IoT5018

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Product Summary

IoT5018 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
- IoT cloud
- 7. 24 operation

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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, IoT IO 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, 16-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, IoT_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)

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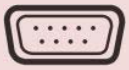
Ethernet communication

- 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

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
	USB	1 configuration port
Other interface	SIM/UIM	Standard user card interface
	Antenna	Standard SMA female interface (50")
Others	Battery	Optional lithium-polymer, 1000mAh/3.7V/ life:8-20 hours
	GPS module	Optional
Working Environment	temperature	-30 0 +70
	humidity	50 95%(non-condensing)
Physical	Terminals	2 14pin 3.81mm spacing, pluggable
	Housing	Providing IP30 protection
	Dimension	130 80 25mm
	Weight	390g

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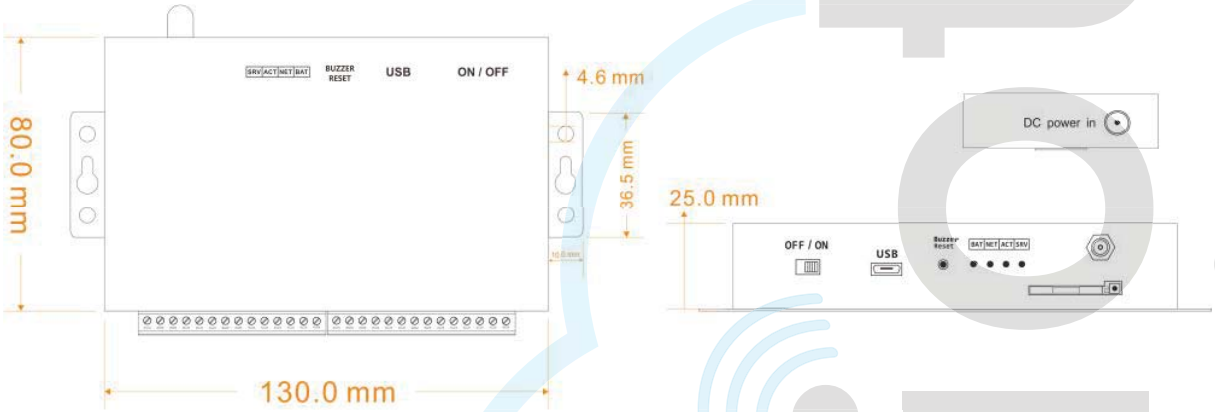
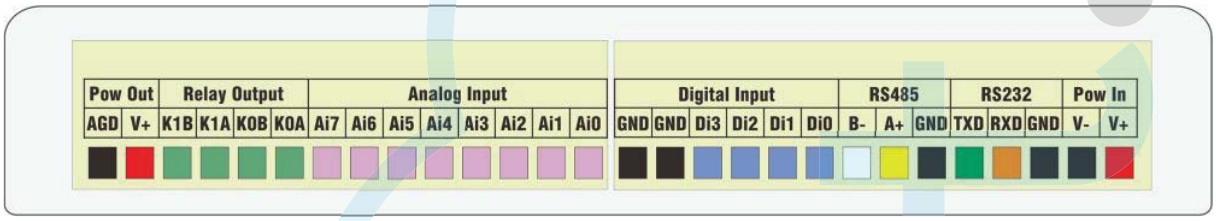
Size diagram



Terminals



Package list

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

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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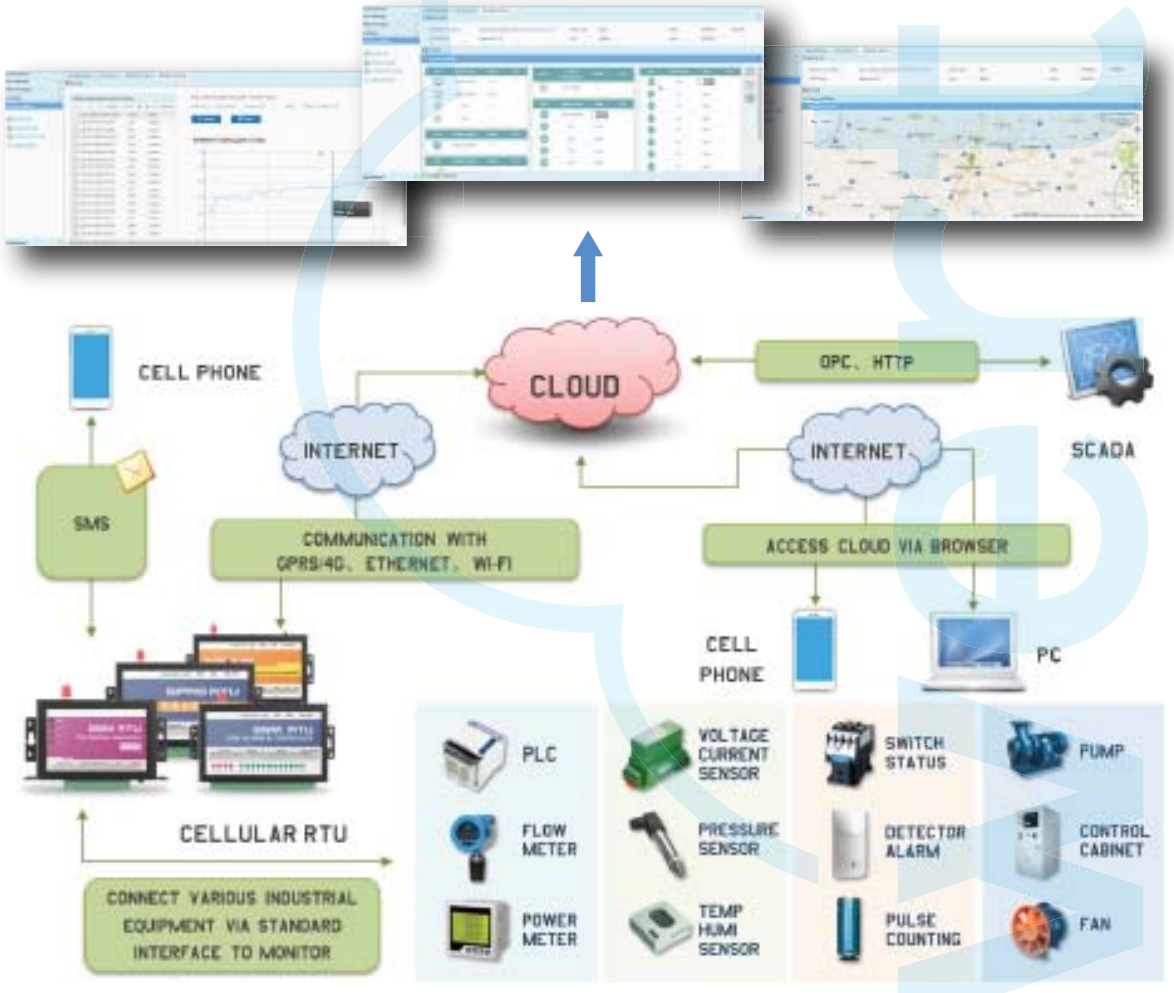
IoT Cloud Summary

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

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

IoT cloud can manage thousands Iot RTU remotely, display all industrial equipment real-time data, location tracking, control device, send commands and store data, analysis data, export data. Operations are based on internet, just login cloud via PC browser or cell phone app to do.



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IIoT Gateway

Provide Hardware and software support for machine remote managements

System Features

- 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, WERTIOT 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

Up to 8 DI (digital input)

- Accept dry contact

Up to 8 DO (digital output)

- Relay output (NO, Contact load : 2A / 125VAC, 220VDC)
- Remote or local event activate DO on/off/pulse
- Remember status when power lost

Up to 8 AI (analog input)

- Accept 4-20mA (option: 0-5V), Sampling frequency: 33Hz, 16-bit precision)
- Convert signal to actual measure value, support adjustment
- Configurable parameters for signal acquisition, alarm, data communication
- Detect connect or disconnect to alarm

RS232/ RS485

- Support Modbus RTU protocol
- Can work as a modbus master to read/write 96 data from slaves
- Can work as a modbus slave to be read/write by master

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)
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Communication Features

Ethernet communication

- Can be configured as TCP client to connect servers, support protocol: Modbus TCP, http post
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- 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

RS232/RS485 Modbus communication

- Support Modbus RTU protocol
- Working as a modbus master to read/write 32 data from slaves (like meter, PLC, transducer etc.)
- Support Modbus RTU to TCP convert over GPRS/3G

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Platform

- Ready-to-use IoT platform
- Easy and Intuitive user interface
- Deviation awareness through notifications
- Secure data access over the internet

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Monitor & Control

See what's really happening. Which parts of your operation work as they should and which don't? How much are you producing and what resources does it take? Then you can take control. Adjust, fine-tune and optimize your devices and your operation remotely. Test and fine-tune with live feedback. Make small changes – that multiplied by time and scale – can deliver very big results.

Analyse & Understand

Gain business insights by combining current and historical data in real time. This lets you optimise your operation, increase your productivity and maximise availability. You can store, process and analyse your data in the cloud

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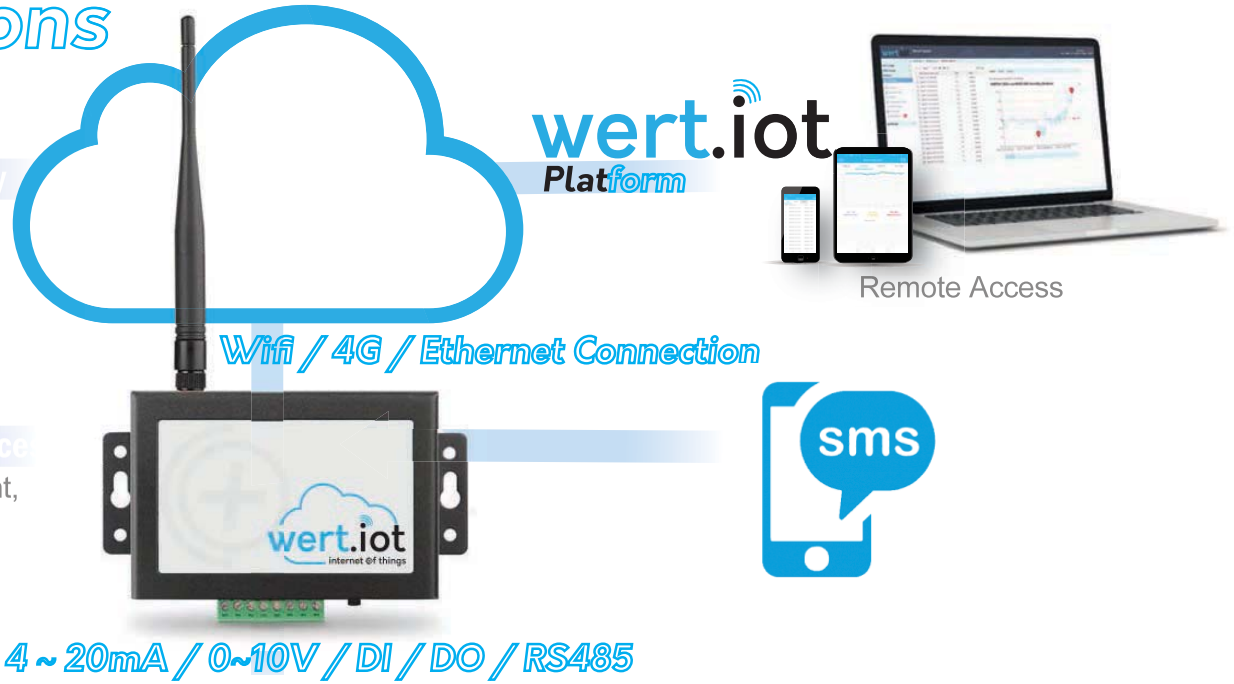
Predict & Maintain

Downtime is the enemy of profit. But if you know in advance what's likely to happen, you can be proactive. From what's happened and what's happening, you can understand what's likely to happen in a day, a week or a month. Then you can take proactive steps to avoid unexpected disruptions or downtime. From just-in-time logistics to preventative maintenance; you can always stay one step ahead.

Turn Data Into Insight & Buisness Value

Data collected from sensors, devices or assets can be turned into operational insight that lets you understand what's really going on – and act on it.Data can be processed, analysed or aggregated to historical data from other sources

Systems & Solutions



Easy and Secure Data Connectivity

Http post
Modbus TCP
wert.iot protocol

Efficient Data Acquisition and Proce

Connect various industrial equipment, such as PLC, meters, sensors, electrical switches.

Easy and Fast Data Acquisition

Digital input
Digital Output
Analog Input
Modbus RS485

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PRE-ENGINEERED IoT ELECTRICAL CONTROL PANELS

Real-time monitoring, alerts, analytics, and control in a single platform

Wert.IoT as one of the fastest-growing Industrial IoT companies to offer a growing suite of solutions that include asset tracking, and industrial process controls - all in an integrated, open, real-time platform, that gives you the flexibility to connect your assets to the cloud Collect data from sensors, controllers, historians, and servers to gain real-time visibility into your operations.

Wert.IoT is a full service provider of custom or off the shelf electrical control panels. Our control panels host a large variety of data that can be crucial to your company's future Internet of Things (IoT) plans. Using a hardware IoT Gateway in each Control Panel we can convert legacy data types, such as ModBus, to modern Ethernet / MQTT data-grams. This IoT Gateway can integrate with your existing IoT platform or with our own IoT platform built for scale.

INDUSTRIAL SCADA / IOT PLATFORM

The benefit to using Wert.IoT platform is scale and customization. Our platform was built and can be deployed regionally for faster response times, can scale to trillions of transactions per second, and can be custom built for our specific application.

REMOTE MANAGEMENT & MONITORING

The Wert.IoT platform can be custom developed to provide alerts based on custom thresholds and events. With each data type, a notification can be built to allow your business to respond to events faster and reduce your facility downtime. We can also build in remote operations such as to start / stop a motor or change the motor speed based on various conditions.

SCADA INTEGRATION

The Wert.IoT platform can be custom developed to provide alerts based on custom thresholds and events. With each data type, a notification can be built to allow your business to respond to events faster and reduce your facility downtime. We can also build in remote operations such as to start / stop a motor or change the motor speed based on various conditions.

IOT INTEGRATION

Even if you do not have any Control Panel needs we can still leverage our IoT Gateway platform to consolidate the sensors you have in your facility so you can turn your sensor data into business intelligence.

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COVER YOUR ENTIRE PLANT'S WITH ANY EQUITMENT

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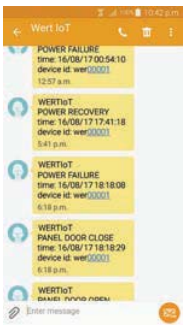
INTERNET

ACCESS CLOUD VIA BROWSER

COMMUNICATION WITH GPRS/4G, ETHERNET, WIFI



SMS ALERT

WERT.IoT Pre-Engineered IoT Electrical Control Panel

MOBILE APP.

CELLULAR RTU

MODBUS

PLC

FLOW METER

POWER METER

ANALOG INPUT

VOLTTAGE/ CURRENT SENSOR

PRESSURE SENSORS

TEMP./HUMI. CO2/CO SENSORS

DIGITAL INPUT

SWITCH STATUS

DETECTION ALARM

PULSE COUNTING

DIGITAL OUTPUT

PUMP

CONTROL CABINET

BLOWER FAN