S-8600

4-Port UHF RFID Reader

1. Key Features

|	Feature	Descriptions
1	Impinj R2000 Built-in	Impinj Indy R2000 chip as RF transceiver.
2	Anti-collision Algorithm	Unique I - Search multi-tag identification algorithm providing the highest efficiency.
3	Optimized Algorithm for Tags with Small Volume	Optimized applications for small volume with better tags respond time.
4	Dual CPU Architecture	Main CPU: tag inventory; Assistant CPU: data management. Tag inventory and data transfer are parallel and simultaneous.
5	Fast 4-Antenna Switch Inventory	Every antenna's inventory duration is configurable(Minimum Duration: 30 ms). Polling from ANT 1 to ANT 4.
6	Two Modes for Inventory	Buffer mode and Real-time mode. Tags will be stored as buffer under buffer mode. Tags will send data under real-time mode. This mode allows user to get tag data instantly.
7	Hardware System Halt Detection	Hardware CPU status surveillance. Run for 24hours X 365 days without system halt.
8	PA Health Surveillance	PA status surveillance. Make sure PA never works under saturated state. Protected it for long term operation.
9	18000-6B/6C Full Compatible	It can be switched rapidly between 18000-6B and 18000-6C tag.
10	18000-6B Large Data Read/Write	Read 216 bytes in one time taking less than 500ms. Write 216 bytes in one time taking less than 3.5 seconds. It can read/write data with different lengths.
11	Antenna Connection Detection	Detect antenna connection. Protective for RF receiver. It can be canceled with command.
12	Temperature Sensor	Multi-point surveillance for accurate operating system temperature.
13	Power Output Correction	Dual modules making sure output power can be fine adjusted. Dual modules working and keeping correction unless they are both damaged.
14	Excellent Cooling Design	Heat dissipation and large cooling surface design. Thermal coupling interfaces using high-thermal conductivity solid materials which ensure stable performance under high temperature.

2. 2.Product View

S-8600 Back view

S-8600 Front view
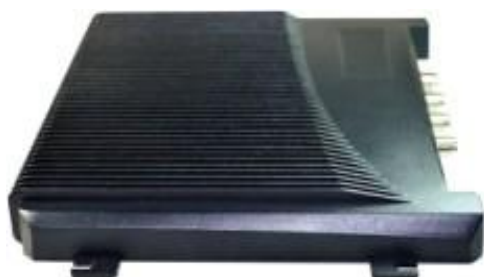
S-8600 Left view   S-8600 Right view

3. Electrical Parameters

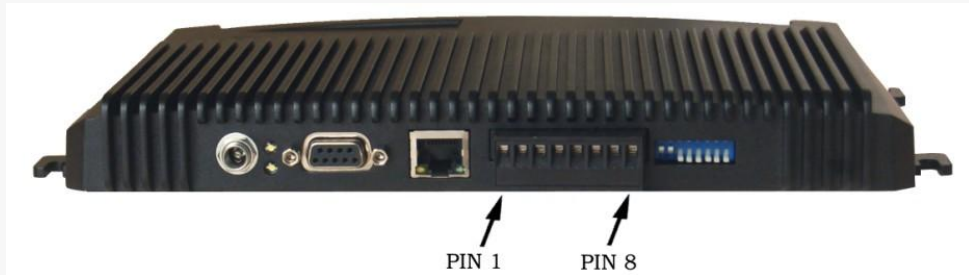|	Electrical Parameters
Dimension	S-8600 : 240(L)*180(W)*28(H)mm
Weight	S-8600 : 1.2kg
Body Material	Die-cast aluminum
Input Voltage	DC 12V ~ 18V
Standby Mode Current	<80mA
Sleep Mode Current	<100uA
Max Operating Current	700mA +/-5% @ DC 12V Input
Operating Temperature	- 20 °C ~ + 85 °C
Storage Temperature	- 20 °C ~ + 85 °C
Humidity	5%RH - 95%RH (non -condensing)
Interface Protocol	EPC global UHF Class 1 Gen 2 / ISO 18000-6C / ISO 18000-6B
Spectrum Range	902MHz – 928MHz，865MHz – 868MHz Optional✔
Supported Regions	US, Canada and other regions following U.S. FCC Europe and other regions following ETSI EN 302 208 Mainland China, Taiwan, Korea, Malaysia
Output Power	0 – 33dBm
RF Connector	TNC/RP-TNC
Output Power Precision	+/- 1dB
Output Power Flatness	+/- 0.2dB
Receive Sensitivity	< -85 dBm
Peak Inventory Speed	>700 tags/sec
Tag Buffer Capacity	1000 tags @ 96 bit EPC
Tag RSSI	Supported
Antenna Detector	Supported
Ambient Temp Monitor	Supported
Working Mode	Single/DRM
Host Communication	RS-232 or TCP/IP
GPIO	2 input optical coupling & 2 output coupling
Baud Rate	115200 bps/38400bps
Heat Dissipation	Air cooling

4. Anti-Collision Algorithm Comparison
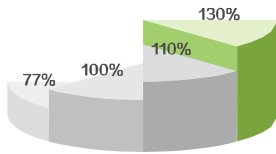
100 Tags
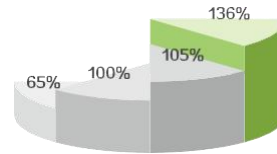
200 Tags

Notes:
1.) The test is on same hardware platform in real applications (Taking Impinj dynamic Q algorithm as the reference which is marked with 100%).
2.) The chart shows the comparison for the first round inventory performance.
3.) It is tested on the same hardware platform.

| Algorithm	Description
Standard fixed Qalgorithm	• Standard 18000-6C algorithm.
	• The performance is reduced significantly when tag quantity gets larger.
	• The efficiency is not high when tag quantity is small.
Impinj dynamic Qalgorithm	• The algorithm of Impinj.
	• It has a good efficiency for various tag quantities.
	• It sacrifices some performance for the sake of compatibility.
I–Search dynamic Q algorithm V1.0	• Based on Impinj dynamic Q algorithm.
	• The performance is optimized.
	• It's the algorithm for firmware version 6.6 or below.
I–Search dynamic Q algorithm V2.0	• Based on Impinj dynamic Q algorithm.
	• It's a brand new data structure, the performance of which is significantly improved for firmware version 6.7 or above.
	• The improvement of performance can be easily sensed after the first round of inventory especially when the tag volume increases.

5. PIN Assignments

PIN Assignments

PIN ID	Function	Equivalent Circuit	Instructions
PIN 1	GPIO 1 Input +		• Voltage between PIN 1,2 (PIN 3,4) <=12V
PIN 2	GPIO 1 Input -		• Hetero polarity
PIN 3	GPIO 2 Input +		• LED equivalent resistance 470Ω
PIN 4	GPIO 2 Input -		• Response time<=150uS
PIN 5	GPIO 4 Output		• Voltage between PIN 5,6 (PIN 7,8)<=12V
PIN 6	GPIO 4 Output		• Non-polarity
PIN 7	GPIO 3 Output		• On resistance110Ω
PIN 8	GPIO 3 Output		• Response time <=6mS

6. Product Dimensions （unit： MM)

Any discrepancy, please defer to the real product instead.

Mounting hole diameter:5mm

240

180

116

253

266
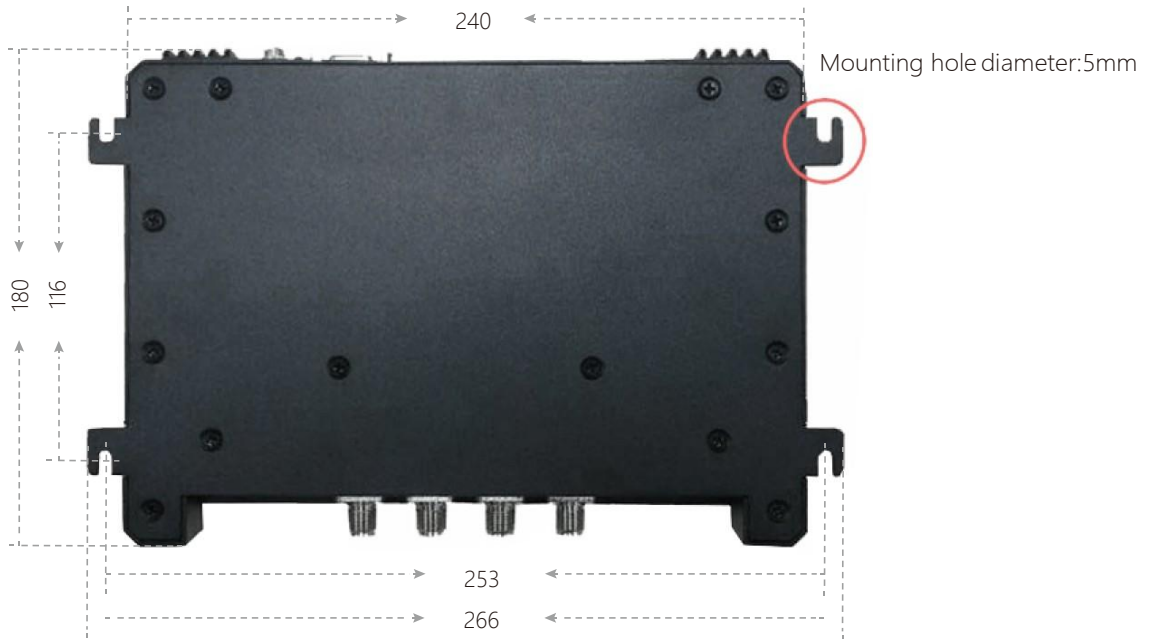
Contour and hole location

28

240

Whole Thickness