SANRAY

RFID HARDWARE/RFID SOFTWARE

FOUR PORT RFID READER F5860

The RFID ultra-high frequency four channel reader F5860-H adopts four antenna high-speed polling, which can be separately configured for power and time to meet different coverage requirements. The maximum output power of the module can reach+30dBm, the sensitivity -82dBm, and the reading distance can reach 0~28m with the 8dBi gain antenna. The reader writer fully supports the EPC global UHF Class1 GEN2/ISO 18000-6C air interface protocol, and its working area can cover China, Taiwan, the United States, Europe, Korea, Japan, etc.

F5860-H is based on the new generation ARM-COTEXM3 processor and adopts industrial grade design. It has the industry's best multi label algorithm, module adaptability, and the advantage of fast tag recognition. It can achieve a tag recognition rate of over 800 tags/s. And add external watchdog circuits, heartbeat packets, real-time monitoring of device status and other related functions, with strong stability.

Based on 10 years of experience in the RFID industry, the R&D team has integrated a large number of project requirements for tag data processing into the reader, in addition to optimizing the general requirements of the reader. This greatly reduces the difficulty and workload of customer application software development, making project implementation more efficient and fast. At the same time, in response to the special needs of customers, the tag EPC storage area data can be encrypted. After encryption, when using other brands of readers to read the tag EPC data, it will display garbled characters, increasing the confidentiality of the data

The reader is equipped with multiple tag reading modes such as master-slave mode, automatic mode, and channel door mode, which have been carefully optimized for environments such as automated assembly lines, accessible RFID channels, warehouses, and automatic inventory cabinets. F5860-H has a channel door mode management function, which can achieve tracking and control of personnel and items in accessible channels, 24-hour uninterrupted monitoring and linkage channel control. By remotely reading the identity information on personnel/item tags, it is possible to record and control the entry and exit information of personnel/items through barrier free access control, thereby achieving management goals such as personnel access authorization management, anti-theft management, and inventory management. Suitable for situations where personnel identity is difficult to accurately and efficiently determine and quickly pass through, such as entrances and exits of enterprises, factories, schools, collective apartments, and libraries.

Product Technical Parameters

Name	Specification parameters
Sensor	ARM-COTEXM3
Air Interface Protocol	EPC global UHF Class 1 Gen 2/ISO 18000-6C
Working Frequency	840～960MHz（Default frequency band 920～925MHz）
Support area	China, Europe, United States, South Korea, Japan ……
working voltage	DC12V
Working current	< 2.0A
Standby current	< 50mA
output power	Software adjustable: step interval 1.0dB，+5dBm~30dBm
Maximum receiving sensitivity	-82dBm
Working temperature	-25℃～+65℃
Working humidity	≤95%（+25℃）
storage temperature	-30℃～+70℃
DRM mode	Support
Access Door	Support
RSSI	Support
High temperature automatic protection	Support
External watchdog	Support
Network disconnection alarm	Support
Disconnect and reconnect from the internet	Support
GPIO port	Input IO port: 2 channels
	Output IO port: 4 channels
buzzer	Support
LED indicator light	Power indicator light: 1 LED (red)
	WIFI indicator light: 1 LED (green)
	Status indicator light: 1 LED (green)
	System indicator light: 1 LED (green)
	Antenna indicator light: 4 LEDs (green)
communication function	RS-232
	Network port
	WIFI (optional)
	4G (optional)
	RS-485, Bluetooth (customizable)
antenna interface	4 pcs TNC
SIZE	268*191*43mm

Simple fault explanation and troubleshooting

Running light flashing prompt:

1) Start running for 800ms, light on, 700ms off;

2) The wired network connection is successful (or the WIFI network connection is successful, or the 4G network connection is successful), it lights up at 160ms and goes off at 140ms;

3) The flashing speed of MQTT connection status increases by 5 times on the basis of successful network connection.

Beeper On：

1) WIFI/4G/wired network connection successful, buzzer sounds continuously for 3 times, with a time interval of approximately 50ms;

2) MQTT connection successful, buzzer sounds continuously for 3 times, with a time interval of approximately 20ms;

3) After a successful wired network connection, an abnormal disconnection occurs and the buzzer beeps continuously for 500ms intervals;

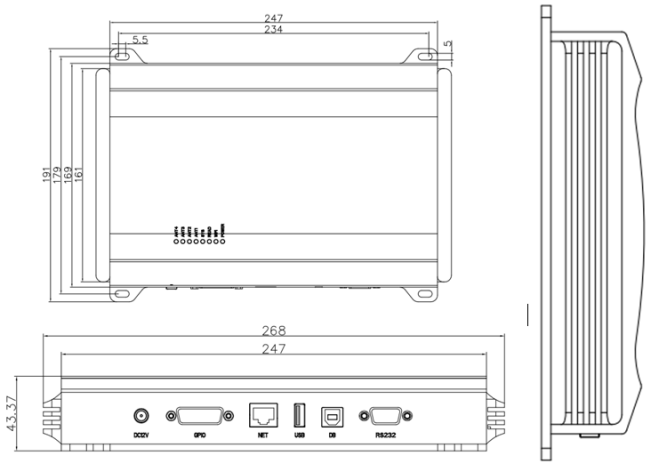
4) Parameter setting successful, buzzer beeps twice in a row with a time interval of approximately 50ms;

5) After restoring the system settings, the buzzer beeps continuously for 3 times, with a time interval of approximately 80ms;

6) Power on module self-test failed, with 2 consecutive sounds and a time interval of 800ms;

7) The self check of the power on module is successful, and the buzzer sounds once for 200ms;

Equipment installation dimension diagram



GPIO interface definition

PIN	Name	Description
1	5V	5V power output
2	-	-
3	-	-
4	GPIO_IN1	IO input control interface
5	GPIO_IN2	IO input control interface
6	NC	-
7	NC	-
8	GND	grounds
9	GPIO_OUT1	GPIO port output terminal (configurable Wigan DATA0 output)
10	GPIO_OUT2	GPIO port output terminal (configurable Wigan DATA0 output)
11	GPIO_OUT3	GPIO port output terminal, which can be controlled by program to output high and low levels. The output high level is 5V and the low level is 0V. The maximum output current is 100mA. (Default output level is low level 0V)
12	GPIO_OUT4	GPIO port output terminal, which can be controlled by program to output high and low levels. The output high level is 5V and the low level is 0V. The maximum output current is 100mA. (Default output level is low level 0V)
13	NC	-
14	NC	-
15	12V	12V power output