

UHF RFID READER

F5009 data sheet



SANRAY RFID TECHNOLOGY LIMITED

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Product Description

F5009 is a high-performance reader/writer designed for high challenging RFID application environment. It employs our high efficient M2210 RF module, 9dbi circular polarization antenna and integrates with interfaces of RS232, RS485 and Ethernet, which can realize a reading distance of 20m. It owns a superior multi-tags reading rate and can achieve a tag identification rate of 400tags/s or above.

F5009 adopts ABS industrial plastic case. It is waterproof, dustproof and has excellent anti-interference and lightning protection capability.

Product Advantage

1. Employed IMPINJ R2000 RF Chips, up to -82dbm receiving sensitivity and the highest performance in this field makes this module more suitable for harsh application environment.
2. High stability and reliability, 60*24 hours high temperature of workstation, can work stably and continuous.
3. Remarkable performance, can achieve a reading distance over 20m for single tag reading.
4. Remarkable performance in intensive tags reading, can attain a tags identification rate of 400tags/s.
5. Provide the most comprehensive functions SDK and ports, easy to integrate RFID software.
6. Adopted integrating RF chip, module performance is more stable, and more

suitable for harsh application environment.

7. The use of carrier wave cancellation technology makes the tags reading more accurate and reading scope wider.
8. Enhanced noise suppression function for reliable data capturing.
9. High precision return signal strength (RSSI).
10. Excellent performance of anti-interference and lightning-proof design.
11. ABS industrial plastic case, rugged and durable.
12. Waterproof and dustproof, production grade is IP64.

Product Electrical Parameters

NO.	Name	Parameters
1	Working Voltage	DC +12V
2	Working Temperature	-25 ~ +65°C
3	Working Humidity	≤95% (+25°C)
4	Storage Temperature	-40 ~ +80°C
5	Tag Protocol	EPCglobal UHF Class 1 Gen 2 / ISO 18000-6C
6	Working Frequency	902 ~ 928 MHz
7	Supporting Working Areas	China 1, China 2 US, Canada and other regions following U.S. FCC Europe and other regions following ETSI EN 302 208 with & without LBT regulations Japan Korea

		Malaysia Taiwan
8	Output Power	Software adjustable, step interval 1.0dB, maximum +30dBm
9	Output Power Flatness	±0.2dBm
10	Receiving Sensitivity	-82dBm
11	RF Port Standing Wave	≤1.5
12	Reading Distance	≥20m (relate to tags type, transmitted power and application environment)
13	Multi-tags Reading	≥400tags/s
14	Interface Communication Rate	115200bps
15	Working Temperature Detection	Support
16	Intensive Read/Write Mode DRM	Support
17	Antenna Connection Protection	Support
18	RSSI	Support
19	Antenna Type	9dbi circular polarization antenna
20	Communication Port	RS485、RS232 (DB-9) RJ45 (100M Ethernet port)
21	Buzzer	Yes

22	Enclosure	ABS industrial plastic case
23	Dimension	28*28*7.5CM
24	IP Grade	IP65

Interface definition

Pin NO.	Name	Description
1	485-A	RS485 A
2	485-B	RS485 B
3	GND	Ground
4	GND	Ground
5	E-6	Ethernet RJ45 PIN6
6	E-3	Ethernet RJ45 PIN3
7	+12V	DC +12 Power supply
8	GND	Ground
9	E-1	Ethernet RJ45 PIN1
10	E-2	Ethernet RJ45 PIN2
11	232-RX	RS232 RX
12	232-TX	RX232 TX

Physical Dimension



Front



Back



FCC WARNING

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum distance between 20cm the radiator your body: Use only the supplied antenna.