Process Center AB

Larmsändare GSM & kommunikationsenhet CWT5018 med Ethernet

CWT5018 RTU

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

Data acquisition, transmission, control all in one

Product profile

CWT5018 RTU with DI, DO, AI, RS232/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/Ethernet 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.

- IO state monitoring and data acquisition
- Remote & local control
- SMS alarm
- Email alarm
- Optional GPRS/3G/4G/Wi Fi Communication
- Ethernet communication
- CWT cloud
- 7×24 operation

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Larmsändare GSM & kommunikationsenhet CWT5018 med Ethernet
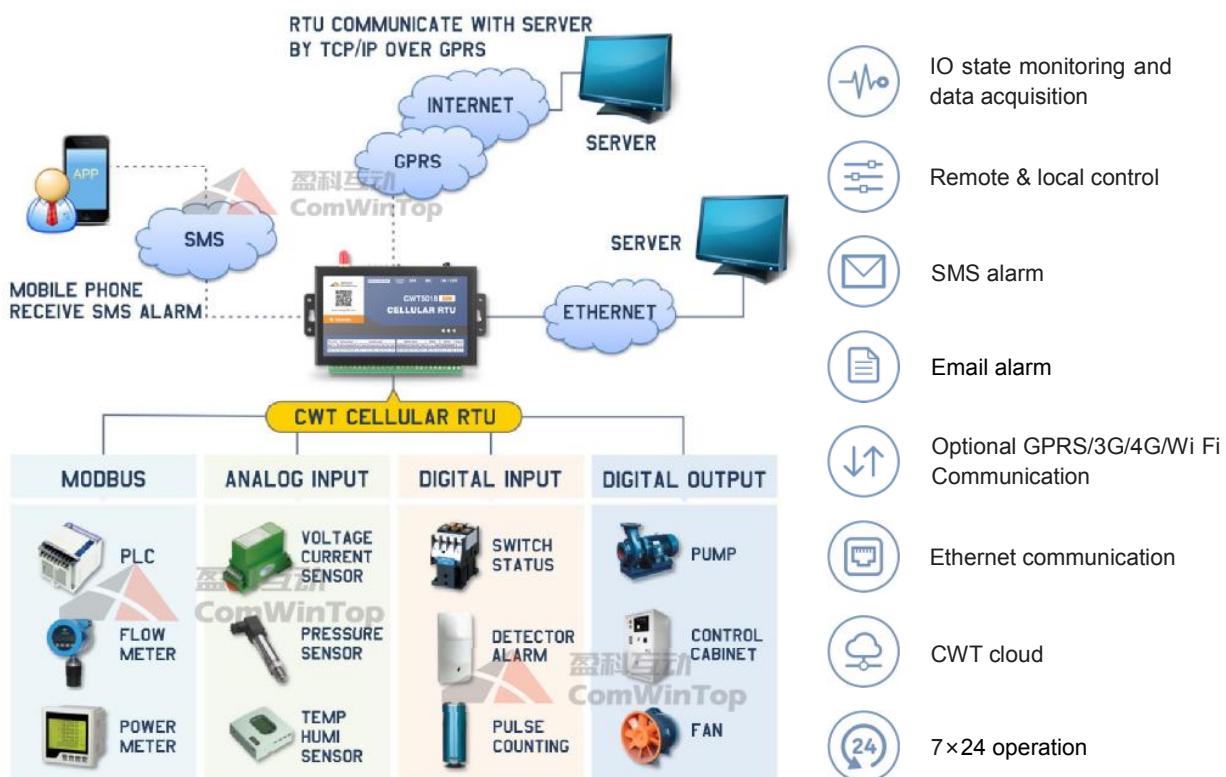
System Features

- 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
DI (digital input)	4	• Accept dry contact
DO (digital output)	2	• Relay output (NO, Contact load : 2A / 125VAC，220VDC) • Remote or local event activate DO on/off/pulse • Remember status when power lost
AI (analog input)	8	• Accept 4 20mA (option: 0 5V）, Sampling frequency: 33Hz, 10 bit precision) • Convert signal to actual measure value，support adjustment • Configurable parameters for signal acquisition, alarm, data communication • Detect connect or disconnect to alarm
RS485	1	• Support Modbus RTU protocol • Can work as a modbus master to read/write 64 data from slaves • Can work as a modbus slave to be read/write by master • Support isolation，15KV ESD protect
RS232	1	• Configuration port
Ethernet	1	• Support ARP, DHCP, TCP, UDP protocol • Can be configured as serial port server, TCP client, Modbus TCP server

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 or RS232

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)

Ethernet communication

- Can be configured as TCP client to connect servers, support protocol: Modbus TCP , http post, Cwt_IO(two way communication)
- Can be configured as Modbus TCP Server(Modbus slave), can be read or write by Modbus master(e.g. SCADA, PLC, HMI)
- Can be configured as serial port server, support two way data transparent transmission with RS485 or RS232
- Support GPRS/CDMA/3G/4G to Ethernet network bridge
- Inside HTTP server

RS485 Modbus communication

- Support Modbus RTU protocol
- Can work as a modbus master to read/write 64 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
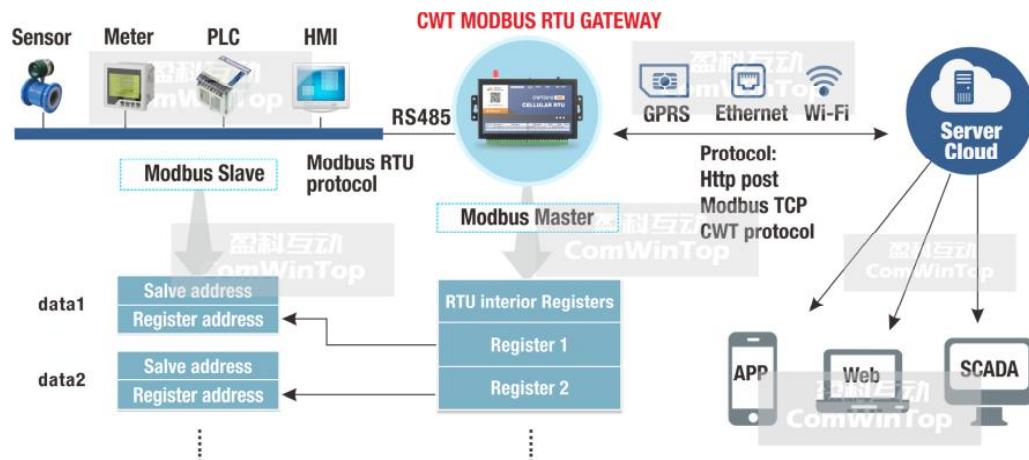
RTU can read modbus slave over RS485, the target data's address (slave ID and register address) must be set into RTU
RTU store target data in its own registers and send to server

Modbus solution 2
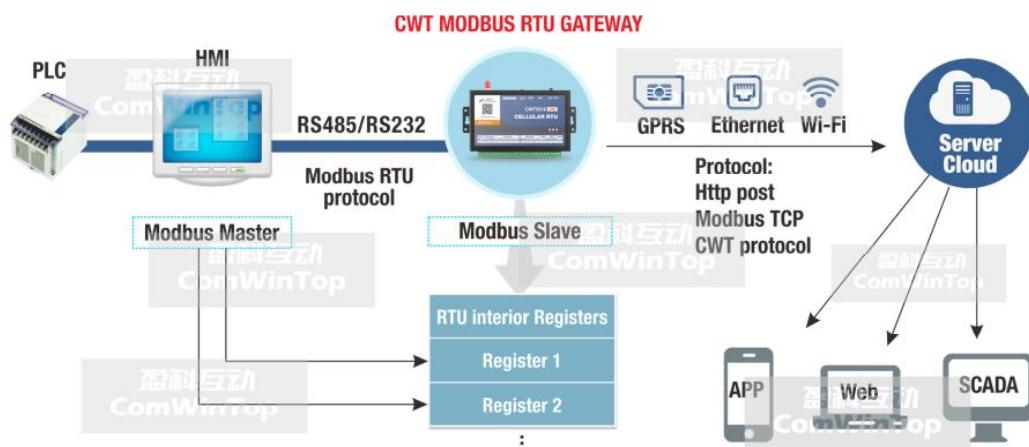
Modbus master write RTU's registers, and RTU send these data to server

Modbus solution 3
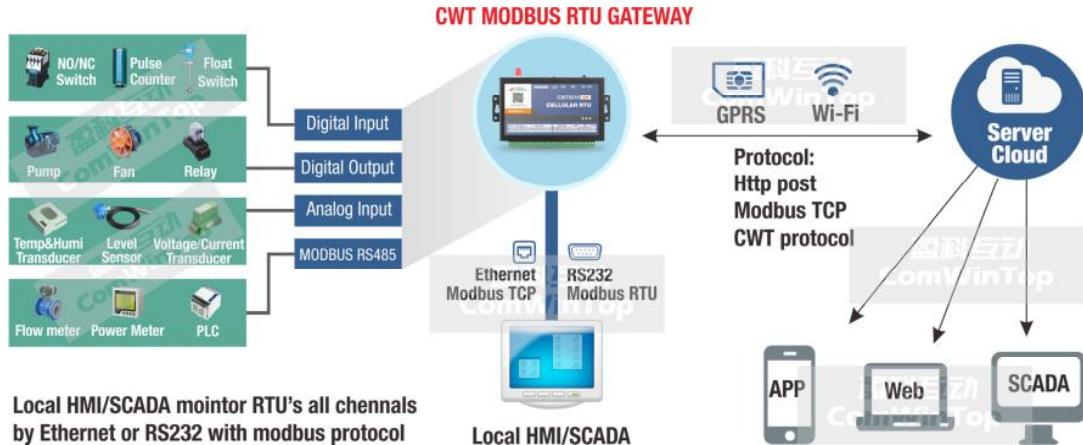
Specifications

Core	MCU	Cortex M3 32 bit ARM
Power	Power supply	9 28V DC (Standard adapter: DC 12V/1.5A)
	Consumption	12V input Max. 150mA/Average 50mA
Network	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
	Ethernet	1 port RJ45, 10M/100M adaptive
IO channel	Digital input(DI)	4 channels, Dry contact trigger, optoelectronic isolation, 15KV ESD protect
		Can be set as counter with counting frequency: 10Hz
	Digital output(DO)	2 channels, relay output (NO, Contact load : 2A / 125VAC，220VDC)
	Analog Input(AI)	8 channels, receive 4 20mA(option: 0 5V), Sampling frequency: 33Hz,
		10 bit precision, Dual digital filters for anti noise
Series port	RS232	1 port, baud rate: 1200~115200dps, default 115200,n,8,1
	RS485	1 port, baud rate: 1200~115200dps, default 9600,n,8,1
		Isolation，15KV ESD protect
Other interface	SIM/UIM	Standard user card interface
	Antenna	Standard SMA female interface (50Ω)
Others	Battery	Optional lithium polymer, 500mAh/3.7V，life:8 20 hours
	GPS module	Optional
Working	temperature	30℃ ~ +70℃
Environment	humidity	5～95%(non condensing)
Physical	Terminals	2×14pin 3.81mm spacing, pluggable
	Housing	Providing IP30 protection
	Dimension	130×80×25mm
	Weight	390g

Size diagram

80.0 mm
4.6 mm
36.5 mm
25.0 mm
130.0 mm

OFF / ON   MIC   SPK   Button Reset   BAT NET ACT SRU

Terminals figure

Pow Out		Relay Outputs				Analog Inputs								Digital Inputs						RS485			RS232			Pow In	
AGD	V+	K1B	K1A	K0B	K0A	A7	A6	A5	A4	A3	A2	A1	A0	GND	GND	Di3	Di2	Di1	Di0	B-	A+	GND	TX	RX	GND	V-	V+
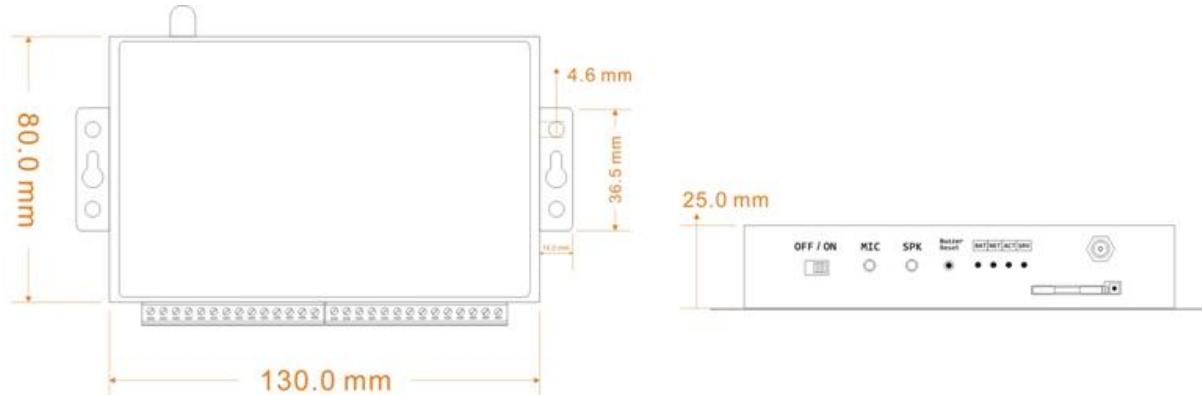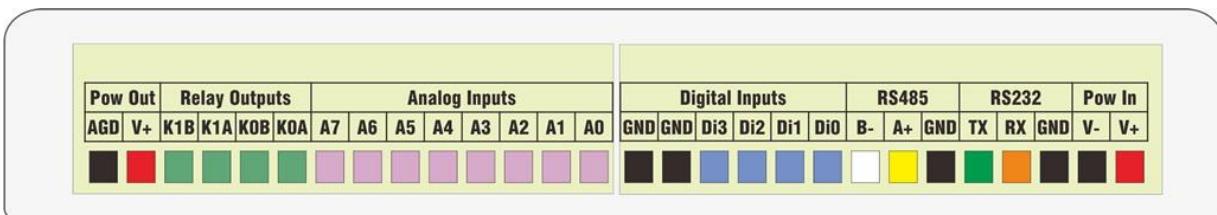
Package list

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

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.