

# UHF RFID Reader



**Model: RRU9816**

**Size: 122.4mmx84mmx20mm**

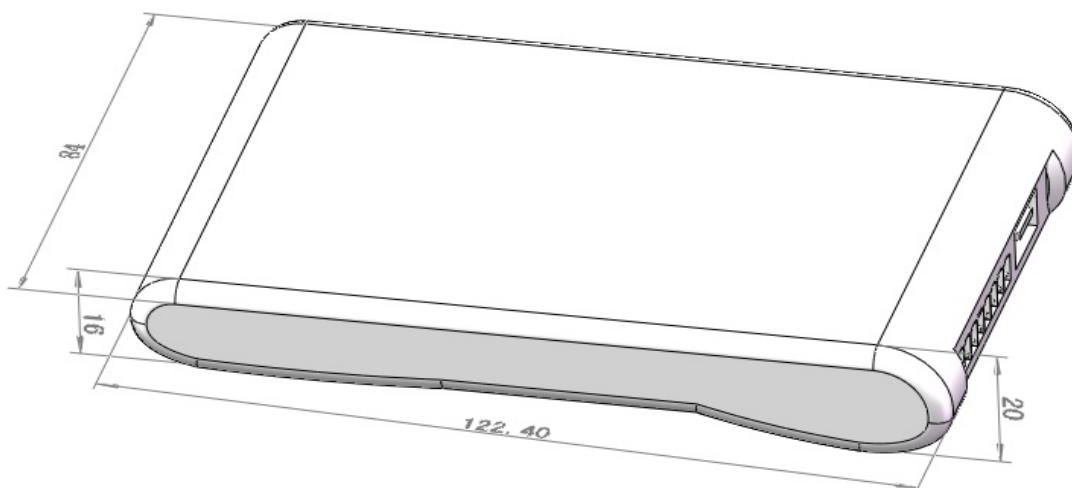
## GENERAL DESCRIPTION

RRU9816 is a high performance UHF RFID reader. It is designed upon dedicated RFID Engine ASIC with fully self-intellectual property. Based on proprietary efficient digital signal processing algorithm, it supports fast tag read/write operation with high identification rate. It can be widely applied in many RFID application systems such as logistics.

## FEATURES

- | Self-intellectual property;
- | Support ISO18000-6C(EPC C1G2) protocol tag;
- | 902~928MHz or 865~868MHz frequency band(frequency customization optional);
- | FHSS or Fix Frequency transmission;
- | Effective range from 10~300cm (adjustable according to real application need);
- | Multiple tag anti-collision>50pcs/s;
- | Multiple tag inventory speed>50pcs/s;
- | Tag buffer size: 370PCS@Max.128bitsEPC or 120PCS@Max.496bitsEPC;
- | Low power dissipation with USB power source or external single +9 DC power supply;
- | Support RSSI;
- | Support 2 GPIO;
- | Support USB (VSP mode), RS232, Wiegand (optional) and USB HID (keyboard emulation)
- | High reliability design without extra heat-sinking measure;
- | Support on-the-site firmware upgrading.

## MECHANICAL DATA(UNIT mm):



## CHARACTERISTICS

### I Absolute Maximum Rating

| ITEM            | SYMBOL                     | VALUE   | UNIT |
|-----------------|----------------------------|---------|------|
| Power Supply    | VCC (USB power source)     | 6       | V    |
|                 | VCC(External power source) | 12      |      |
| Operating Temp. | T <sub>OPR</sub>           | -10~+70 | ℃    |
| Storage Temp.   | T <sub>STR</sub>           | -20~+85 | ℃    |

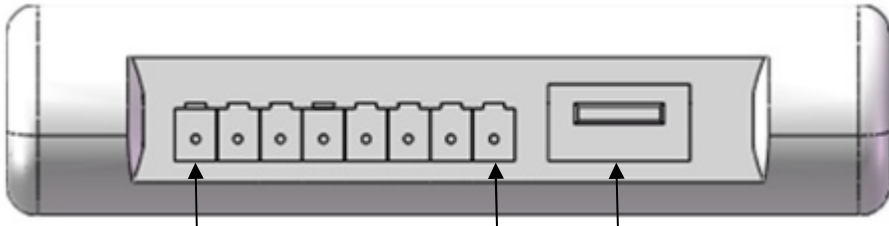
### I Electrical Specification

| ITEM                  | SYMBOL                | MIN | TYP         | MAX | UNIT |
|-----------------------|-----------------------|-----|-------------|-----|------|
| Power Supply          | VCC (USB powered)     | 4.5 | 5           | 5.5 | V    |
|                       | VCC (External supply) | 7   | 9           | 12  | V    |
| Current dissipation   | I <sub>C</sub>        |     | 180         | 200 | mA   |
| Frequency*            | F <sub>REQ</sub>      | 902 |             | 928 | MHz  |
| RF power              | P <sub>RF</sub>       | 0   | 23          | 26  | dBm  |
| RF power Accuracy     | AP                    |     | +/-1        |     | dB   |
| RF power Flatness     | FP                    |     | +/-0.2      |     | dB   |
| Receiving Sensitivity | SR                    |     | -70         |     | dBm  |
| Size                  | L×W×H                 |     | 122.4*84*20 |     | mm   |

\*European Frequency band (865M~868MHz) optional

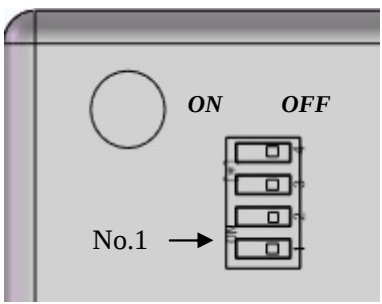
## INTERFACE

### 1. Socket Definition

|                                                                                      |        |                           |
|--------------------------------------------------------------------------------------|--------|---------------------------|
|  |        |                           |
| No.                                                                                  | Symbol | Comment                   |
| 1                                                                                    | VCC    | External +9V power supply |
| 2                                                                                    | GND    | Ground                    |
| 3                                                                                    | TXD    | RS-232 serial data output |

|   |       |                          |
|---|-------|--------------------------|
| 4 | RXD   | RS-232 serial data input |
| 5 | GND   | Ground                   |
| 6 | GPIO1 | GPIO1 or Wiegand Data 0  |
| 7 | GPIO2 | GPIO2 or Wiegand Data 1  |
| 8 | GND   | Ground                   |

## 2. Switch Definition

|  |           |                                     |
|-----------------------------------------------------------------------------------|-----------|-------------------------------------|
| No.                                                                               | Symbol    | Comment                             |
| 1                                                                                 | SEL_USB   | Switch on to enable USB interface   |
| 2                                                                                 | SEL_USB   |                                     |
| 3                                                                                 | SEL_RS232 | Switch on to enable RS232 interface |
| 4                                                                                 | SEL_RS232 |                                     |

### Remark:

- Specifications are subject to change, please pay attention to our latest version.
- Shenzhen RoyalRay Science and Technology Co., Ltd. reserves the right to the final interpretation of the above terms.

## FCC Statement

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.

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.

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

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.