SANRAY

RFID HARDWARE/RFID SOFTWARE

EIGHT PORT RFID READER F5808

The high-performance eight channel F5808 is an industrial grade ultra-high frequency RFID reader/writer suitable for working in complex working conditions and harsh environments. F5808 has powerful RF functions, with 8 antennas for high-speed polling. It can be individually configured for power and time to meet different coverage requirements. The output power is 0~30dBm, the sensitivity is -82dBm, and it fully supports the EPC global UHF Class1 GEN2/ISO 18000-6C air interface protocol. It has stable read-write performance and strong anti-interference capability. The distance between the common tags read and written by the 8dBi antenna configured is 0~20m, and the multi tag reading can reach more than 800 tags/s. Its working area can cover China, Taiwan, the United States, Europe, South Korea, Japan, etc.

F5808 is based on the new generation ARM-COTEXM3 processor, adopting industrial grade design and adding external watchdog circuit, heartbeat packet, real-time monitoring device status and other related functions, with good stability. At the same time, based on 10 years of experience in the RFID industry, a large number of project application requirements are pre implemented within the reader/writer, reducing the workload of customer application software development and making project implementation more convenient and efficient.

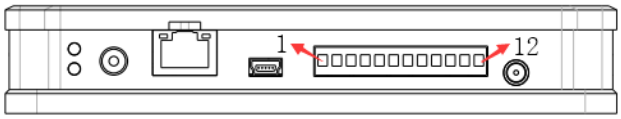
The reader is equipped with multiple modes such as master-slave mode, automatic mode, and channel door mode. In addition to optimizing the general requirements of the reader, based on years of RFID product experience, it has been carefully optimized for environments such as automated assembly lines, accessible RFID channels, warehouses, and automatic inventory cabinets. At the same time, the environment where more than a hundred readers and writers are used simultaneously has been optimized, providing more stable support for a large number of readers and writers working simultaneously in the project.

F5808 has communication interfaces such as mini USB, Ethernet, WIFI (optional), and 6 input/output IO ports. We provide users with comprehensive software development kits (SDKs) and interfaces (APIs) on the software, which are easy to integrate with users' software. Paired with simple and easy-to-use server software, it is convenient to quickly use and configure devices.

Product Technical Parameters

Name	Parameter
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: The step interval is 1.0dB, and each channel can be individually adjusted from+5dBm to 30dBm
Maximum receiving sensitivity	-82dBm
Working Temperature	-25℃～+65℃
Working humidity	≤95%（+25℃）
storage temperature	-30℃～+70℃
DRM mode	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) Status indicator light: 1 LED (green)
communication function	Mini USB network port WIFI (optional) ） RS-485
antenna interface	8 pcs SMA
Dimension	155*135*27mm

Definition of wiring terminal interface



PIN	Name	Description
1	5V	5V power output
2	RS-485-A	RS-485 communication interface
3	RS-485-B	RS-485 communication interface
4	GPIO_IN1	IO input control interface
5	GPIO_IN2	IO input control interface
6	TXD	RS-232 communication port
7	RXD	RS-232 communication port
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)

Simple fault explanation and troubleshooting

Running light flashing prompt:

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

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;

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

Buzzer prompt:

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

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

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

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

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

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

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