



Turn on the value of data

PD02 interface board User manual

V1.0

Shenzhen Hopeland Technologies Co., Ltd.

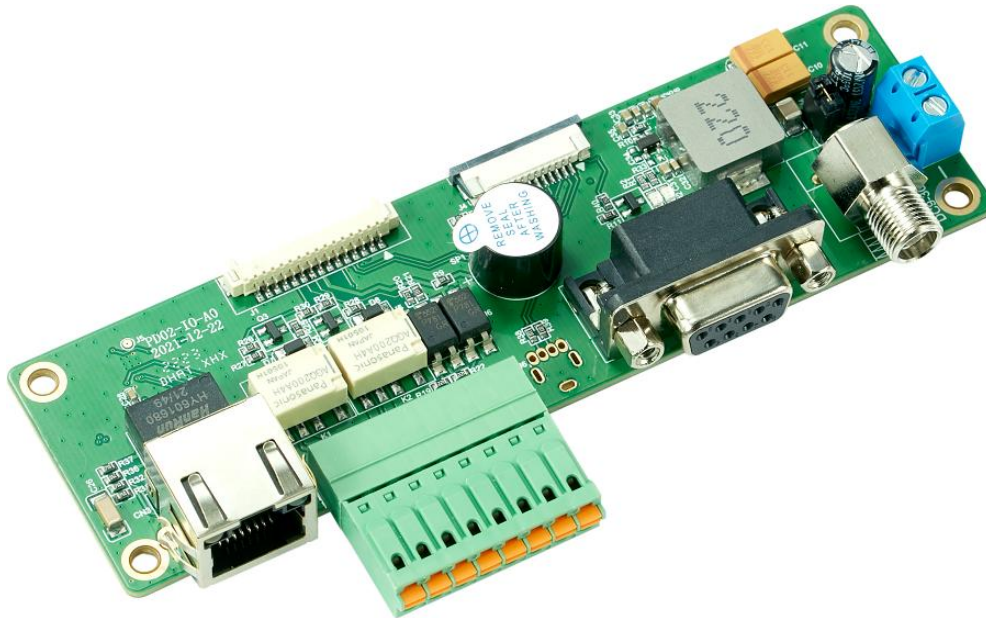
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1. Specification

1.1 Product features

PD02 interface board is an RFID radio frequency module supporting product, compatible with various wiring modules of Hopeland.



1.2 Main functions and technical performance

1.2.1 Main functions

- Compatible with Smart series single-channel/multi-channel modules
- Communication interface support: RS232, RJ-45, (HZ series multi-channel modules need to be customized, other modules do not support).
- IO interface: 2 IO inputs, 2 relay outputs
- The IO interface level change triggers the tag reading function (response time: <10ms).
- Power supply: 9V~30V.

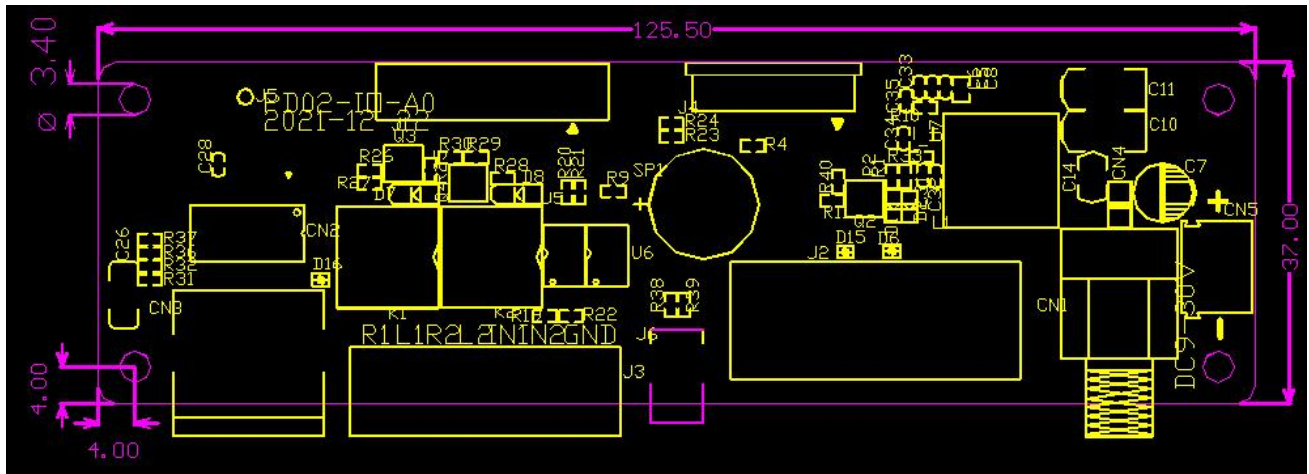
1.2.2 Performance parameters

- Network interface communication rate: 10M/100M adaptive
- RS232 serial communication rate: 115200bps (default)
- Low temperature operation, 48 hours at $-20\pm 3^{\circ}\text{C}$ (reading tags), normal reading function both at low temperature and after recovery from room temperature
- High temperature operation, 48 hours at $20\pm 3^{\circ}\text{C}$ (reading tags), normal reading function both at high temperature and after recovery from room temperature

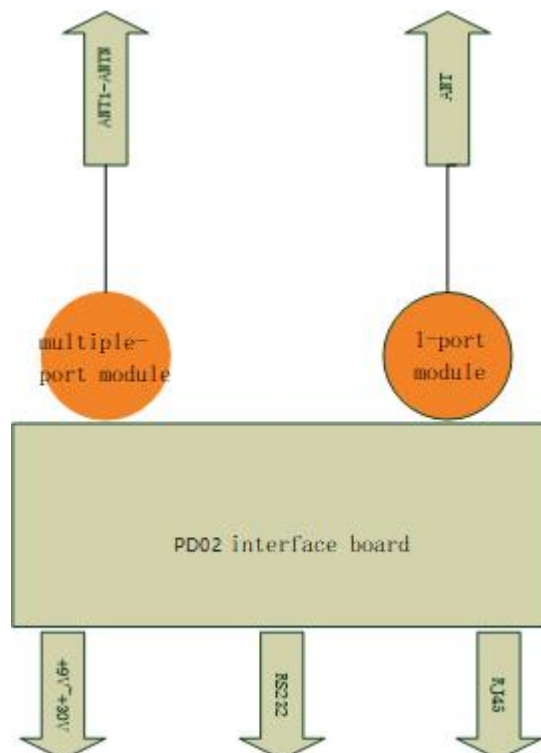
2. External interface

2.1 Dimensions

125.5mm×37mm×20mm (without accessories)



2.2 Interface block diagram



The PD02 interface board is a matching interface board for the RF module. The interface board is powered by the power supply interface and communicates with the external via the RS232 interface, or the network port.

2.3 Interface definition

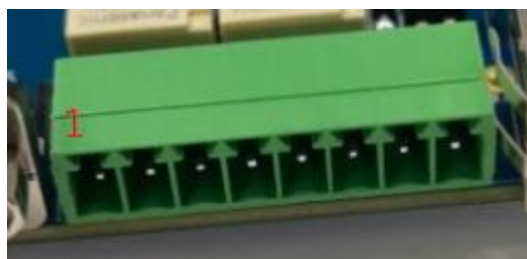
RJ45 interface definition table

No.	Definition
1	Network Transmit +
2	Network Transmit +
3	Network Receive +
4	NC
5	NC
6	Network Receive -
7	NC
8	NC

RS232 interface definition table

No.	Definition
1	NC
2	RXD
3	TXD
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

IO interface table

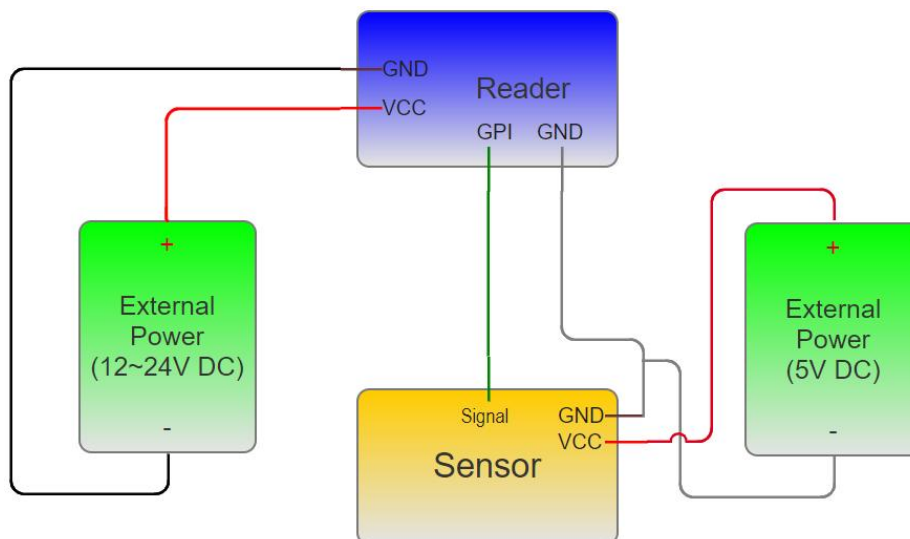


No.	Definition	Description
1	GPO1_R1	Relay 1# output; DC_MAX: 30V, 2A; AC_MAX: 125V, 0.3A; logic '0' indicates open circuit, logic '1' indicates closed, default is open circuit.

2	GPO1_L1	Relay 1# output; DC_MAX: 30V, 2A; AC_MAX: 125V, 0.3A; logic '0' indicates open circuit, logic '1' indicates closed, default is open circuit.
3	GPO2_R1	Relay 2# output; DC_MAX: 30V, 2A; AC_MAX: 125V, 0.3A; logic '0' indicates open circuit, logic '1' indicates closed, default is open circuit.
4	GPO2_L1	Relay 2# output; DC_MAX: 30V, 2A; AC_MAX: 125V, 0.3A; logic '0' indicates open circuit, logic '1' indicates closed, default is open circuit.
5	GPI1	Normal input port 1 (5V)
6	GPI2	Normal input port 2 (5V)
7	GND	Ground
8	GND	Ground

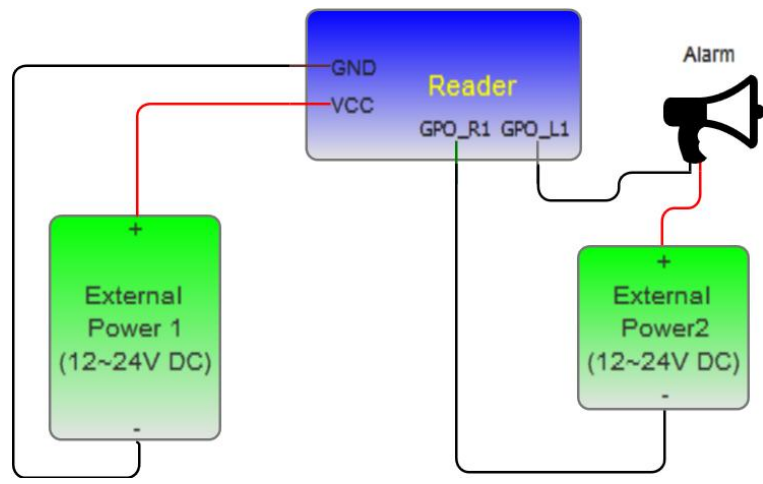
GPI Usage Example

Infrared sensor selection: Choose PNP NO type, which means that the infrared is normally low, when the object is detected, the signal line outputs a positive voltage signal.



GPO Usage Example

Relay type GPO: GPO is equivalent to a switch, logic '0' means open circuit, logic '1' means closed, default is open circuit state. You can connect the warning light, buzzer, etc. to the GPO for use. The usage is shown in the following figure.



3. Installation Notes

3.1 Precautions

In order to ensure the normal and stable operation of the equipment and the safety of your personal and property, please read the following precautions carefully before using the interface board to connect the RF module:

1. First check whether the ground terminal of the power socket is connected to the earth, and check whether the local power supply voltage meets the applicable voltage range of the interface board;
2. Check whether the connection between the equipment and the outside is tight;
3. Pay attention to the type selection and length limitation of the network cable and serial cable:
 - The serial port line adopts direct connection, and the length does not exceed 5 meters.
 - The length of the network cable connection does not exceed 80 meters.

3.2 Installation conditions

Before installation, please carefully check whether the product is in good condition and whether the accessories are complete. If there is a shortage of damage, please contact the supplier in time.

3.3 Device connection

3.3.1 Connection module

Use a suitable cable to connect the module to the corresponding module interface of the interface board.

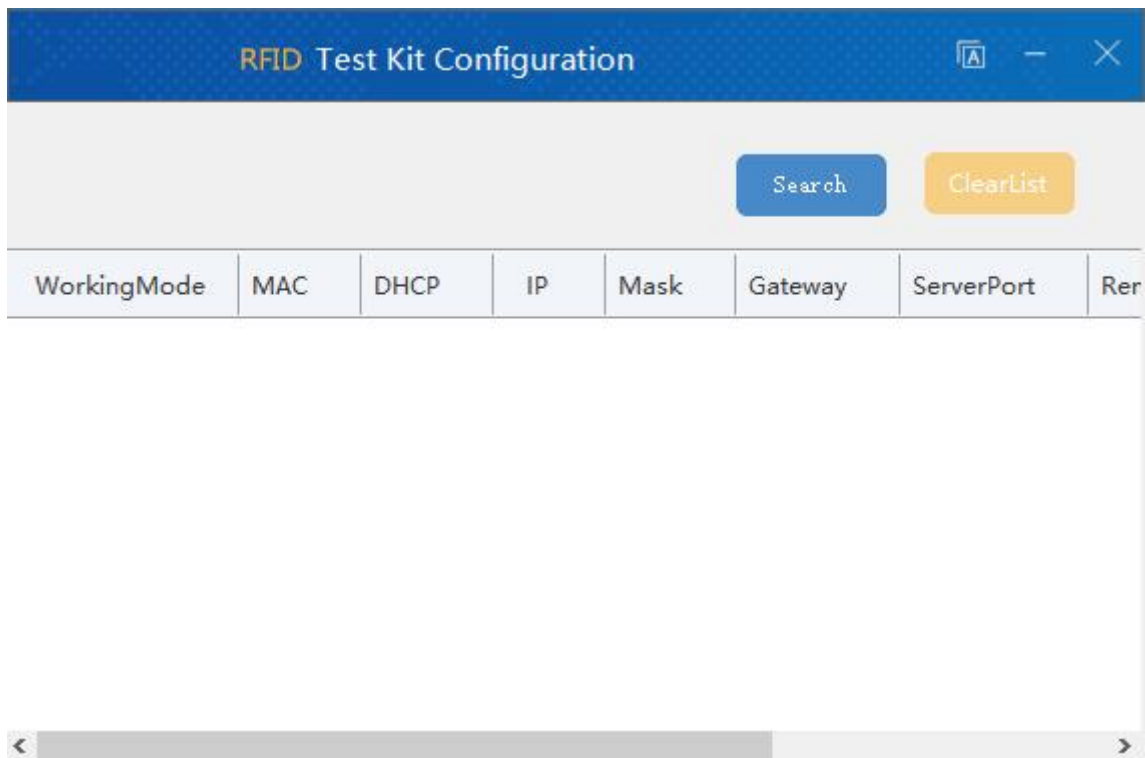
3.3.2 Connect the power adapter

- ☆ Insert the power cord into the AC power supply socket, and then insert the other end of the power cord into the power interface of the interface board and fasten it;
- ☆ Turn on the power of the interface board and wait for about 3 seconds, the system completes the initialization process and enters the standby state.

3.3.3 Connect to PC

- ☆ Interface board with RS232 interface, network interface, RS485 interface
- ☆ The RS232 interface is used for short-distance serial communication (recommended distance is no more than 5m), and it can be connected to the PC serial port through the DB9 connector to realize the communication between the PC and the device
- ☆ The network port is used for long-distance communication (not greater than 80m).

Note: If you need to modify the network parameters of the PD02 interface board, you cannot use the standard version of the demo software to do so, but need to use the special RFID Test Kit Configuration tool to do so. As shown below.



3.4 Install interface board

This interface board uses a 9-30V adapter for power supply, and the communication method can use the network port, RS232 and other methods to communicate with the PC.

4. Common Failures

4.1 Daily maintenance

None

4.2 Common Failure Analysis and Solution

- Power supply system failure:

Check whether the power supply of the power adapter is normal, and whether the AC power supply voltage is between 100V ~ 240V.

- The serial port cannot be connected:

The serial port cable is not connected or not firmly connected

Whether the serial port connection baud rate of the device is correct

Is the COM port selected correctly

- The network port cannot be connected:

The default IP address set at the factory is 192.168.1.116. Make sure that the IP address of the PC and the IP address of the reader are in the same network segment. For example, "192.168.1.XXX" can be connected to the reader. If you forget the IP address of the reader, you can reset the IP address of the reader through the serial port.

- The buzzer does not sound:

Whether the software turns on the buzzer function correctly

For problems that users cannot solve by themselves, please contact after-sales service.

5. Accessories & Storage

5.1 accessories

Table 6-1 List of accessories

No.	Name	Quantity	Unit	Remarks
1	PD02 interface board	1	unit	standard

5.2 Storage requirements

Long-term storage of PD02 interface board should meet the following conditions:

- Environmental temperature: -40°C~ +85°C
- Relative humidity: 5% RH ~ 90%RH