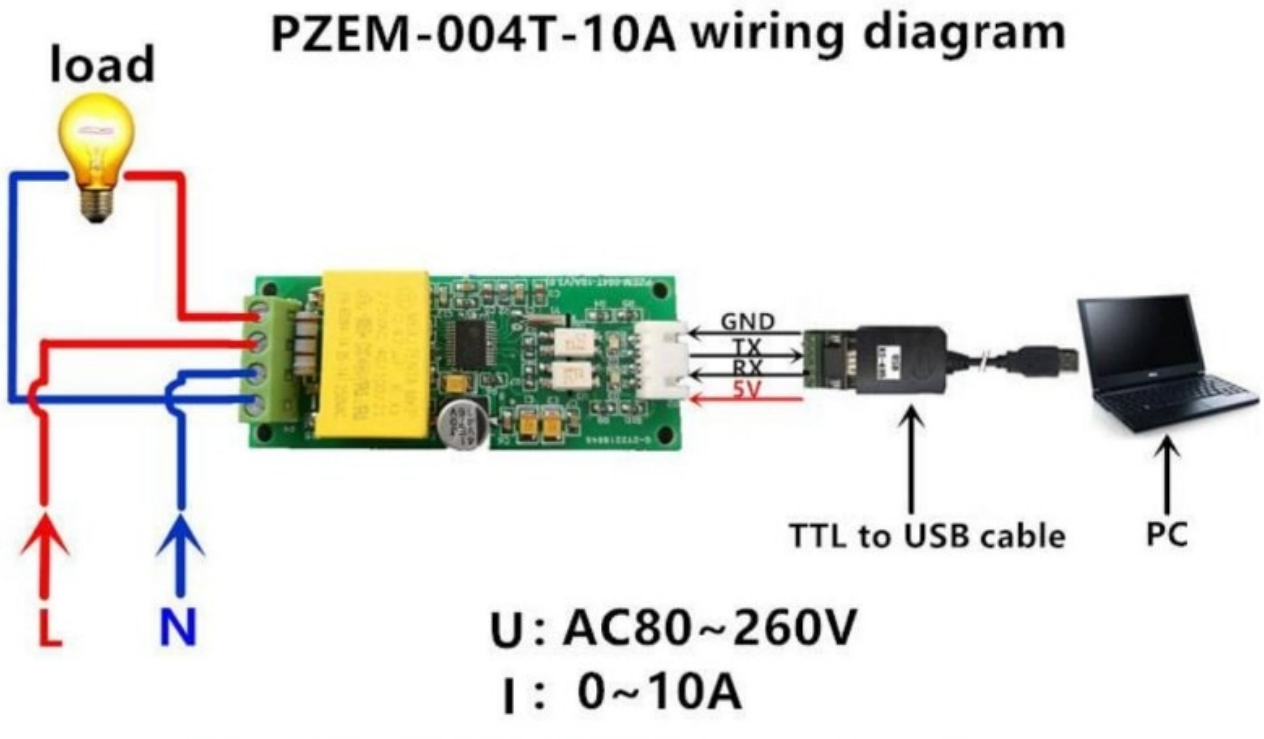
The command format of the master to calibrate the slave is (total 6 bytes):
0xF8 + 0x41 + 0x37 + 0x21 + CRC check high byte + CRC check low byte.
Correct reply: 0xF8 + 0x41 + 0x37 + 0x21 + CRC check high byte + CRC check low byte.
Error Reply: 0xF8 + 0xC1 + Abnormal code + CRC check high byte + CRC check low byte.
It should be noted that the calibration takes 3 to 4 seconds, after the master sends the command, if the calibration is successful, it will take 3 ~ 4 seconds to receive the response from the slave.
2.7 CRC check
CRC check use 16bits format, occupy two bytes, the generator polynomial is X16 + X15 + X2 +1, the polynomial value used for calculation is 0xA001.
The value of the CRC check is a frame data divide all results of checking all the bytes except the CRC check value.
3 Functional block diagram



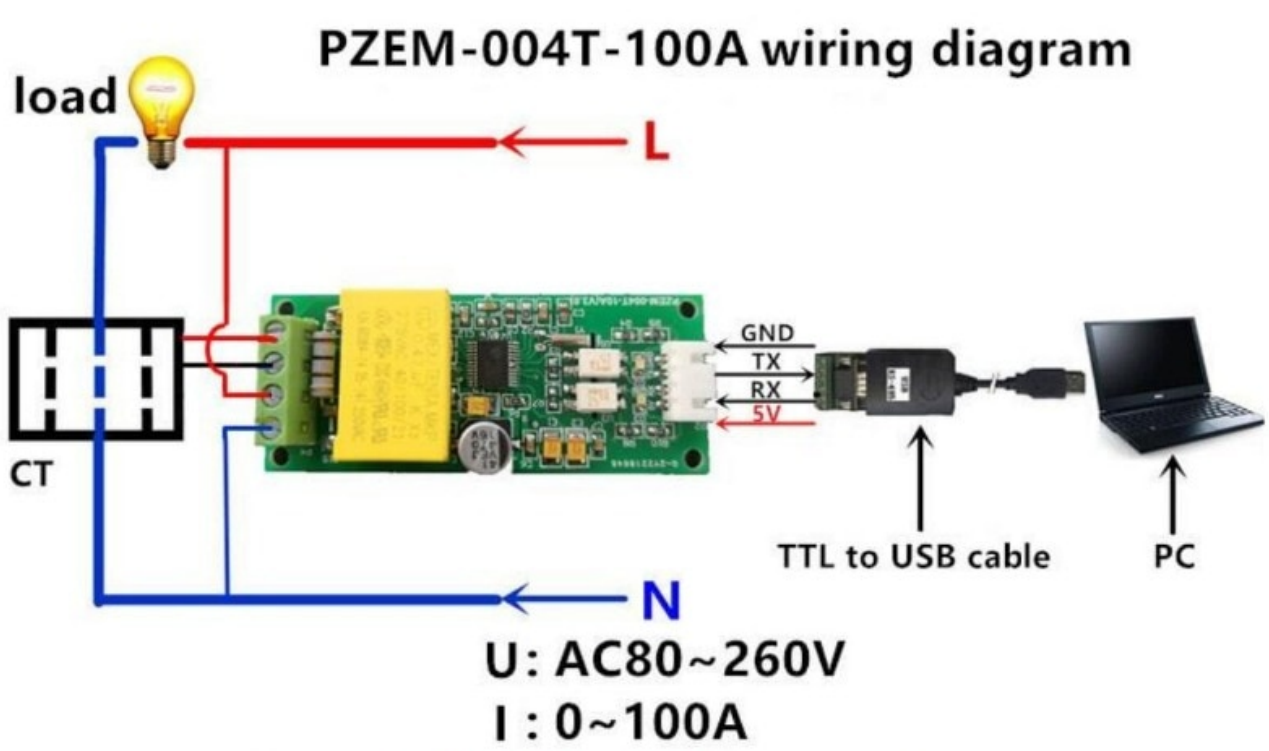
Picture 3.1 PZEM-004T-10A Functional block diagram



Picture 3.2 PZEM-004T-100A Functional block diagram



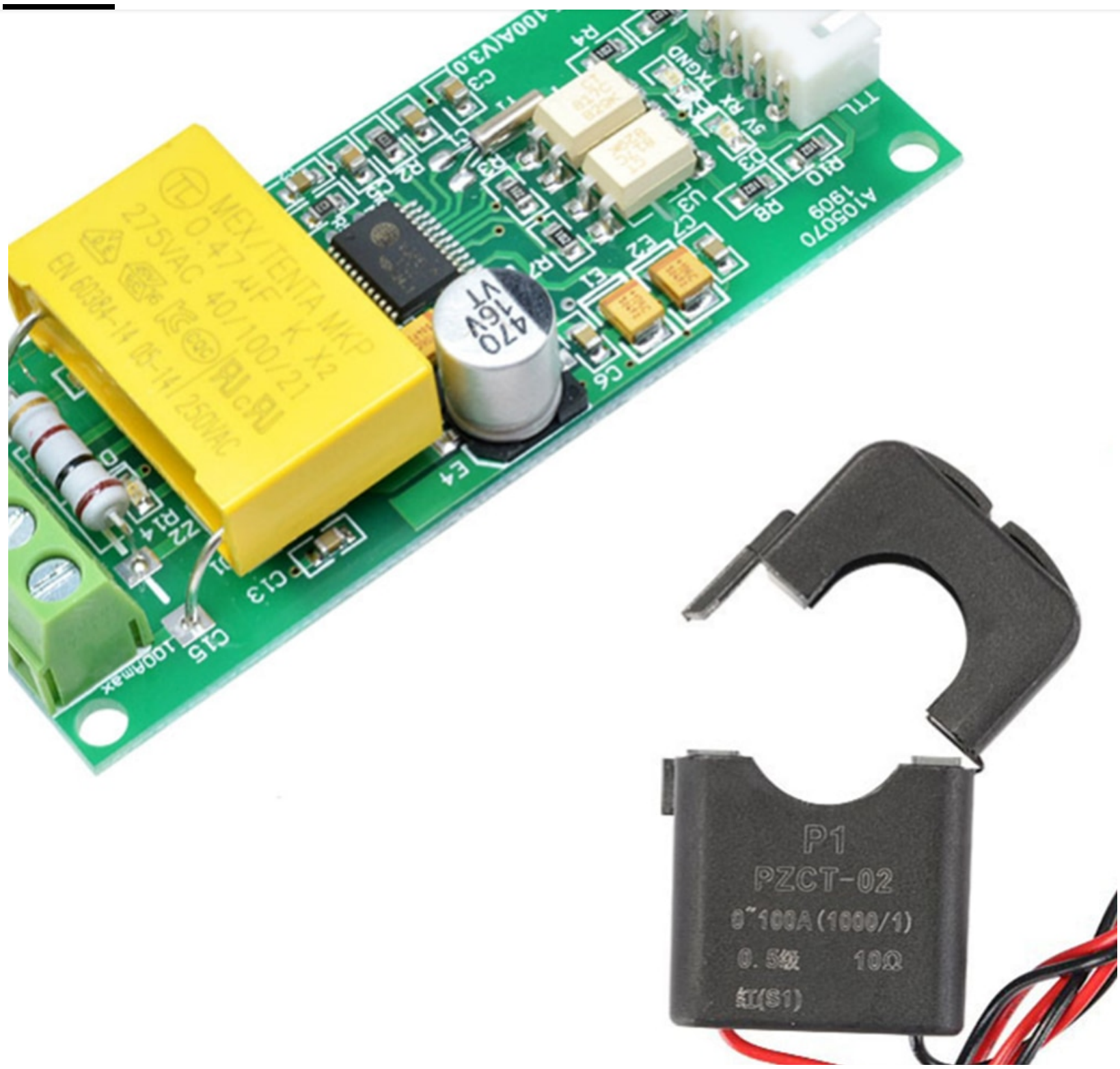
Picture 4.1 PZEM-004T-10A wiring diagram

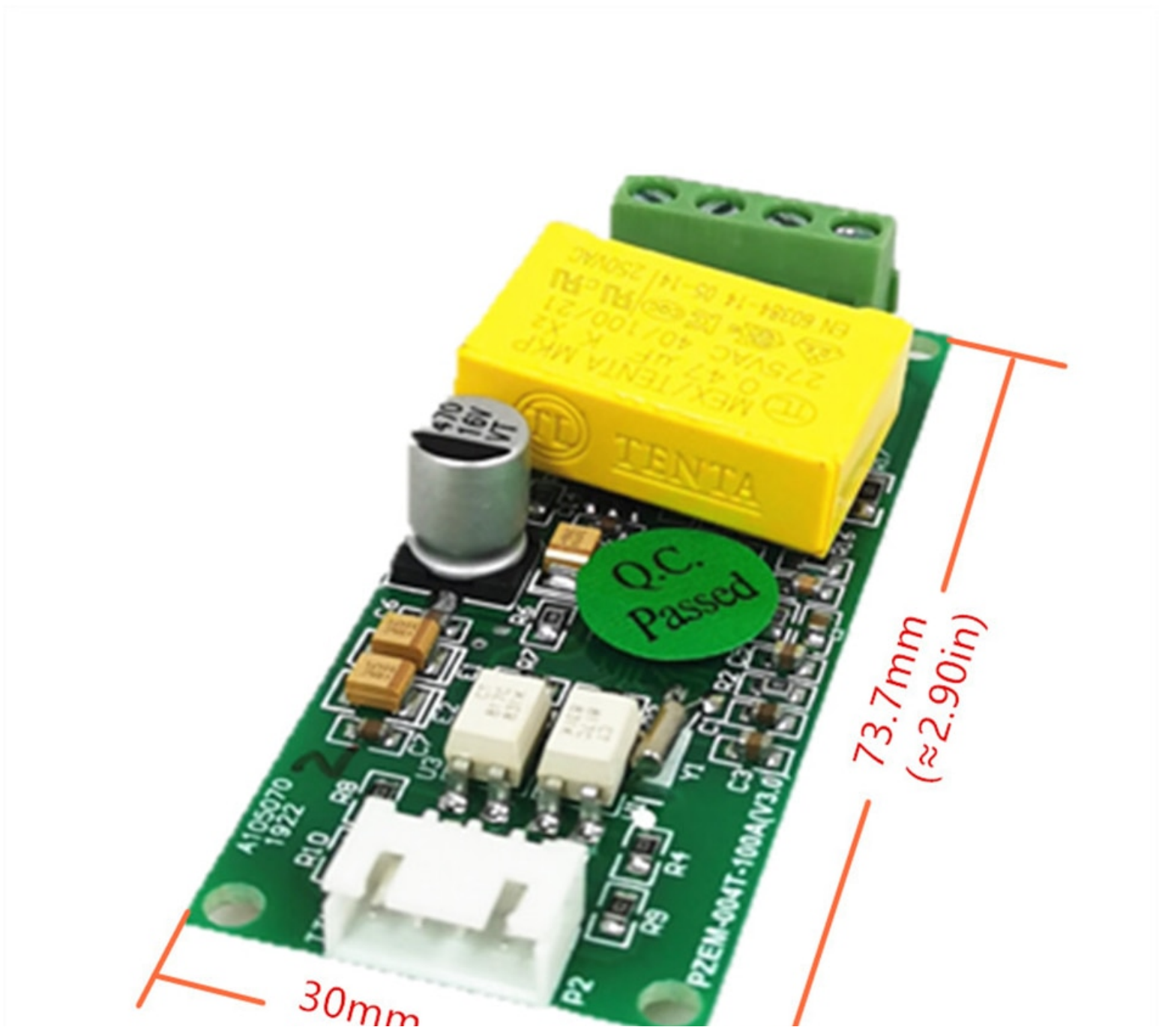


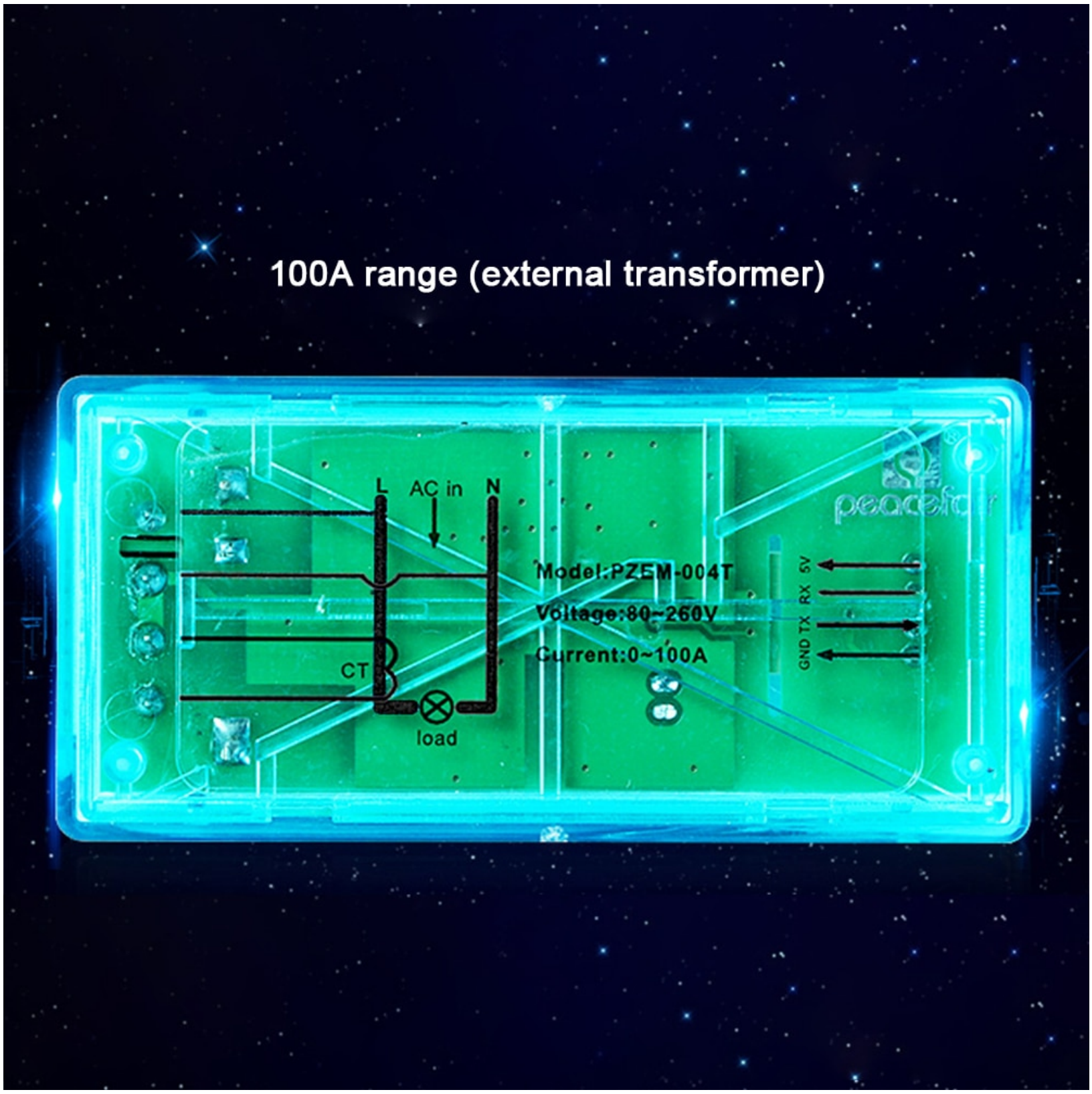
Picture 4.2 PZEM-004T-100A wiring diagram

5 Other instructi5.1The TTL interface ohich means, when come it cannot communica5.2 Working temper-20’C ~ +60’C。

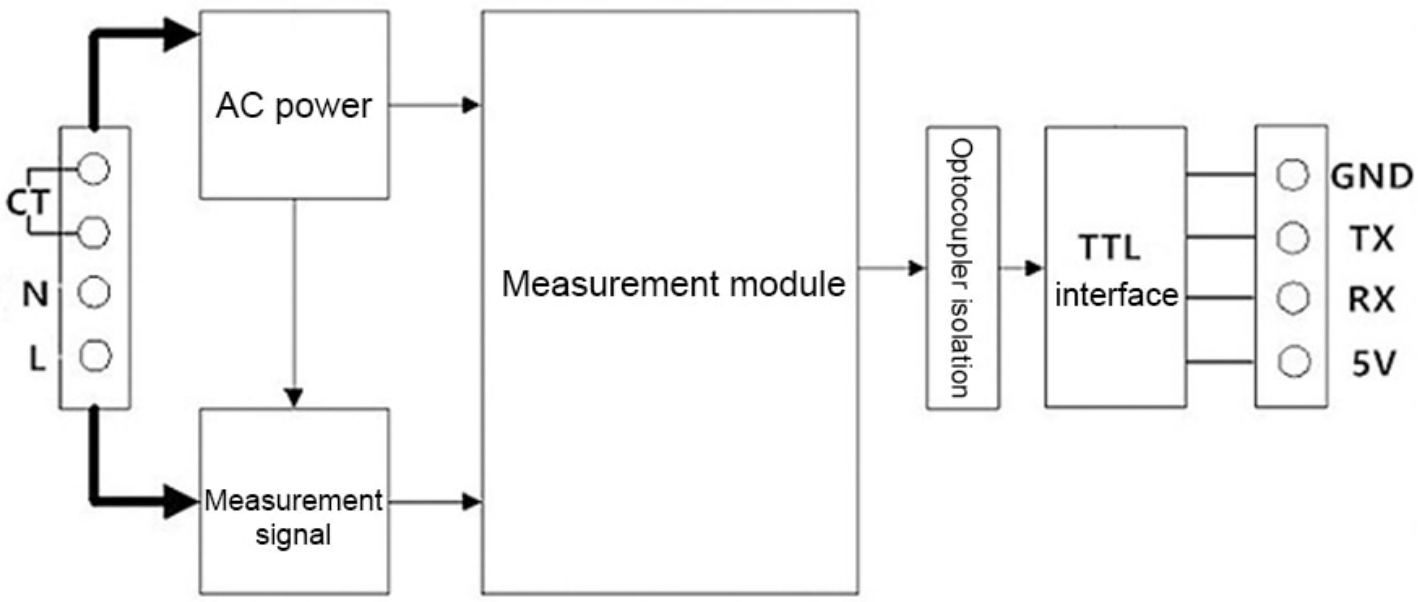
Package include:
1x Digital Multi-function Meter
1x Coil


MEX/TENTA MKP
0.47 uF K X2
275VAC 40/100/21
EN 60384-14 05-14/250VAC
470 16V
P1
PZCT-02
0~100A(1000/1)
0.5级 10Ω
红(S1)

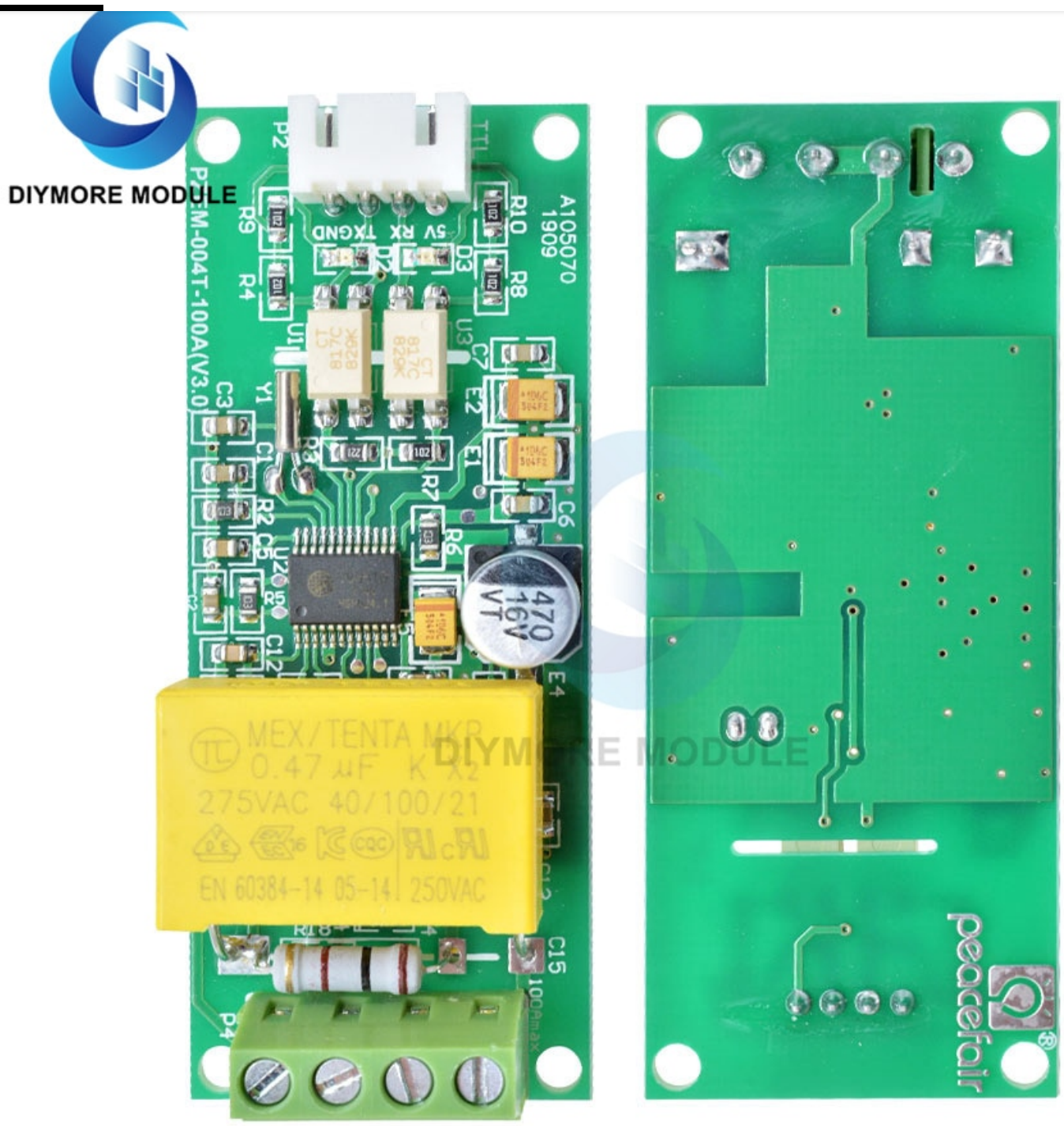

TENTA
Q.C.
Passed
73.7mm
(≈2.90in)
30mm


100A range (external transformer)
L
AC in
N
CT
load
Model:PZEM-004T
Voltage:80~260V
Current:0~100A
GND TX RX 5V

·Functional block diagram



DIYMORE MODULE
peacefair


DIYMORE MODULE
PZEM-004T-100A(V3.0
A105070
1909
MEX/TENTA MKR
0.47 µF K X2
275VAC 40/100/21
EN 60384-14 05-14 250VAC
peacefair

SHOPPING GUIDE

PAYMENT

SHIPMENT

Shipping Method	Courier	Shipping Time
Express Shipping	DHL Express	About 3-10 days
	EMS Shipping	About 3-10 days
Standard Shipping (for order over USD5)	Aliexpress Standard Shipping	About 20-45 days
	Registered Air Mail(china post/e packet-only for USA)	About 40-60 days
Economy Shipping (for order under USD5)	Economy Post(finland economy/ SG economy/China economy)	About 40-60 days

FEEDBACK

If you have any problems about the order, please feel free to contact us.

Item as described : ★★★★★ 5 STAR

Communication : ★★★★★ 5 STAR

Shipping speed : ★★★★★ 5 STAR

If satisfied with our products, kindly leave a 5-star rating and share whit your friends.

diymore module St...

DESCRIPTION CUSTOMER REVIEWS (11) SPECIFICATIONS

Buy Now Add to Cart

Links

Related Search

solarl power meter
large counter arduino
arduino current meter
power meter biling
kwh power meter
gli ph meter
cctv sony cmos
pzem 004 crotchless
pzem 004t box
block 3 phase
rf power meter module
module ac 42

Ranking Keywords

black turtleneck

This product belongs to **Home** , and you can find similar products at **All Categories** , **Electronic Components & Supplies** , **Active Components** , **Integrated Circuits** .