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# F8914 ZigBee TERMINAL TECHNICAL SPECIFICATION

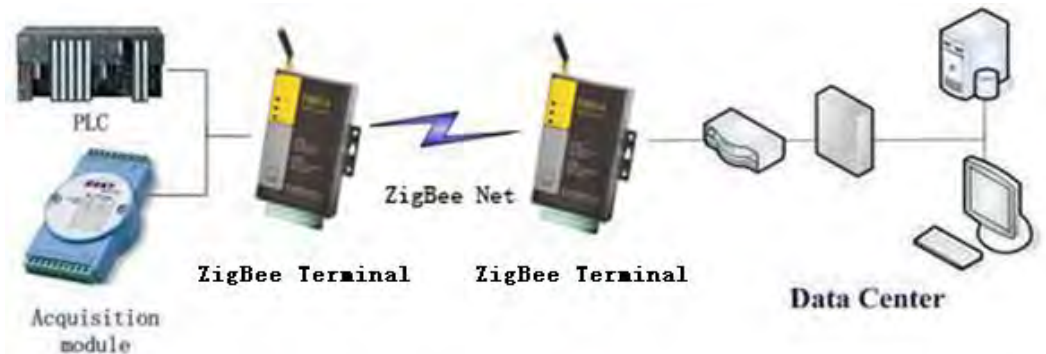


## General

F8914 ZigBee Terminal is a kind of data cellular terminal device that provides data transfer function by ZigBee network.

It adopts high-powered industrial ZigBee solution and embedded real time operating system. It supports RS232 and RS485 (or RS422) port that can conveniently and transparently connect one device to a ZigBee network, allowing you to connect to your existing serial devices with only basic configuration .It has low power consumption states in which the power consumption 2.2mA@12VDC. It has compatible digital 5 I/O channel, ADC, input pulse counter and pulse wave output function.

It has been widely used on M2M fields, such as intelligent transportation, smart grid, industrial automation, telemetry, finance, POS, water supply, environment protection, post, weather, and so on.



## Product Feature

### Design for Industrial Application

- ◆ High-powered industrial ZigBee processing chip
- ◆ Low power consumption design, support multi-sleep and trigger modes to reduce the power dissipation farthest
- ◆ Housing: iron, providing IP30 protection
- ◆ Power range: DC 5~35V

### Stability and Reliability

- ◆ Support hardware and software WDT
- ◆ RS232/RS485/RS422 ports:15KV ESD protection
- ◆ Power port: reverse-voltage and overvoltage protection

### Standard and Convenience

- ◆ Adopt terminal block interface, convenient for industrial application
- ◆ Support standard RS232/RS485 ports that can connect to serial devices directly
- ◆ TTL logic level RS232 interface can be customized
- ◆ Support intellectual mode, enter into communication state automatically when powered
- ◆ Support several work modes
- ◆ Convenient configuration and maintenance interface

**High-performance**

- ◆ Support ZigBee wireless short-distance data transmission
- ◆ Support repeater and terminal device function
- ◆ Support Point-to-Point, Point-to-Multipoint, Peer-to-Peer and Mesh network
- ◆ Support 65000 nodes
- ◆ Support center node, route node and terminal node
- ◆ Support broadcast and target address transfer
- ◆ Support wide communication range
- ◆ Supply 5 I/O channels, compatible 2 pulse wave output channels, 3 analog inputs and 2 pulse input counters.

**Product Specification**

**ZigBee Specification**

| Item                           | Content  |
|--------------------------------|--|
| ZigBee Chip                    | Industrial ZigBee Chip                                     |
| Standard and Band              | IEEE 802.15.4<br>ISM 2.4 GHz                               |
| Indoor/Urban Range             | 30m<br>90m(With PA)  |
| Outdoor/RF Line-of-Sight Range | 500m<br>2000m(With PA)                                     |
| Transmit Power                 | 2.82 mw (+4.5dBm)<br>100 mw (+20dBm) (With PA)             |
| Bandwidth                      | 250Kbps  |
| Receiver Sensitivity           | -97dBm<br>-103dBm (With PA)                                |
| Network Topologies             | Point-to-Point, Point-to-Multipoint, Peer-to-Peer and Mesh |
| Number of channels             | 16 Direct Sequence Channels                                |
| Channels                       | 11 to 26   |
| Max package size               | 300 Bytes  |

**Hardware System**

| Item | Content                     |
|------|-----------------------------|
| CPU  | Industrial ZigBee Processor |

**Interface Type**

| Item   | Content   |
|--------|---|
| Serial | 1 RS232 port and 1 RS485(orRS422) port, 15KV ESD protection |

|           |   |
|-----------|---|
|           | Data bits: 8<br>Stop bits: 1,2<br>Checksum: none,odd,even<br>Baud rate: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps |
| Indicator | "Power", "ACT", "ZigBee"  |
| Antenna   | Standard SMA female interface, 50 ohm, lightning protection(optional)   |
| Power     | Terminal block interface, reverse-voltage and overvoltage protection  |

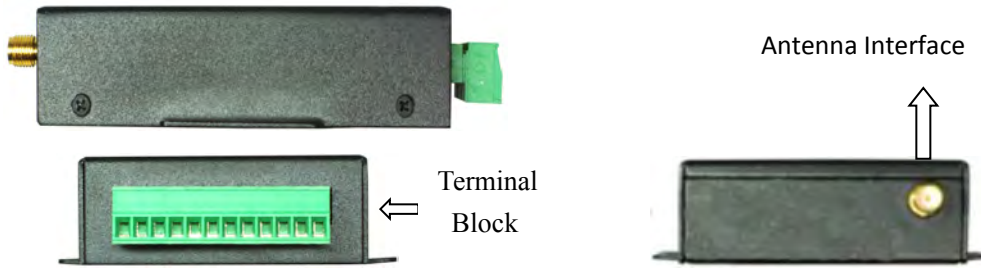


Figure-1 F8914 Interfaces illustrate

**Power Input**

| Item           | Content     |
|----------------|-------------|
| Standard Power | DC 12V/0.5A |
| Power Range    | DC 5~35V    |

**Power Consumption**

| Working States |                | Power Consumption |
|----------------|----------------|-------------------|
| F8914-N        | RX Mode        | ≤15mA/12V@4.5dBm  |
|                | TX Mode        | ≤20mA/12V@4.5dBm  |
|                | Timing wake up | ≤3.5mA/12V@4.5dBm |
|                | Deep Sleep     | ≤2.5mA/12V@4.5dBm |
| F8914-E        | RX Mode        | ≤15mA/12V@21dBm   |
|                | TX Mode        | ≤80mA/12V@21dBm   |
|                | Timing wake up | ≤4.5mA/12V@21dBm  |
|                | Deep Sleep     | ≤3.5mA/12V@21dBm  |

**Physical Characteristics**

| Item       | Content                         |
|------------|---------------------------------|
| Housing    | Iron, providing IP30 protection |
| Dimensions | 91x58.5x22 mm                   |
| Weight     | 205g                            |

**Environmental Limits**

| Item                  | Content                  |
|-----------------------|--------------------------|
| Operating Temperature | -40~+85°C (-104~+185 °F) |
| Storage Temperature   | -40~+125°C (-104~+257°F) |
| Operating Humidity    | 95% (unfreezing)         |