



LEADING THE RECYCLING ECONOMY,
INNOVATIVE ENERGY-SAVING EMISSION REDUCTION!

Oldlang
Oldlang Smart Electrical



LoRaWAN Rs485
Wireless communication
and remote control

CHW13 series

Wireless Server



Connect the cloud data
Integration of intelligent system
Intelligent terminal APP

Power acquisition protocol:
DL/T645 or Modbus

Gold Supplier Trade Assurance
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CHW13 series Wireless Server



Innovative Energy-Saving Emission Reduction
Leading The Recycling Economy

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About Oldlang Smart Electrical

The company named Oldlang Smart Electrical, which is a modern technology enterprise, committed to innovating energy conservation and emission reduction and leading the circular economy. The products focus on the original, low carbon, energy saving, collecting data, remote control and other functions are the characteristics of Oldlang's Smart electrical products. To enable users to use energy safely, reliably and efficiently is the value idea of Oldlang Smart Electrical. Therefore, the intelligent energy management is not only the inevitable development of the times, but also the direction of the development of the intelligent electrical of Oldlang's. Oldlang Smart Electrical provide wisdom into the city, the intelligent household practical products, improve people's life, improve the earth's environment, insist on sustainable development has always been the belief of Oldlang Smart Electrical.

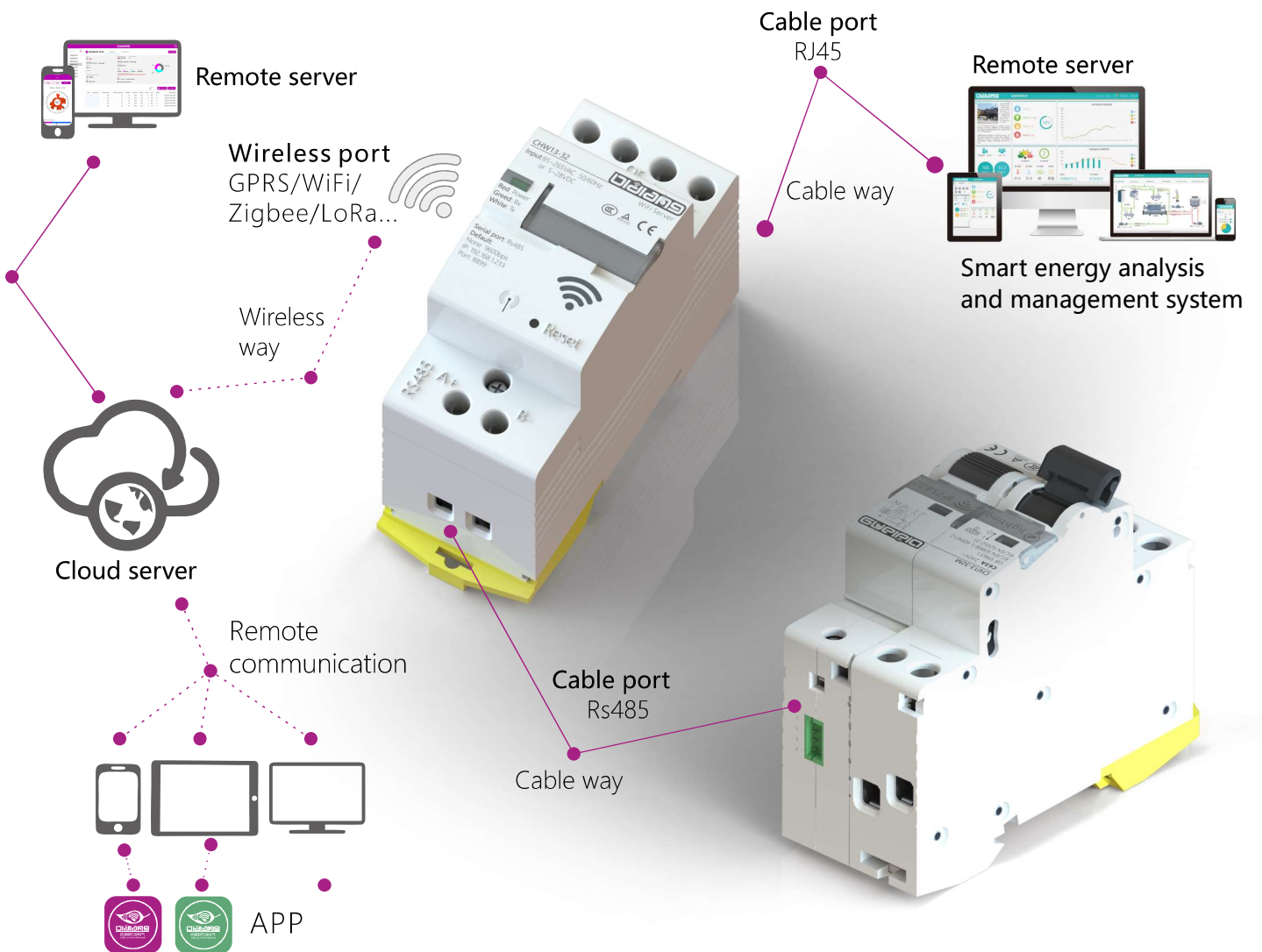
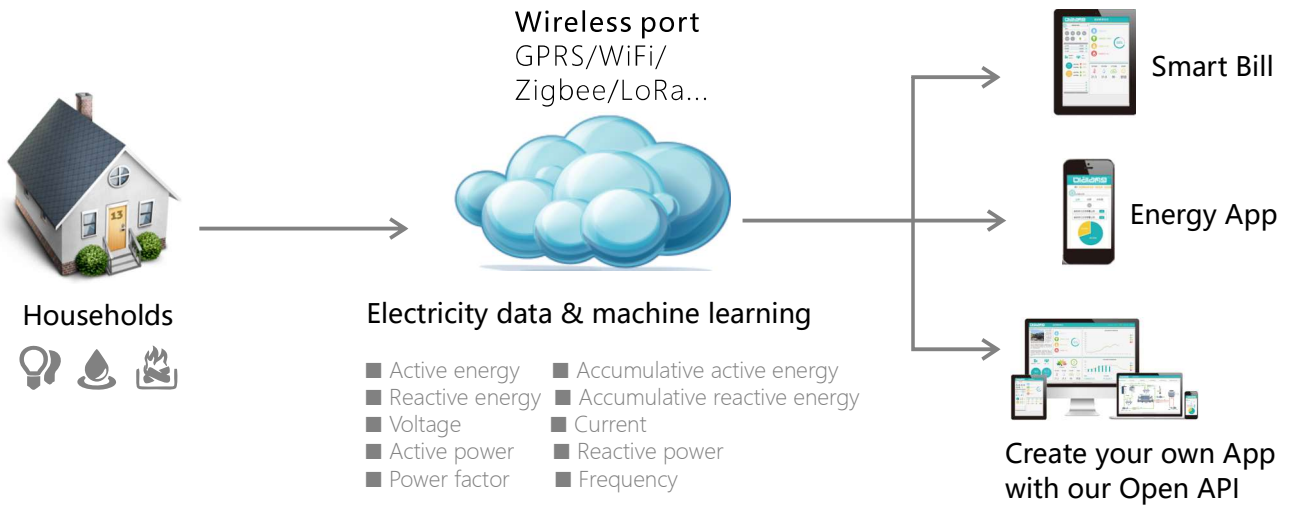
In Oldlang smart electrical, we are always advocating:

INNOVATIVE ENERGY-SAVING EMISSION REDUCTION  LEADING THE RECYCLING ECONOMY!





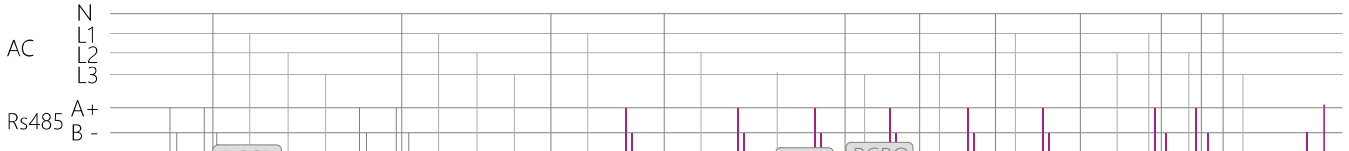
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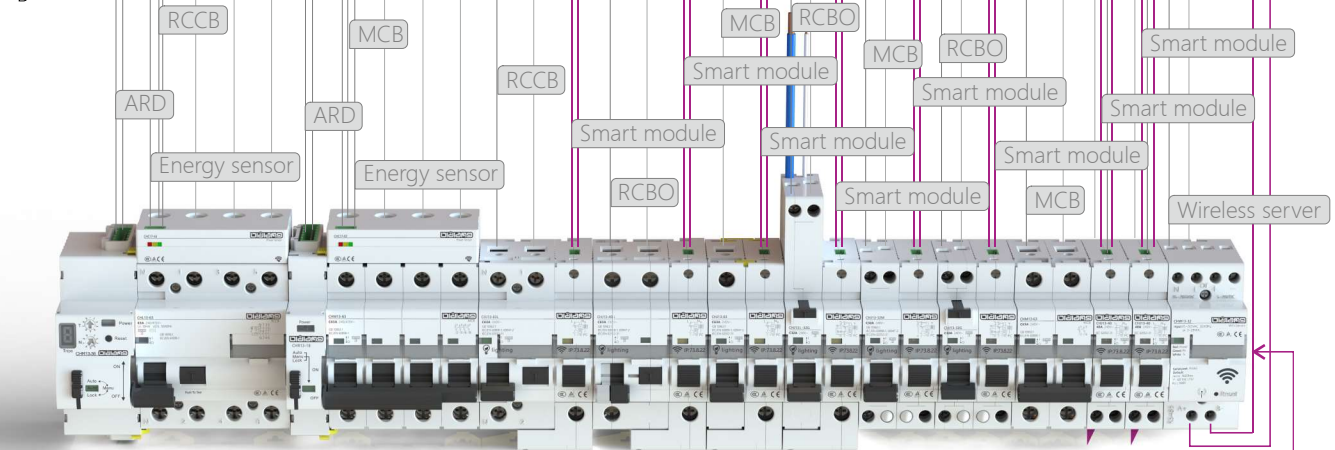


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Power



Data



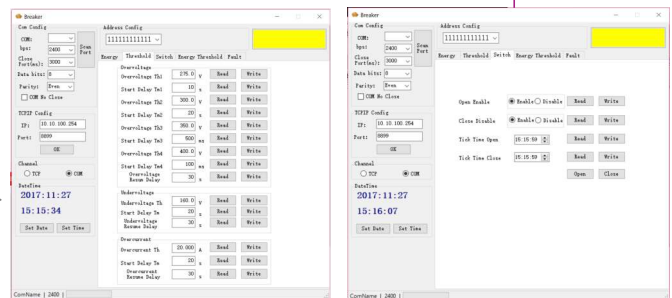
Load



Achieve remote control and appointment timing control

Control: manual or mobile phone, computer and other communication terminal, remote timing or irregular wireless automatic control of closing/breaking operation;

- Overload, short circuit, leakage protection
- The timing control on or off
- Remote control on or off
- To measure and monitor the electrical energy of the power equipment remotely
- Self-diagnostic information function
- Read run data
- Smart display terminal connected by Ethernet
- Display electrical network related important electrical information and alarm
- Centralized control (brake, switch, reset...) equipment
- Alarm event automatically generates email notification





CHW13-W series Wireless Server

RS485 converted to WiFi communication mode



External gain wired antenna

Power acquisition protocol:
DL/T645 or Modbus



Rs485 turns to various wireless communication modes, compatible with various intelligent products and PC access network.



Input: 85~265VAC 50/60Hz
or 5~28VDC

Serial port: Rs485
Default:
None 9600bps
IP: 192.168.1.233
Port: 8899



Android



iOS

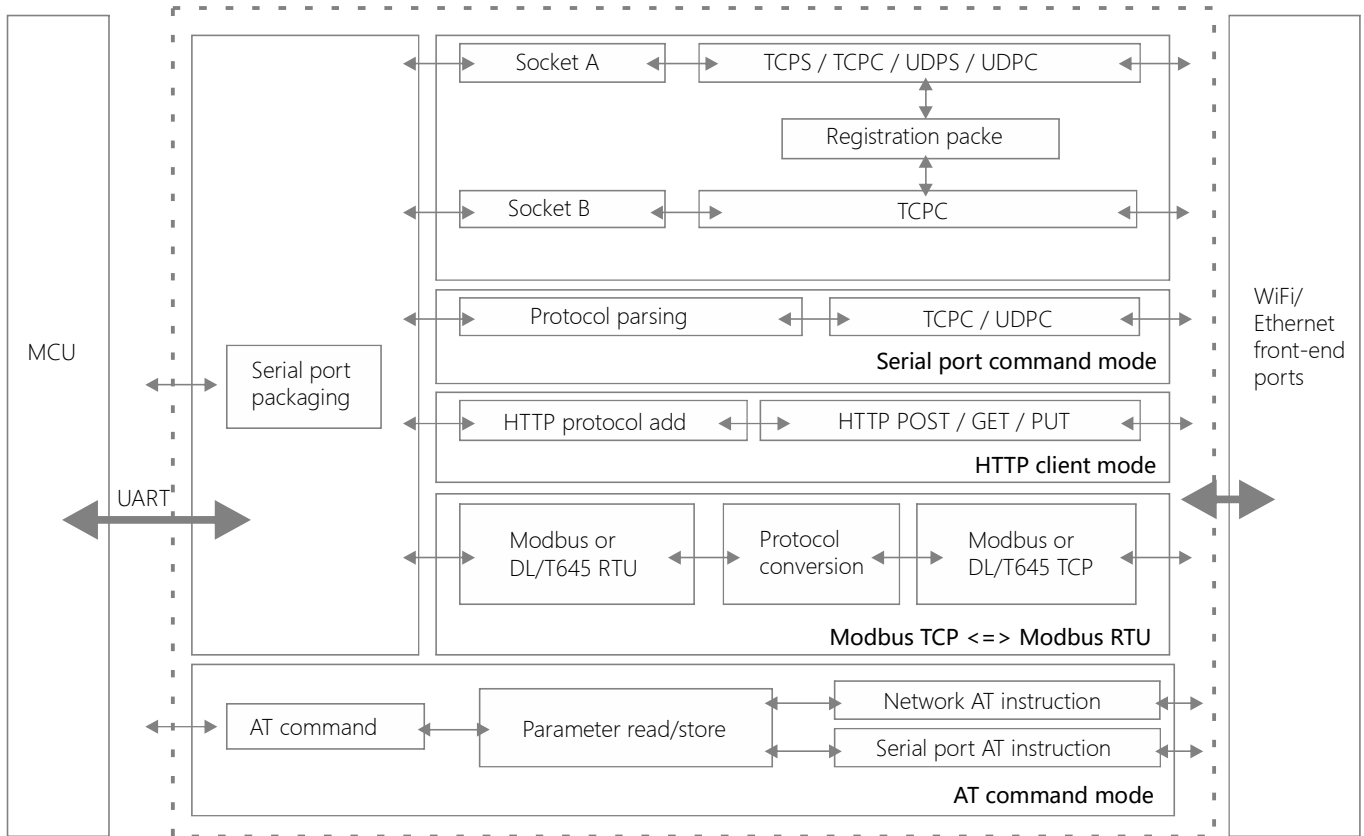




CHW13-W series Wireless Server

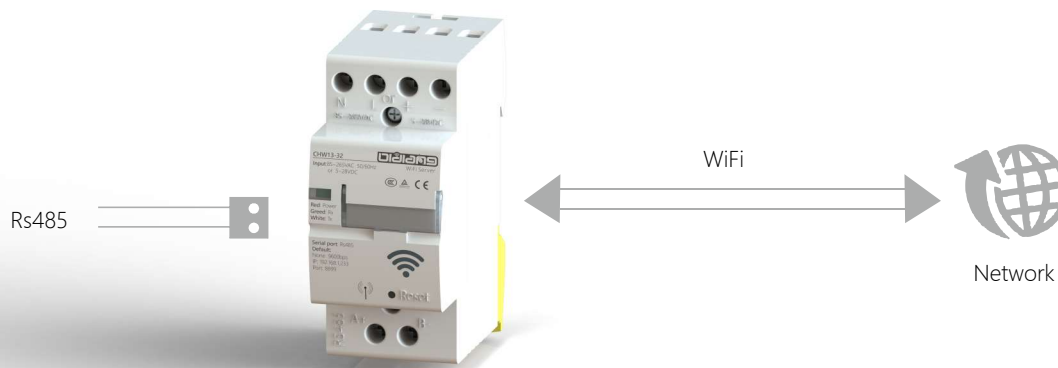
RS485 converted to WiFi communication mode

Functional structure diagram



Transparent transmitting mode

In transparent transmission mode, all data needed to be sent and received are not parsed between the serial port and WiP interface, making it easier for users to use.





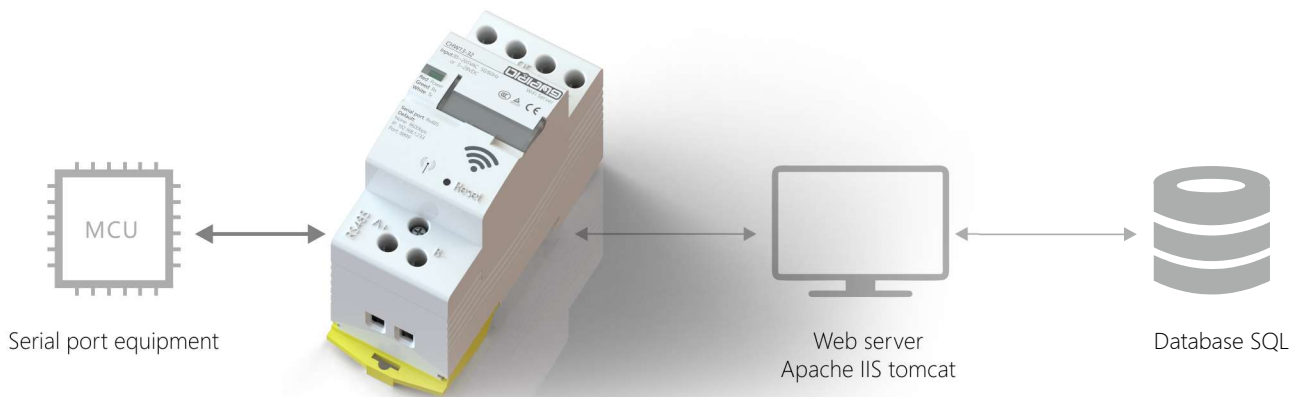
CHW13-W series Wireless Server

RS485 converted to WiFi communication mode

HTTPD client mode

Transfer data directly to or from the HTTP server.

As long as the data is sent to the serial port as formatted, the data will be submitted directly to the Web service over Http(GET/POST/PUT).



Modbus polling mode

Support Modbus TCP and Modbus RTU interconversion function.





CHW13-W series Wireless Server

RS485 converted to WiFi communication mode

Heartbeat packet mechanism

Support network heartbeat packet and serial port heartbeat packet. Network heartbeat packet notifies the server that it is active and maintains normal connection with the server by continuously sending heartbeat packet.

The serial heartbeat packet notifies the serial device that it is active and actively grabs sensor data that cannot be pushed actively.



Socket distribution protocol

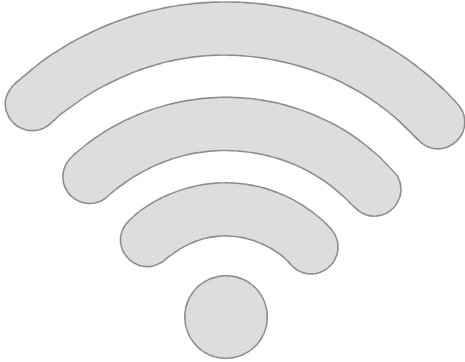
This product supports socket distribution protocols that allow you to either send data to different sockets using a specific protocol or partition data received by different sockets by adding header and footer partitions.





CHW13-W series Wireless Server

RS485 converted to WiFi communication mode



Wireless parameters

- Standard authentication:FCC/CE
- Wireless standards:802.11 b/g/n
- Frequency range:2.412GHz-2.484GHz
- Transmission power:
 - 802.11b: +19dBm(Max.@11Mbps)
 - 802.11g: +18dBm(Max.@54Mbps)
 - 802.11n:+17dBm(Max.@HT20,MCS7), +17dBm(Max.@HT40,MCS7)
 - Users can configure power
- Receiving sensitivity:
 - 802.11b: -89dBm (@11Mbps)
 - 802.11g: -81dBm (@54Mbps)
 - 802.11n: -73dBm (@HT20,MCS7) , -71dBm (@HT40,MCS7)

Hardware parameters

- Data interface:
 - RS232: 300 ~ 460.8Kbps
 - RS485: 300 ~ 230.4Kbps
 - RS485 interface (anti-surge,lightning protection, over-current protection)
 - Ethernet: 10Mbps/100Mbps
- Working voltage:AC 85~280V or DC 5~36V
- Working temperature:-40°C ~ 85°C
- Storage temperature:-40°C ~ 125°C

Software parameters

- Wireless network type:Station/AP/AP+Station
- Security mechanism:WEP/WPA-PSK/WPA2-PSK
- Encryption type:WEP64/WEP128/TKIP/AES
- Working mode:
 - Transparent transmission, serial port instruction,
 - HTTPD Client, Modbus TCP<=>Modbus RTU
- Set the command:AT+ command structure
- Network protocol:TCP/UDP/ARP/ICMP/DHCP/DNS/HTTP
- Maximum number of TCP connections:24
- User configuration:Web server +AT command configuration
- Customer application software:Support custom application software



CHW13-L series Wireless Server

RS485 converted to LoRa communication mode

Introduction

LoRa Radio module is a small size, micro power, low power consumption, high performance, long-distance wireless data transmission Module. Capable of internal automatic spread spectrum calculation and leading CRC error correction. When used, it does not change any data and protocol of the user, and adopts semi-duplex communication to realize the function of wireless data transceiver and transmission of serial port.

The module is based on spread spectrum hopping technology, which surpasses other modules in stability, anti-interference ability and reception sensitivity.

The module USES a low power consumption high speed processor, which improves the data processing ability and computing speed more than before.

The module supports the common transparent transmission mode, without changing the user data and protocol, it can be used, and the data sent is the data received; Can also establish a one-to-many star network communication structure, module address call center module through the corresponding node module, node module to respond by passthrough, between nodes will not interfere with each other, affect the data transmission, very suitable for wireless water meter, gas meter, sensor measurement, monitoring the application of low power consumption data transmission environment. The communication distance between modules is 3 to 5 kilometers, and the communication range is wide. If the relay module is added to provide the relay route, the communication range can be effectively expanded and many application networks can be covered in the distance. Users can also flexibly configure the network ID, working frequency, serial port rate, spread spectrum factor, spread spectrum bandwidth and other parameters of the module according to actual requirements through the upper computer software or with the AT command, which is simple to operate and convenient to use. The module is mainly used in sensing network, wireless meter reading, intelligent home and other fields.



Features

- Based on LoRa spread spectrum modulation technology.
- Semi-duplex communication, transparent transmission of serial data.
- Carrier frequency: 850 ~ 930MHz (Sx1276), covering 868, 915M and other free frequency bands.
- Working voltage: 2.1-3.6v or 4.5-5.5v.
- Micro-power transmission, Max. 100mW, 7 stages adjustable.
- The receiving sensitivity is up to -148dbm, and the maximum transmitting power is +20dbm.
- Adopt efficient forward error correction coding technology and frequency hopping mechanism, with strong anti-interference ability and low bit error rate.
- Support serial port wake-up, send and receive data at any time, no cycle wake-up time.
- Air wake-up is supported, AUX signal is given through the module to wake up the user device.
- CAD detects LoRa signal to prevent false awakening.
- The working mode of the module can be switched by command.
- Module parameters can be set flexibly through software or single-chip microcomputer commands.
- Built-in watchdog ensures long-term reliable and stable operation.
- Effective communication distance of open space can reach 3~5 km.





CHW13-L series Wireless Server

RS485 converted to LoRa communication mode



Technical specifications

- Working voltage: AC 80~260V or DC 2.1-3.6v (battery powered) or DC 4.5-5.5v
- Working frequency band: 868MHz
- Modulation mode: LoRa spread spectrum
- Output power: less than or equal to 20dBm
- Receiving sensitivity: -148dbm
- Emission current: no more than 120mA
- Receiving current: no more than 15.2mA
- Dormancy current: less than or equal to 3.9uA
- Sleep time: optional 2S 4S 6S 8S 10S
- Breathing time: optional: 2ms 4ms 8ms 16ms 32ms 64ms
- Wake up time: instant wake up
- Communication interface: TTL serial communication
- Serial port speed: 1200 ~ 57600,9600 BPS (default)
- Serial port check: 8E1, 8O1, 8N1 (optional)
- Working temperature: - 40 ° C to + 80 ° C

■ The LoRa Radio Node v1.0 868MHz based on the ATmega328P and RFM95 868MHz radio module. The main chip ATmega328P clocked at 8 MHz and at 3.3V logic, which use the Arduino pro mini 8Mhz 3.3V bootloader, usage same as the Arduino pro mini. This chip has 32K of Bash and 2K of RAM.

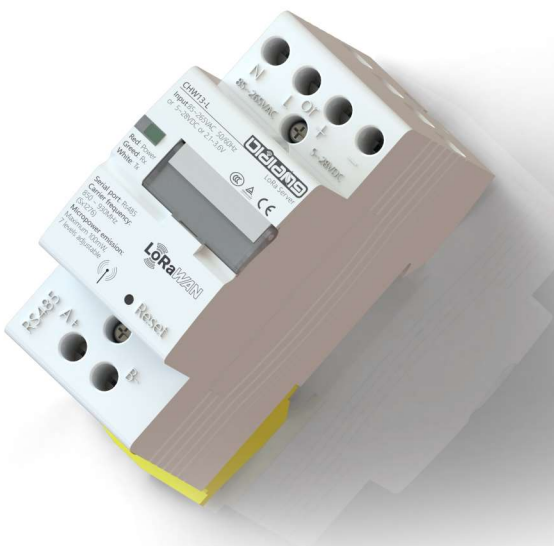
On board with a 3.7V 14500 battery holder, so it can use anywhere you like. In this LoRa Radio Node, we break out 2 IIC ports, 2 analog port (A0 A1) and 2 digital port (D3 D4) with 4 pin and 3 pin 2510-I type header.

Feature:

- Power supply: 3.7V 14500 Lipo battery or 3.7-12V DC power(VCC GND: 2PIN 2510-I Type connect)
- ATmega328P @ 8MHz with 3.3V logic/power
- 3.3V regulator with 500mA peak current output
- Hardware Serial, hardware I2C, hardware SPI support
- 1 x PWM pins: D3
- 12 x analog inputs: A0 A1
- Pin #13 BLUE LED for general purpose blinking
- 2 mounting holes
- Reset button

This LoRa Radio Node uses the extra space left over to add an RFM95 LoRa 868MHz radio module. These radios are not good for transmitting audio or video, but they do work quite well for small data packet transmission when you need more range than 2.4 GHz (BT, BLE, WiFi, ZigBee).

- SX1276 LoRa?0?3 based module with SPI interface
- Packet radio with ready-to-go Arduino libraries
- Uses the amateur or license-free ISM band: ITU "Europe" license-free ISM or ITU "American" amateur (with amateur band limitations)
- +5 to +20 dBm up to 100 mW Power Output Capability (power output selectable in software)
- ~300uA during full sleep, ~120mA peak during +20dBm transmit, ~40mA during active radio listening.
- uFL connector



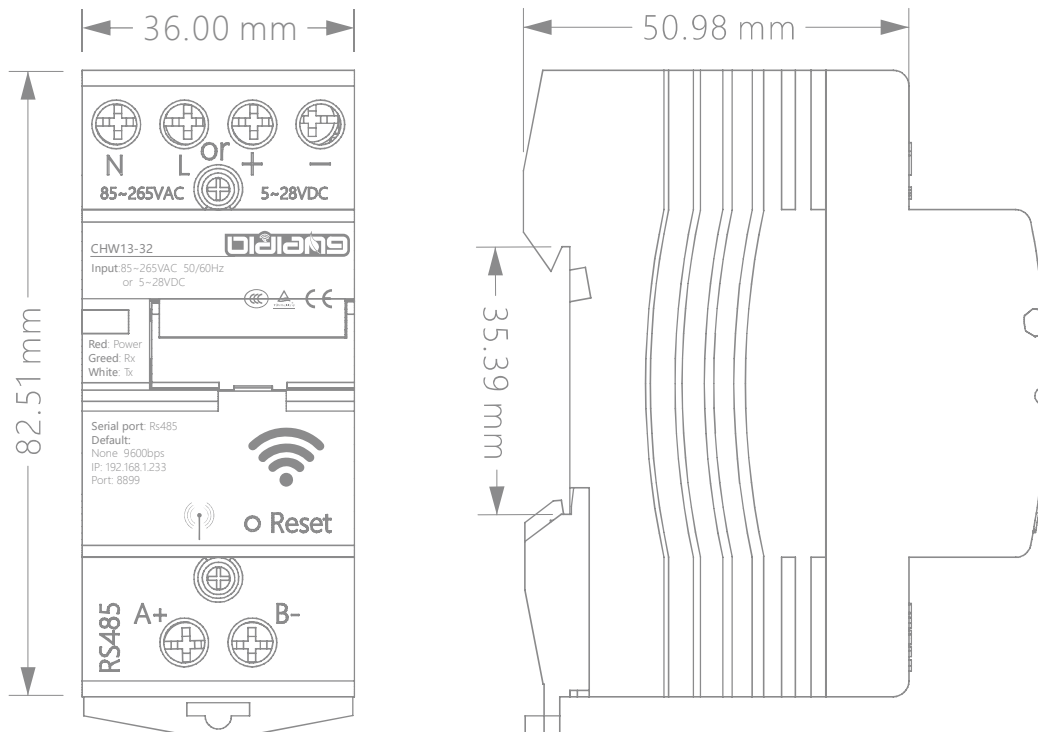


CHW13 series Wireless Server

OUTLINE SIZE AND CONNECTION DIAGRAM (mm)

Undimensioned tolerance
 < 1mm: ±0.2mm
 1~5mm: ±0.3mm
 > 5mm: ±0.5mm

Mounting hole size tolerance
 ±0.4mm





SAVE ON ENERGY, STARTS FROM ME !

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OLDLANG

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Low Carbon



Wireless



Energy Saving

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