

## Larmsändare GSM & kommunikationsenhet CWT5002

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### CWT5002-3 RTU

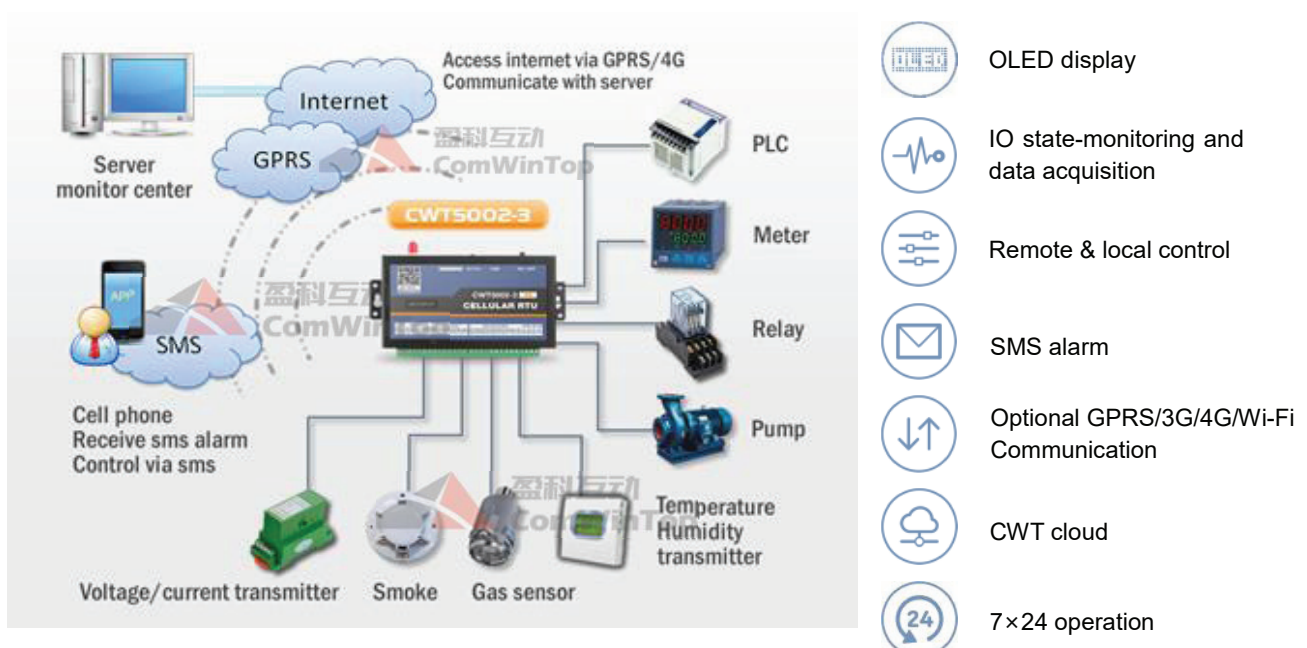
GSM/3G/4G/Wi-Fi optional

Data acquisition, transmission, control all in one



### Product profile

CWT5002-3 RTU with 8 DI, 8 DO, 4 AI, RS485 standard electrical interface can connect various industrial equipment, such as PLC, meters, sensors, electrical switches. It monitors the industrial system real-time running status and data, as well as constructs the remote device to a proprietary central computer and mobile phones through the GSM/GPRS/3G/4G/Wi-Fi communication network. It efficiently acquires the remote equipment operating parameters and process management, can be widely used in industrial automatic control, base station / computer room monitoring, environmental monitoring, water conservancy project, power industries, agriculture, etc.



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### System Features

- Adopted highly integrated industrial 32-bit ARM MCU
- Reliable performance with built-in double watchdog, 24×7 operation
- With signal filtering mechanisms
- Network-reconnect and retransmission to ensure data accurately transmit
- Update RTC automatically or manually, clock source support Sms, NTP, CwtIO Server
- Can set multiple timers(second, minute, day, week, month) to execute actions, e.g. output, upload data, change setting
- Event-based linkage programming, e.g. alarm linkage output
- Provide configure software, visual programming, over 100 parameters can be set
- Inside temperature optional, can set high or low to alarm
- Optional inside battery that life is 8-20 hours, cellular module Intelligent sleep when power lost

### Port Features

Port	Qty	Features
<b>DI</b> (digital input)	8	<ul style="list-style-type: none"> <li>● Voltage inputs(DC5-30V), opt coupler isolation, isolation voltage: 5000V</li> </ul>
<b>DO</b> (digital output)	8	<ul style="list-style-type: none"> <li>● Transistor output (drive voltage=power supply voltage, Drive current≤500mA)</li> <li>● Remote or local event activate DO on/off/pulse</li> <li>● Remember status when power lost</li> </ul>
<b>AI</b> (analog input)	4	<ul style="list-style-type: none"> <li>● Accept 4-20mA (option: 0-5V), Sampling frequency: 33Hz, 10-bit precision)</li> <li>● Convert signal to actual measure value , support adjustment</li> <li>● Configurable parameters for signal acquisition, alarm, data communication</li> <li>● Detect connect or disconnect to alarm</li> </ul>
<b>RS485</b>	1	<ul style="list-style-type: none"> <li>● Support Modbus RTU protocol</li> <li>● Can work as a modbus master to read/write 96 data from slaves</li> <li>● Can work as a modbus slave to be read/write by master</li> <li>● Support isolation , 15KV ESD protect</li> </ul>
<b>Mini USB</b>	1	<ul style="list-style-type: none"> <li>● Configuration port</li> </ul>

### OLED display features

- Screen type : OLED ( 128\*32 )
- Size: 30\*11.5mm
- Display data of each channel

### Communication Features



Wireless network communication

- Option network: GPRS, 3G, 4G, Wi-Fi
- TCP/IP connect at most 4 servers(support Static IP address or domain)
- Events(e.g. alarm, timer) trigger upload data
- Communication protocol: Modbus TCP , http post, Cwt\_IO(two-way communication)
- Support two-way data transparent transmission with RS485

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**SMS**  
Communication  
(only available for  
cellular version)

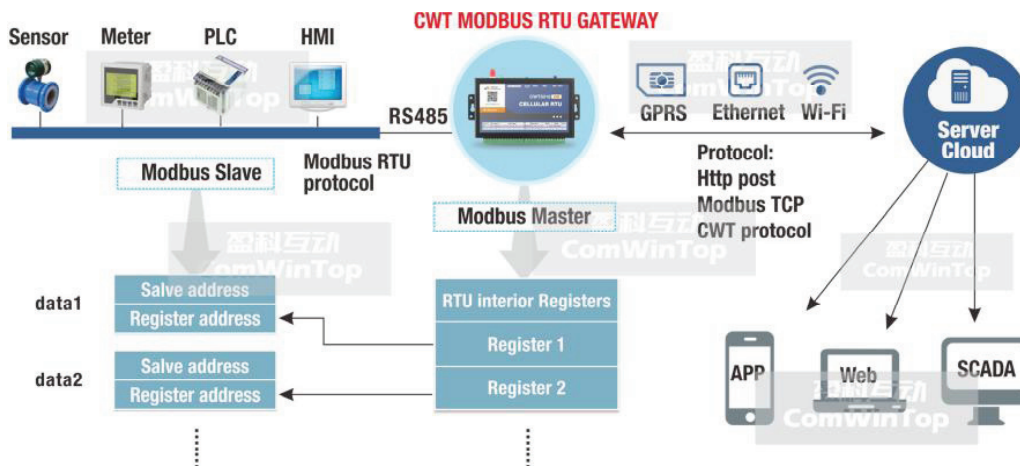
- Preset 10 phone numbers (support distribute authority to receive sms)
- Sms alarm when any IO channel triggered or out of preset normal range
- Editable alarm and recover sms with time stamp
- Query any IO channel's status or value via sms command
- Control output via sms command
- Sms report any IO channel's status or value on schedule
- Remote setting via sms commands
- Can query SIM card balance, sms forward
- support power lost sms alarm and recover sms(works with inside battery)



**RS485  
Modbus  
communication**

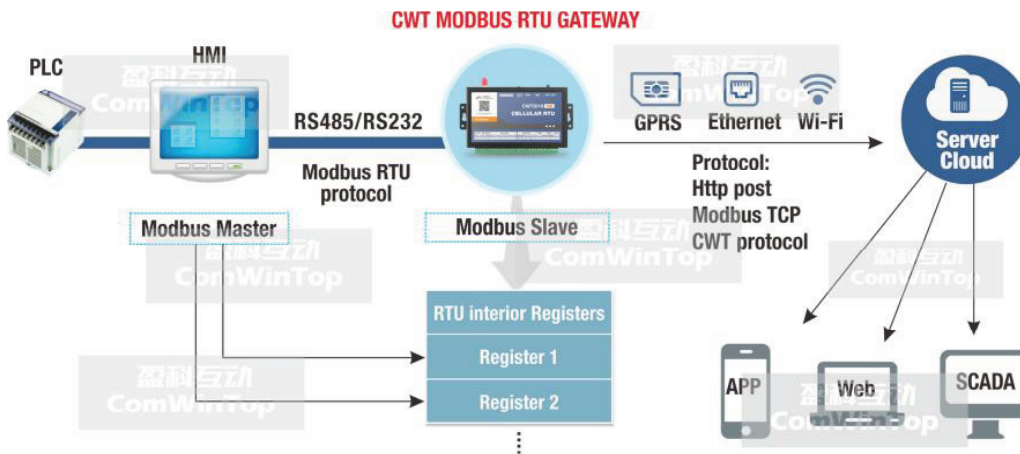
- Support Modbus RTU protocol
- Can work as a modbus master to read/write 96 data from slaves (like meter, PLC, transducer etc.)
- Can work as a modbus slave to be read/write by master(HMI, SCADA etc.)
- Support Modbus RTU to TCP convert over Ethernet or GPRS/3G

## Modbus solution 1



RTU can read modbus slave over RS485, the target data's address (slave ID and register address) must be set into RTU  
RTU store target data in its own registers and send to server

## Modbus solution 2

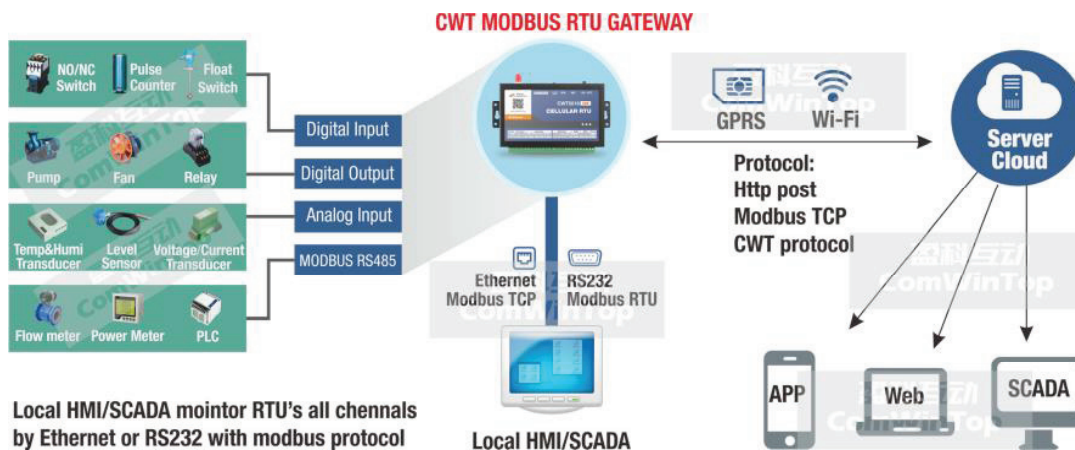


Modbus master write RTU's registers, and RTU send these data to server

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### Modbus solution 3



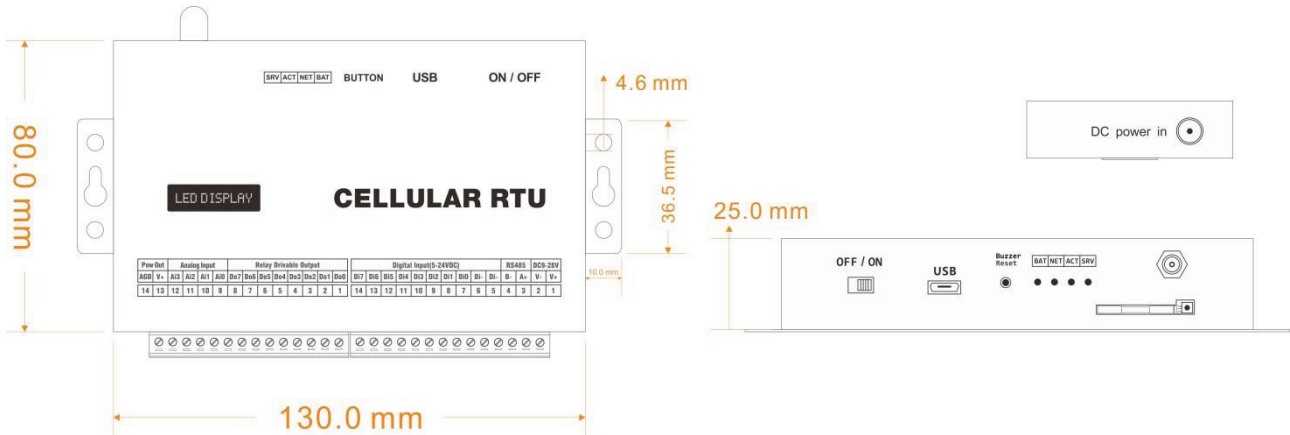
### Specifications

<b>Core</b>	MCU	Cortex M3 32-bit ARM
<b>Power</b>	Power supply	9-28V DC (Standard adapter: DC 12V/1.5A)
	Consumption	12V input Max. 150mA/Average 50mA
<b>Network</b>	Wireless Network	Either GPRS(or 3G/4G, need simcard) or Wi-Fi(Not need simcard) Default: GSM/GPRS (4 band 850/900/1800/1900Mhz) Option: WCDMA (3G), FDD LTE(4G) Option: Wi-Fi, 802.11 b/g security WEP/WPA/WPA2
	<b>IO channel</b>	<p>Digital input(DI) 8 channels, Voltage input (DC5-30V, opt coupler isolation, isolation voltage: 5000V)</p> <p>Digital output(DO) 8 channels, transistor output Output drive voltage=power supply DC voltage Drive current ≤ 500mA</p> <p>Analog Input(AI) 4 channels, receive 4-20mA(option: 0-5V), Sampling frequency: 33Hz, 10-bit precision, Dual digital filters for anti-noise</p>
<b>Display</b>	OLED screen	128*32, Size: 30*11.5mm
<b>Series port</b>	USB	1 configuration port
	RS485	1 port, baud rate: 1200~115200dps, default 9600,n,8,1 Isolation, 15KV ESD protect
<b>Other interface</b>	SIM/UIM	Standard user card interface
	Antenna	Standard SMA female interface (50Ω)
<b>Others</b>	Battery	Optional lithium-polymer, 500mAh/3.7V, life:8-20 hours
	GPS module	Optional
<b>Working Environment</b>	temperature	-30℃ ~ +70℃
	humidity	5 ~ 95%(non-condensing)
<b>Physical</b>	Terminals	2×14pin 3.81mm spacing, pluggable
	Housing	Providing IP30 protection
	Dimension	130×80×25mm
	Weight	390g

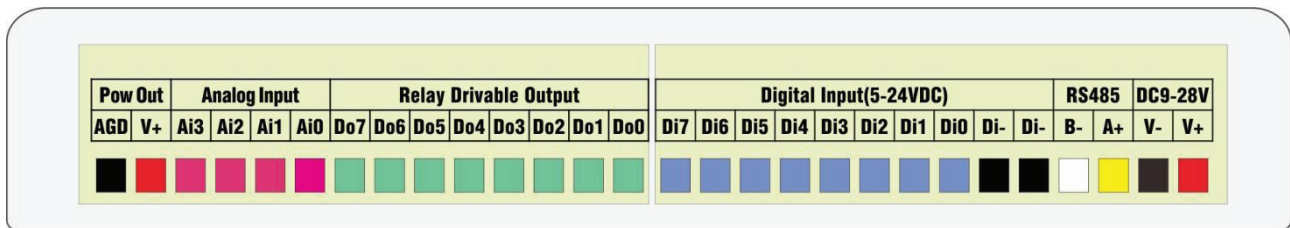
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## Size diagram



## Terminals figure

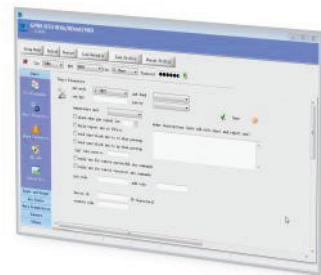


## Package list

RTU×1, antenna×1, Standard adapter: DC 12V/1.5A×1, USB cable×1

## Free Configure Software

- No programming! set parameter by visual interface
- Can save config file, one click finish config
- Over 100 parameters can be set, flexible!  
Meeting various industrial requirements





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### CWT Cloud profile

CWT cloud is an industrial equipment management system based on internet, cloud computing.

With CWT RTU, CWT cloud can get status, value, position of remote industrial equipment, built a very complete M2M, M2H industrial ecosystem.

CWT cloud can manage thousands CWT RTU remotely, display all industrial equipment' real-time data, location tracking, control device, send commands and store data, analysis data, export data. Operation base on internet, do not install any software, only login cloud via PC or cell phone's browse to do it.

