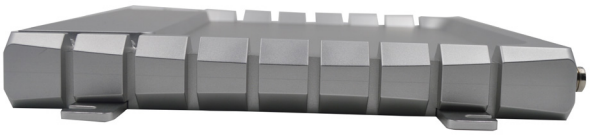
S-8800 UHF
Industrial Reader

AXEM Technology
Achieve RFID

The S-8800 is a high performance 8 channel reader which can be well adapted to the installation requirements for indoor or outdoor environments.
It is developed based on M-2900 UHF RFID reader module with INDY R2000 core chip.
It is easy to install and use with high performance.

Key features
- 700 tags/s
- 8 antennas
- RS232, TCP/IP, 8 pins



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Physical specifications

Dimensions	230 x 160 x 28mm
Weight	1,8kg
Body material	Die-cast aluminum

General specifications

Air Interface protocol	EPC Global UHF Class 1 Gen 2 / ISO18000-6C ISO 18000-6B
RF transceiver	Impinj Indy R2000
Input Voltage	DC 12V - 18V
Standby Mode Current	< 30mA
Sleep mode Current	< 100mA
Max operating current	60mA +/-5% at DC 12V Input
Spectrum range	EU : 865MHz-868MHz or US : 902-928MHz
Output Power	0 - 33dBm
Output Power precision	+/- 1dBm
Output power flatness	+/- 0.2 dBm
Receive Sensitivity	><-85dBm
Peak Inventory Speed	>700 tags/sec
Tag buffer capacity	1000 tags at 96 bit EPC
Host communication	RS232 or TCP/IP
GPIO	2 inputs optical coupling 2 output optical coupling
Antennas connectors	8 x RP-TNC Female
Working mode	Single/DRM
Max Baud rate	115200 bps
Heat Dissipation	Air cooling
Tag RSSI	Supported
Antenna detector	Supported
Ambient Temp monitor	Supported

User environment

Operating Temp.	-20°C~+55°C
Storage Temp.	-20°C~+85°C
Humidity	<95% (+25°C)

AXEM Technology
11, rue Auguste Perret - ZAC Europarc - 94042 Créteil Cedex France
Tél. : +33 (0)1 41 94 11 85 - Fax. : +33 (0)1 49 56 91 52 - info@axemtec.com - www.axemtec.com

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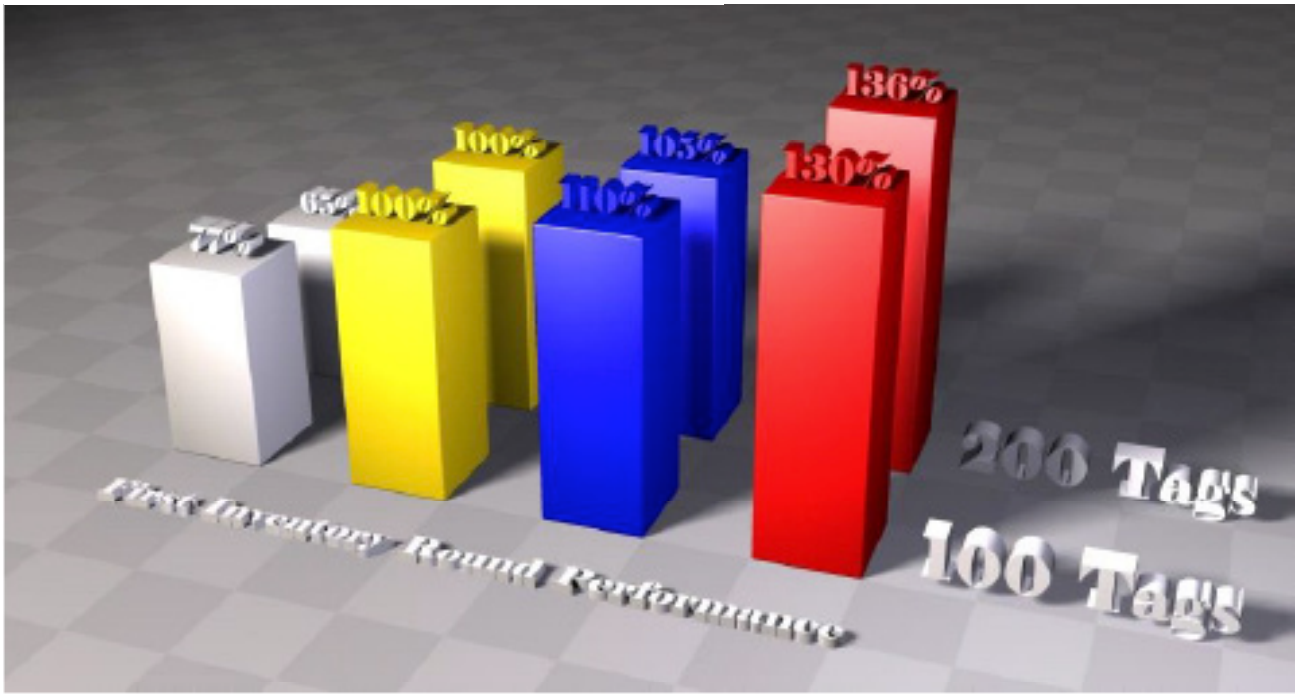
Anti-collision Algorithm Comparision



PIN ID	Fonction	Descriptions
	Standard fixed Q algorithm	• 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 Q algorithm	• 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. • When tag quantity increases, it outworks other algorithms more.

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.

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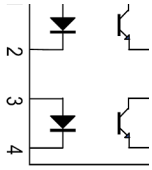
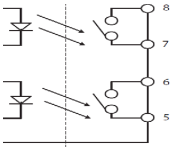
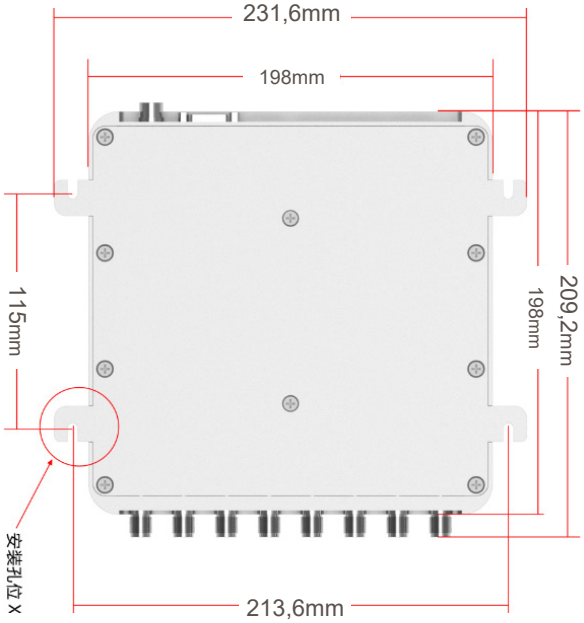
Interface Definition List

PIN ID	Fonction		Descriptions
1	GPIO 1 Input +		Voltage between PIN 1,2 (PIN 3,4) <= 12V
2	GPIO 1 Input -		Heteropolarity
3	GPIO 2 Input +		LED equivalent resistance 470 Ω
4	GPIO 2 Input -		Response time <= 150uS
5	GPIO 4 Input Output		Voltage between PIN 5,4 (PIN 7,8) <= 12V Nonpolarity On resistance 110 Ω Response time <= 6mS
6	GPIO 4 Input Output		
7	GPIO 3 Output		
8	GPIO 3 Output		

S-8800 Structure Dimensions



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