# XINYE RFID

# XY-0068

## 4-Port UHF RFID

## Reader



INDY R2000

# 1. Key Features

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

## 2. 2.Product View



Figure2-1：XY-0068 Back view



Figure2-2：XY-0068 Front view



Figure2-3：XY-0068 Left view          Figure2-4：XY-0068 Right view

## 3. Electrical Characteristics

| Electrical Characteristics | |
|---|---|
| Dimension | 240mm(L) x 180mm(W) x 28mm(H) |
| Weight | 1.2 Kg |
| 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<br>Europe and other regions following ETSI EN 302 208<br>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 |

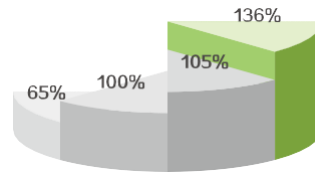# 4. Anti-Collision Algorithm Comparison
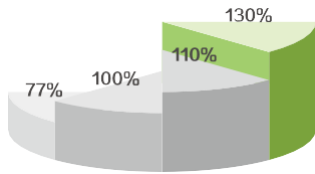


Figure4-1：100 Tags



Figure4-2：200 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

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

# 5. PIN Assignments

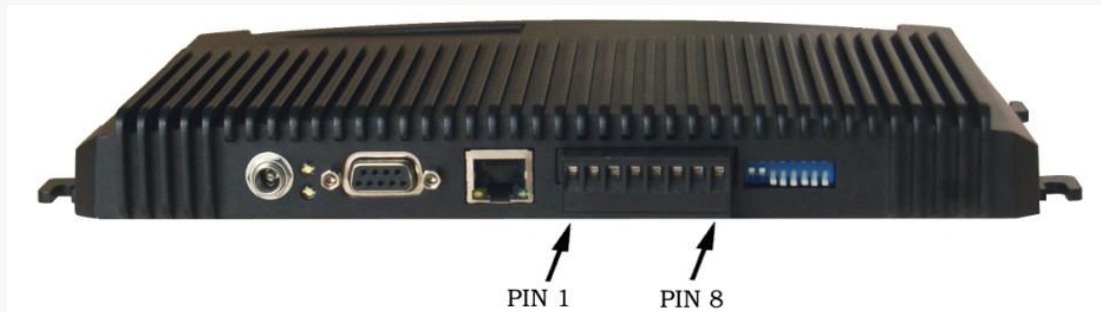## Table 5-1 : PIN Assignments



Figure 5-1



PIN 1    PIN 8

Figure 5-2

| PIN ID | Function | Equivalent Circuit | Instructions |
|--------|----------|--------------------|--------------|
| PIN 1 | GPIO 1 Input + |  | • Voltage between PIN 1,2 (PIN 3,4) |
| PIN 2 | GPIO 1 Input - | | • Hetero |
| PIN 3 | GPIO 2 Input + | | • LED equivalent resistance |
| PIN 4 | GPIO 2 Input - | | • Response time<= |
| PIN 5 | GPIO 4 Output |  | • Voltage between PIN 5,6 (PIN |
| PIN 6 | GPIO 4 Output | | • Non- |
| PIN 7 | GPIO 3 Output | | • On |
| PIN 8 | GPIO 3 Output | | • Response time <= |

# 6. Product Dimensions ( unit：MM )

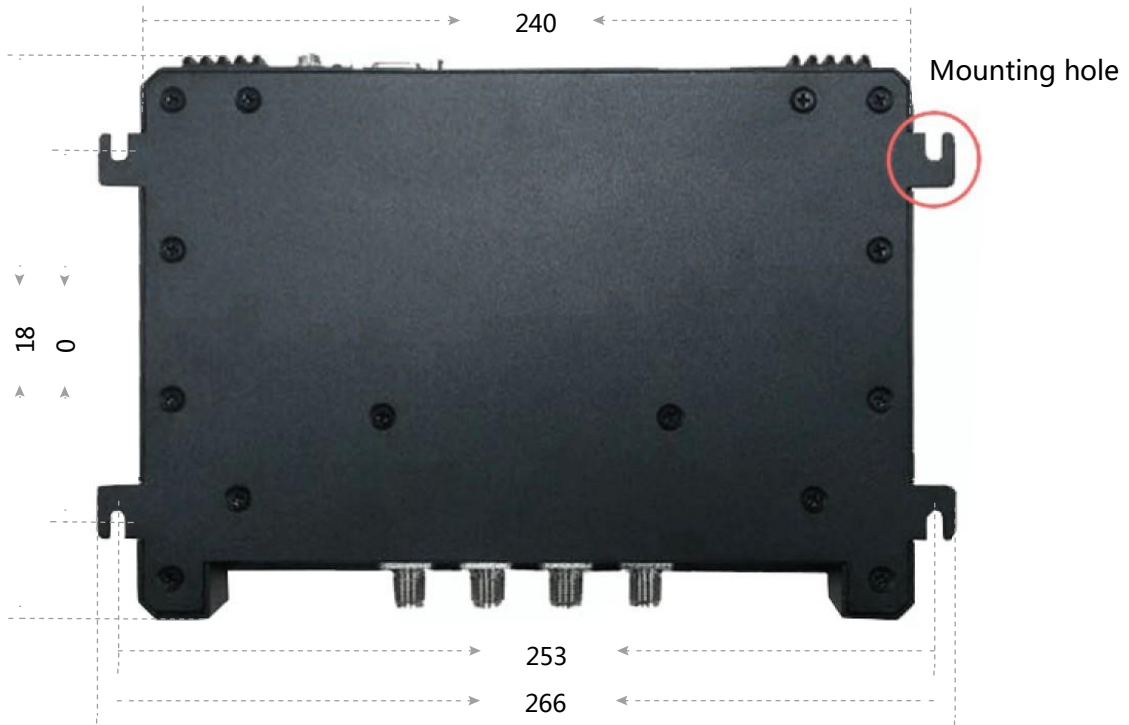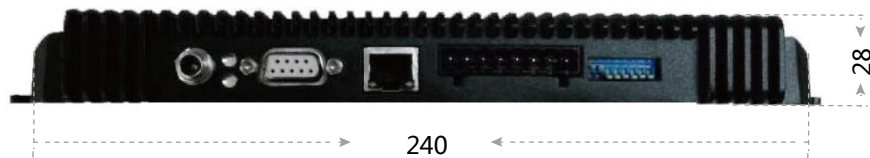Any discrepancy, please defer to the real product instead.



Figure6-1: Contour and hole location



Figure6-2: Whole Thickness