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F8913 ZigBee Module TECHNICAL SPECIFICATION

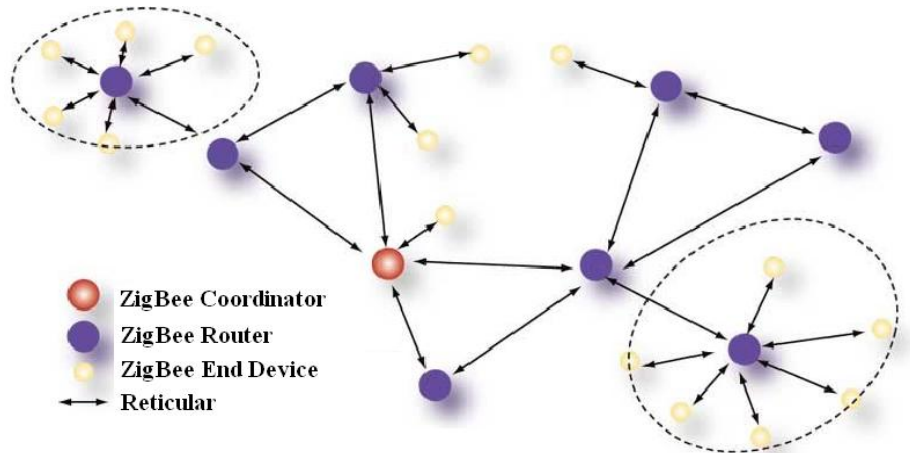


General

F8913 ZigBee module is a kind of data terminal device that provides data transfer function by ZigBee network.

The product uses high-performance industrial-grade ZigBee solution, support transparent data transmission function; low power consumption design, the lowest working current can less than 1uA; supply 5 I/O channels, compatible 3 analog inputs and 2 pulse input counters.

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 chip
- ◆ Low power consumption design, support multi-sleep and trigger modes to reduce the power dissipation farthest
- ◆ Support UART
- ◆ Power range: DC 2.2~3.6V

Stability and Reliability

- ◆ Support hardware and software WDT
- ◆ Support auto recovery mechanism, including online detect, auto redial when offline to make it always online

High-performance

- ◆ Support ZigBee wireless data transmission
- ◆ Support repeater and end-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
- ◆ Wide communication range
- ◆ Supply 5 I/O channels, compatible 3 analog inputs and 2 pulse input counters.

Standard and Convenience

- ◆ Adopt a miniature package, support 2.0mm spacing stamp hole for SMT and 2.0mm spacing through-hole pins simultaneous
- ◆ Support intellectual mode, enter into communication state automatically when powered, support several work modes.
- ◆ Convenient configuration and maintenance interface
- ◆ Support for serial software upgrades

Product Specification**F8913 Model Sheet**

Model	Content
F8913-N-MS	Without PA, SMT
F8913-E-MS	With PA, SMT
F8913-N-NS	Without PA, DIP
F8913-E-NS	With PA, DIP

ZigBee Specification

Item	Content
MCU	Industrial ZigBee Platform
Communication Protocol and Band	IEEE 802.15.4 ISM2.4~2.5GHz
Indoor/Urban Range	30m 90m(With PA)
Outdoor/RF Line-of-Sight Range	500m 2000m(With PA)
Transmit Power	2.82 mw (+4.5dBm) 100 mw (+20dBm) (With PA)
RF Data Rate	250Kbps
Receiver Sensitivity	-97dBm -103dBm (With PA)
Network Topologies	Point-to-Point, Point-to-Multipoint, Peer-to-Peer and Mesh
Channels	11 to 26
Max serial buffer size	300 Bytes

Interface Type

Item	Content
UART	Data bits: 8 Stop bits: 1, 2 Checksum: none,odd,even Baudrate: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400,57600, 115200 bps
Antenna	U.FL RF connector, impedance 50 ohm
Package	Support 2.0mm spacing stamp hole for SMT and 2.0mm spacing through-hole pins simultaneous

Power Input

Item	Content
Recommended Power	DC 3.3V/0.5A
Power Range	DC 2.8~3.6V@21dBm/2.2~3.6V@4.5dBm

Power Consumption

Working States		Power Consumption (typical value)
F8913-N	RX Mode	27.5~27.8mA@3.3VDC
	TX Mode	28.9~29.1mA@3.3VDC ,(the max pulse circuits ≤40mA)
	Timing wake up	1.1~1.2uA@3.3VDC
	Deep Sleep	0.3~0.5uA@3.3VDC
F8913-E	RX Mode	32.4~33.2mA@3.3VDC
	TX Mode	41.2~42.5mA@3.3VDC ,(the max pulse circuits ≤200mA)
	Timing wake up	1.2~1.3uA@3.3VDC
	Deep Sleep	0.3~0.5uA@3.3VDC

Physical Characteristics

Item	Content
Dimensions	37.5 x 22.1 x 2.8 mm
Weight	3.5 g

Environmental Limits

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