



Wireless Communication Product

Serial Port-to-WiFi Module

Overview

The WM6202 series module developed by ZLG ZHIYUAN Electronics is a low power consumption and high performance WiFi module for Industry 4.0 field. It complies with the IEEE 802.11b/g/n protocol and supports UART serial port transparent transmission. Users can let their devices access to internet quickly without the knowledge of complicated TCP/UDP and wireless network protocols.

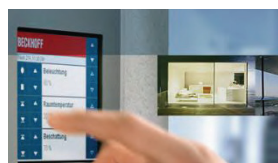
The module has been inspected and certified by the authoritative RF instruments. In addition, due to its ultra-small size, the module can be integrated into various smart devices easily.



Specifications

- ▶ Supports 802.11a/ b/g/n wireless protocol standards.
- ▶ Supports UART serial port transparent transmission.
- ▶ Up to 921600bps serial port baud rate.
- ▶ Operates in AP/Station/ AP+Station mode.
- ▶ Supports multiple operation modes such as TCP Server, TCP Client, UDP, RealCOM.
- ▶ Supports serial port, web page and wireless configuration.
- ▶ +3.3V power supply interface.
- ▶ Optional onboard or external antenna.
- ▶ Provides customized product.

Product Application



Intelligent Buildings and
Access Control



PV System and Energy
Management



Medical Equipment



POS Payment

Product Selection

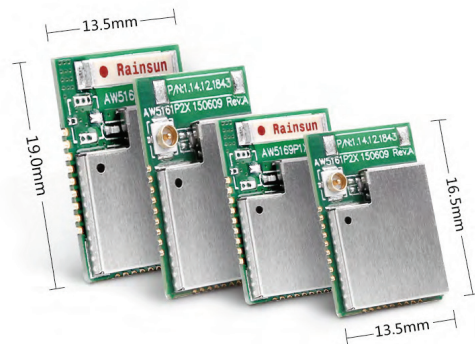
Model	Serial Port	Transmitting Power	Receiving Sensitivity	Antenna Type	Package	Dimensions	Operating Temperature
WM6202EU	2 channels	12~16dBm	-93dBm	IPEX interface	Stamp hole	18mm×36 mm	-20~+80°C
WM6202PU	2 channels	12~16dBm	-93dBm	IPEX interface	Stamp hole	18mm×36 mm	-20~+80°C
WM6202NU	2 channels	12~16dBm	-93dBm	IPEX interface	Stamp hole	18mm×28.5mm	-20~+80°C

AW516x Series ZigBee Wireless Module

Overview

AW516x developed by ZHIYUAN Electronics is a low power and high performance ZigBee module based on NXP JN516x wireless microcontroller. It provides a complete application integration solution based on IEEE802.15.4 standard ISM band.

The module has been inspected and verified by the authoritative RF devices. Combined with years of marketing experience and actual demands of users in this industry, ZHIYUAN Electronics integrates the extremely complex communication protocols of wireless products into the built-in MCU and greatly simplifies the development process of wireless products, which makes the products come to the market more quickly with a lower cost and strong competitiveness.

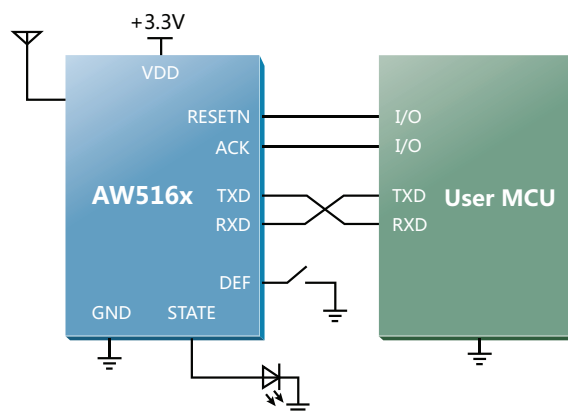


Specifications

- ▶ The actual number of terminal nodes in the network can reach 65535.
- ▶ The power consumption of terminal node is as low as 100nA, which is lower than that of all Zigbee modules in the market.
- ▶ Supports multi-level relay routing function.
- ▶ The network has self-adjustment and self-healing capabilities.
- ▶ Supports multi-channel remote IO and remote AD.
- ▶ Supports short address function and free modification with user applications.
- ▶ Provides larger link budget.
- ▶ Supports full transparent transmission mode for receiving and transmitting data.
- ▶ The maximum horizon communication distance between two points can reach 2.5 Km.
- ▶ Supports software configuration and AT command configuration.
- ▶ Supports remote configuration.
- ▶ Supports 5V constant voltage supply.
- ▶ Operating temperature: -25°C~ +75°C.

Product Application

Pure serial port operation to simplify the design.



Product Selection

Models	Antenna Type	Transmitting Power	Receiving Sensitivity	Internal Protocol	Dimensions
AW5161PDCF	Ceramic antenna	+2.5dBm	-95dBm	FastZigBee	13.5mm x 16.5mm
AW5161PDEF	IPEX interface	+2.5dBm	-95dBm	FastZigBee	13.5mm x 16.5mm
AW5169P1CF	Ceramic antenna	+10dBm	-96dBm	FastZigBee	13.5mm x 16.5mm
AWS5169P1EF	IPEX interface	+10dBm	-96dBm	FastZigBee	13.5mm x 16.5mm
AW5161P2CF	Ceramic antenna	+20dBm	-100dBm	FastZigBee	13.5mm x 19.0mm
AW5161P2EF	IPEX interface	+20dBm	-100dBm	FastZigBee	13.5mm x 19.0mm

Note: AWS169 supports the following secondary development protocols such as JenNet-IP, ZigBee Smart Energy, ZigBee Home Automation, ZigBee Light Link and ZigBee Remote Control.

ZigBee-to-Serial Port Device

Overview

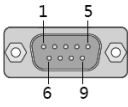

ZBCOM-300IE is a RS-232/485/422 serial port-to-ZigBee device which uses industrial ZigBee dedicated RF processor. It supports serial port transparent transmission mode to set up ZigBee wireless network without secondary development and supports communication with the ZM5168 ZigBee module.

The device uses a high-power ZigBee RF transceiver to achieve higher receiving sensitivity and 2.5Km communication distance. It realizes wireless serial device easily, avoids layout problems and saves manpower as well as development time, which makes the products came to the market more quickly with strong competitiveness.

Specifications

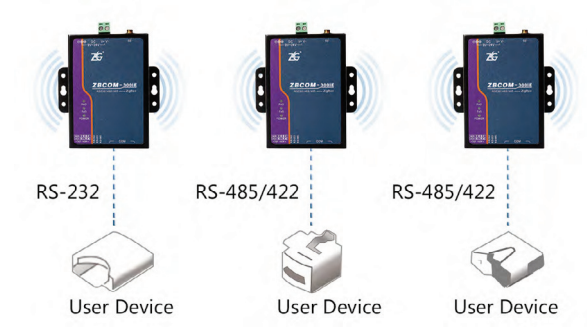
- ▶ Integrates RS-232/485/422 three interfaces and supports flexible switching through dial switch.
- ▶ Supports full transparent transmission mode for receiving and transmitting data.
- ▶ The maximum horizon communication distance between two points can reach 2.5 Km.
- ▶ Supports multi-level routing transmission.
- ▶ The maximum actual numbers of network nodes exceed 65000.
- ▶ Supports remote configuration.
- ▶ Supports 5V constant voltage supply and 9-24V wide voltage supply.
- ▶ Operating temperature: -25°C ~ +75°C.
- ▶ 2000VDC electrical isolation and internal 2KV surge protection.
- ▶ Provides EMC reliable protection for power supply and serial port.
- ▶ Storage temperature: -40°C~85°C.

Interface Description

DB9 Communication Configuration Interface			
	Pin No.	Pin Definition	Parameters
	1	RS-422A-TX	Baud rate: 1200~460800 bps. Data bits: 5, 6, 7 or 8. Parity bits: No parity, Odd parity, Even parity. Stop bits: 1 or 2 bits.
	2	RS-232-RX	
	3	RS-232-TX	
	4	NC	
	5	Signal ground	
	6	RS-422B-TX	
	7	NC	
	8	RS-485B/422B-RX	
	9	RS-485A/422A-RX	
SMA antenna interface	Interface standard		Characteristics
	SMA external thread female connector		50Ω impedance



Product Application



Accessories

No.	Standard Configuration
1	ZBCOM-300IE device
2	RS-232 to RS-485 adapter plate
3	RS-232 communication cable
4	2.4GHz omnidirectional antenna
5	Power adapter
6	Product CD

ZigBee-to-Ethernet Device

Overview

ZBNET-300C-U is a ZigBee-to-Ethernet gateway device which features industrial standard design. It achieves high-speed transparent transmission between ZigBee network and Ethernet, connects ZigBee LAN into the internet quickly without secondary development, realizes ZigBee remote control as well as data acquisition and supports communication with the ZM5168 ZigBee module.



The device uses a high-power ZigBee RF transceiver to achieve higher receiving sensitivity and 2.5Km communication distance. It can be quickly used through software configuration to save manpower and development time, which makes the products came to the market more quickly with strong competitiveness.

Specifications

- ▶ Adopts ISM (2.4-2.5 GHz) band.
- ▶ Supports full transparent transmission mode between ZigBee network and Ethernet.
- ▶ The maximum horizon communication distance of signal covering can reach 2.5 Km.
- ▶ Uses a 10/100M adaptive Ethernet interface, and the crossover cable or parallel cable can be used for connection.
- ▶ Multiple operation modes are optional, such as TCP Server, TCP Client, UDP and Real COM.
- ▶ Built-in WEB server to facilitate customers making webpage configuration.
- ▶ TCP supports multiple connections so that 4 users can manage an embedded module device simultaneously.
- ▶ Supports 9-24V wide voltage supply.
Operating temperature: -25°C~ + 75°C.



Interface Description

Ethernet Interface			
	Pin No.	Pin Definition	Remark
	1	TX+	Supports crossover cable or parallel cable connection.
	2	TX-	
	3	RX+	
	6	RX-	
Antenna int erface	Interface standard		Characteristic
	SMA external thread female connector		50Ωimpedance

Accessories

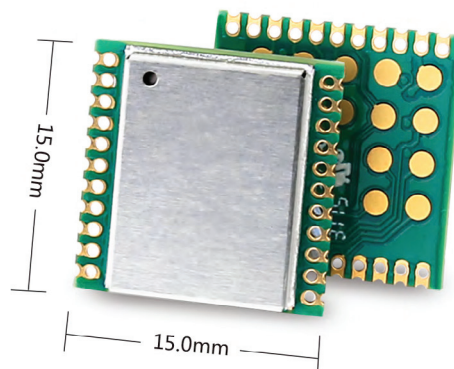
No.	Product Configuration
1	ZBNET-300C-U device
2	Ethernet communication cable
3	2.4GHz omnidirectional antenna
4	Power adapter
5	Product CD

High-performance Sub-GHz Wireless Module

Overview

ZM433/470SX series module is an industrial RF wireless product self-developed by Guangzhou ZHIYUAN Electronics Co., Ltd. With the LoRa modulation technique originated from military tactical communication system, the module perfectly solves the ultra-long distance communication problem of small amount of data in a complex environment.

Compared with the conventional modulation technique, ZM433/470SX series module also has the obvious advantage in terms of co-channel interference suppression, and strikes a balance between distance, anti-interference and power consumption, which can not be achieved by the conventional solutions. In addition, the module is integrated with the +20dBm adjustable power amplifier to obtain up to -148dBm receiving sensitivity and its link budget has reached the industry leading level. Therefore, this module becomes the preferred choice for the applications with long-distance communication and high reliability requirements.



Specifications

- ▶ Integrated with the LoRa modulation technique originated from military tactical communication system.
 - ▶ Programmable transmission power of 5~20dBm.
 - ▶ Receiving sensitivity up to -148dBm.
 - ▶ Frequency range of 410MHz ~ 525MHz, suitable for multiple wireless standards.
 - ▶ 256B buffer for receiving and transmitting.
 - ▶ Programmable Baud rate: 0.123~300Kbps (higher speed leads to lower sensitivity).
 - ▶ Supports multiple modulation modes: FSK/GFSK/MSK/GMSK/LoRa/OOK.
 - ▶ Effective co-channel interference suppression.
 - ▶ 3.3V interface level.
 - ▶ Module receiving current of 14mA; transmitting current of 120mA@20dBm.
 - ▶ Supports multiple low-power operation modes.
 - ▶ Uses SPI bus communication interface.
- Operating temperature: -40°C~80°C.

Product Application



Wireless meter-reading system



Home and building automation



Security and environmental monitoring system



Industrial monitoring and control

Product Selection

Model	Frequency Range	Central Frequency	Transmitting Power	Receiving Sensitivity	Operating temperature	Antenna Type	Package	Dimensions	Highlight
ZM433SX-M	410~525MHz	433MHz	5~20dBm	-148dBm	-40~80°C	External pin connection	SMD	15.0mm×15.0mm	High performance
ZM470SX-M	410~525MHz	470MHz	5~20dBm	-148dBm	-40~80°C	External pin connection	SMD	15.0mm×15.0mm	High performance

Note: An antenna is not included in the module by default. The antenna interface is provided as the module pin and users can install an antenna in any form on the base plate.

3G/GPRS Wireless Communication Device

Overview

The DTU is a terminal device for establishing wireless data transmission based on the 3G/GPRS network. Its main function is to establish a transparent data transmission channel between serial device and remote computer for users, realizing wireless connection between your device and the Internet with ease.

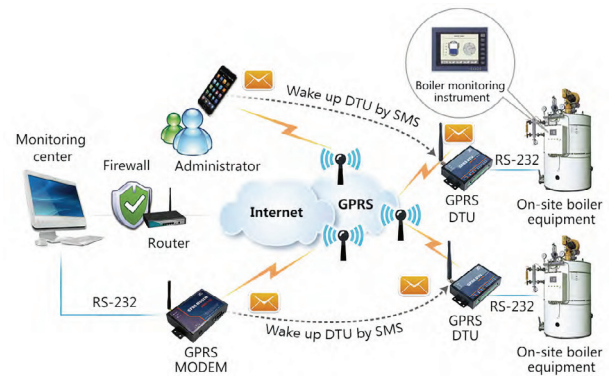
Specifications

- ▶ Transparent data transmission; users don't need to know the complicated protocols such as TCP/IP and PPP.
- ▶ Supports data center dynamic domain name or IP address access.
- ▶ Supports configuration and maintenance of local and remote graphical interface.
- ▶ Supports configuration and maintenance of SMS.
- ▶ Supports three operation modes: always online, idle offline and idle power down.
- ▶ Supports automatic reconnection after disconnection.
- ▶ Supports data center virtual serial port function, connecting with the current PC software seamlessly.
- ▶ Supports +6V~ +26V wide voltage supply.
- ▶ Reliable multiple hardware design and combined watchdog technology to ensure safe operation.
- ▶ Suitable for high-temperature and low-temperature operating environments, and the temperature range is -25°C~ +70°C.



Product Application

Realize remote monitoring of industrial sites.



Product Selection

Models		ZWG-20IE	ZWG-20DP	ZWD-35A	ZWD-35B	ZWD-35DP	ZWW-36A
Communication modes		GPRS	GPRS	CDMA2000EVDO	CDMA2000EVDO	CDMA2000EVDO	WCDMA
Interface types		RS-232/485/TTL	UART-TTL	RS-232	RS-485	UART-TTL	RS-232
Baudrate range		300~115200bps	300~115200bps	300~921600bps	300~921600bps	300~921600bps	300~921600bps
Voltage range		+6~26V	+5V	+6~26V	+6~26V	+6~26V	+6~26V
Operating temperature		-40~85°C	-40~85°C	-25~70°C	-25~70°C	-25~70°C	-25~70°C
Device appearance		Metal enclosure	Embedded module	Metal enclosure	Metal enclosure	Embedded module	Metal enclosure
Operation connecting mode		TCP client	TCP client	TCP client	TCP client	TCP client	TCP client
Buffer for receiving and transmitting	Receiving	5KB	5KB	10M	10M	10M	10M
	Transmitting	5KB	5KB	10M	10M	10M	10M
SMS configuration		√	√	√	√	√	√
Dynamic domain name		√	√	√	√	√	√
SMS data transmission mode		√	√				

The world will be different because of us

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