

# WL-RT600 Series

## Rugged, compact cellular RTU

- 4G/3G/2G network optional
- Multiple operation modes
- Rich Serial and I/O ports
- Programmable for user-defined I/O and Modbus
- Flexible and practical data communications
- GPS/DB Optional
- Built-in RTC Clock
- Data storage optional
- Friendly configuration tool
- WLINK RTU Management Platform
- Wide operating temperature range: -30 to 75°C



## Introduction

WLINK rugged RT600 series RTU (Remote Terminal Unit) is a cellular communication device installed at a remote location that collect data, codes the data into a format that is transmittable and transmit the data back to a central station or master, it's been developed especially for data collection and data transmission in IoT / M2M application.

RT600 offers two serial ports and I/O ports, enabling it to connect to a variety of fields devices. With MQTT, PPP, TCP/IP protocol, it could convert user serial port data to mobile 4G/3G/2G IP network data and transmit the data to customer's data master via transparent MQTT/TCP/UDP protocol. DI ports support various of digital signal such as door sensor and smoke detector. AI ports support 4~20mA/0~5V signal such as temperature sensor and humidity sensor. Especially, WL-RT600 is programmable for users to customize DI/AI ports and Modbus properties according to various application requirements.

RT600 is a smart remote internet-ready RTU with unique compact hardware and software designs, making it an ideal solution for a variety of industrial automation and monitoring applications including Cold Chain Logistics, Oil & Gas, Power, Environment Protection, Water Conservancy and Lighting control monitoring etc.

## Basic Features

- Integrated 4G/3G/2G cellular communication
- Support programmable function
- Standard PPP, TCP/IP and UDP/IP protocol
- Industrial pluggable terminal block
- RS232 port for Configuration
- RS485 port for Modbus RTU
- 1 analog inputs and 1 Digital inputs
- Memory data storage optional
- Built-in RTC, support real-time clock
- Optimized EMC design
- Power output +7.5~32V DC
- Support APN and VPDN private network
- Support short message service (SMS)
- Support transparent data transmission
- Support data service center with dynamic IP address
- Support LED status indication
- Wide range voltage input
- External power on/off control
- GPS Optional

## Enhanced Features

### Multiple operation modes

- Always online, automatically connect to 4G/3G/2G when powered on
- Off-line when idle, online mode will be triggered by user data/ring/SMS
- Online/offline control by commands via user equipment
- Data loop Test

### Flexible and utilitarian data communications

- Supports MQTT/TCP/IP, UDP/IP, SMS and AT
- Supports MQTT TLS Encryption
- Supports customizable JSON Format
- Supports programable Modbus RTU protocol script
- Self-defines customized data frame separator
- Self-defines reconnecting interval
- Self-defines heart-beat data frame

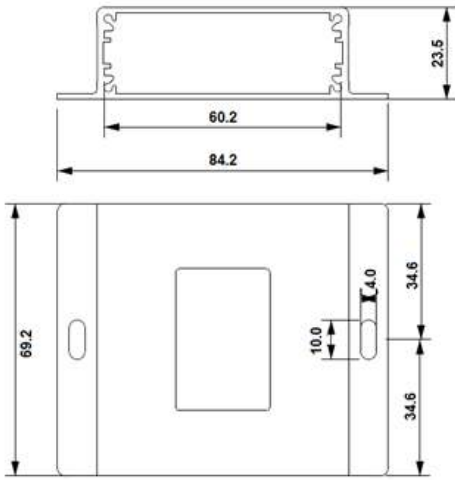
### Parameters configuration and remote management

- Built-in parameters configuration menu
- RTU Configuration tool based on PC
- Remote parameters configuration via RTU Management Platform
- Remote parameters configuration by SMS
- Parameters configuration via AT+ command

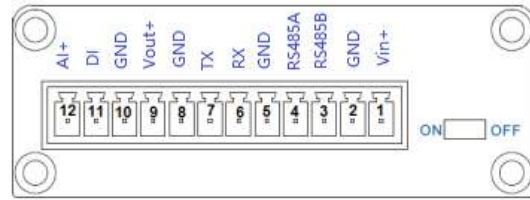
## Specification

Cellular Features	Physical Characteristics
<ul style="list-style-type: none"> <li>• Network: FDD 4G/TDD 4G HSPA/UMTS EDGE/GPRS</li> <li>• Output Power: Class4(2W)@900MHz; Class1(1W) @1800MHz</li> <li>• Protocol: PPP/TCP/UDP/ICMP</li> <li>• Gain: 1.4dBi@900MHz, 3dBi@1800MHz</li> <li>• RF impedance: 50Ω</li> </ul>	<ul style="list-style-type: none"> <li>• Dimension: 69mm x 84mm x 23.5mm (84mm includes Wall mount kits)</li> <li>• Weight: 110g (not including accessories)</li> <li>• Mount: Wall Mount</li> <li>• Shock and Vibration: SAE J1455</li> <li>• Operation temperature: -30~ + 75 °C</li> <li>• Storage temperature: -40~ +85 °C</li> <li>• Relative humidity: 0~95% (non-condensing)</li> <li>• Guarantee: one year</li> </ul>
Interface	Power
<ul style="list-style-type: none"> <li>• Cellular Antenna: SMA-K(Female)</li> <li>• Standard Micro SIM/R UIM interface</li> <li>• 12Pin Terminal block connector</li> <li>• GPS Antenna: SMA-K(Female) (optional)</li> </ul>	<ul style="list-style-type: none"> <li>• Voltage: DC +7.5~32V (standard 12V/1A power adapter)</li> <li>• SIM/R-UIM Card: 1.8/3V</li> <li>• Consumption: Transfer mode: 30mA/12v (Average), Idle: 7mA/12V (GPS off)</li> <li>• Power Output: DC +7.5~32V (output according to terminal device requirement)</li> </ul>
Serial Communication Port	Device Management
<ul style="list-style-type: none"> <li>• 1x RS232, RXD,TXD,GND</li> <li>• 1xRS485, A, B</li> <li>• Baud Rate: 300 – 115200bps</li> <li>• Protocol: ModBus RTU</li> </ul>	<ul style="list-style-type: none"> <li>• RTU Configuration Tool</li> <li>• Support parameter configuration and firmware Upgrade via WLINK RTU Platform</li> <li>• Support remote parameters configuration by SMS</li> <li>• Support parameters configuration via AT+ commands</li> </ul>
Analog Input	GPS /DB (Optional)
<ul style="list-style-type: none"> <li>• Analog Inputs: 1 channel</li> <li>• Resolution: 12 bits</li> <li>• Input Range: 4~20mA, 0~5V</li> </ul>	<ul style="list-style-type: none"> <li>• GPS sensitivity: -160dBm</li> <li>• GPS accuracy: 2.5m CEP</li> <li>• Update Rate: 1Hz@5Hz</li> <li>• Time To First Fix: Cold status 27s, Hot status 1s</li> <li>• AGPRS: Support</li> </ul>
Digital Input	Certification
<ul style="list-style-type: none"> <li>• Digital I/O: 1 Channel</li> <li>• Sensor Type: Dry contact</li> </ul>	<ul style="list-style-type: none"> <li>• CE, CCC, RoHS</li> </ul>

## Dimensions

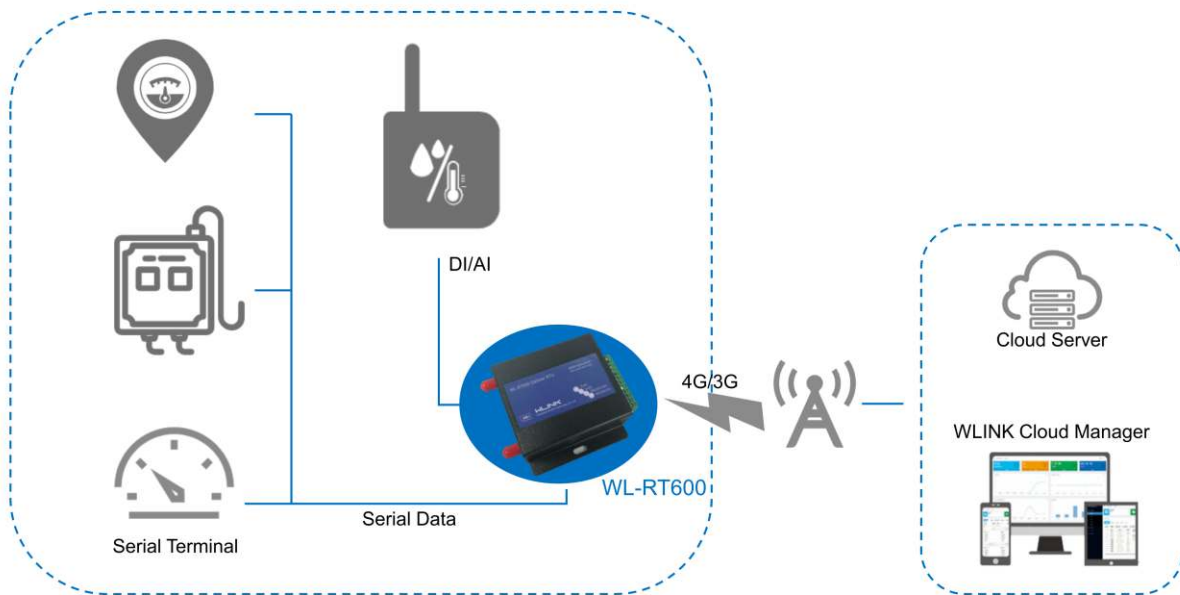


## Interface Indication



Pin	Interface	Description
1	Vin+	Power Vin+, Anti reverse
2	GND	Power GND
3	RS485-B	RS485 B, 57600bps as default
4	RS485-A	RS485 A
5	GND	GND for RS232 communication
6	RX	RS232 RX, 57600bps as default
7	TX	RS232 TX
8	GND	Power GND
9	Vout+	Power Output, +7.5~32V DC
10	GND	Short to DI
11	AI+	Analog Inputs, 4~20mA or 0~+5V, 12bits Resolution
12	DI	Digital Input, dry contact

## Typical Diagram



## Package Contents

- RT600 Unit
- 1x 12VDC Power Supply Adaptor
- 1x Power connection cable
- 1x RS-232 connection Cable
- 1x 4G/3G antenna
- 1x GPS antenna (option for the models with GPS only)

## Ordering Information

- WL-RT600-S:** EDGE/GRPS
- WL-RT600-S-g:** EDGE/GPRS, GPS
- WL-R600-Q:** HSDPA
- WL-R600-Q-g:** HSDPA, GPS
- WL-RT600-LQ:** FDD-LTE/ TDD-LTE 4G
- WL-RT600-LQ-g :** FDD-LTE/ TDD-LTE 4G, GPS