ALOTCER

RTU

Router

Gateway

Product Catalog & Solutions

Top Industrial Routers Manufacturer

WHO
WE ARE

Alotcer, Founded in Xiamen, China in 2014, is a provider of IoT and M2M communication products and solutions. Registered paid-in capital of US$8 million, Alotcer has more than 150 employees. Our leader team has more than 20 years experience, including 50 R&D, 20 Technical, 20 sales and 4,000 square meters of Office area. As China's "AAA Credit Enterprise", "Specialized New Enterprise" and "National High-tech Enterprise", Our Product consistency, stability, delivery capability, production and sales scale are all at the leading level.
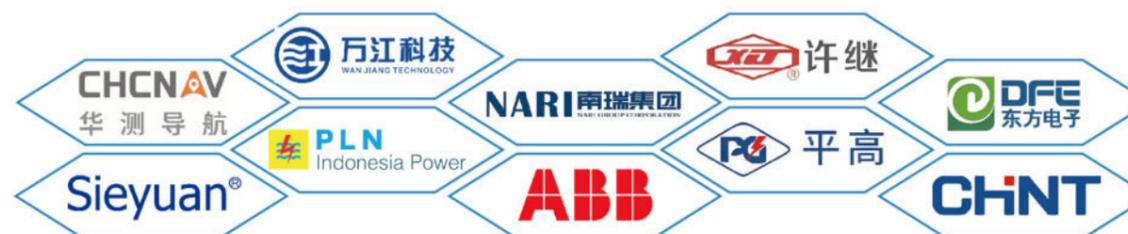
Main Products

| A | P03-06 | 5G/4G Industrial Router (1/2/3/4/5 ethernet ports) |

A P03-06
5G/4G Industrial Router (1/2/3/4/5 ethernet ports)

B P07-10
5G/4G Embedded Industrial Router (1/2/3 ethernet ports)

C
5G/4G Edge Computing Gateway, CPE, RTU, Modem
P11-13

D
IoT Platform and Solutions
P14

Main Market Share

35%	20%	10%	35%
China State Grid	Utility	Industrial Automation	Overseas Markets

Main Partner & Market

CHCNAV 华测导航
万江科技 WAN JIANG TECHNOLOGY
NARI 南瑞集团
许继
DFE 东方电子
Sieyuan®
PLN Indonesia Power
ABB
平高
CHINT

Mexico	Guatemala	Spain	United Kingdom	France
Germany	Italy	Japan	India	Singapore
Malaysia	Indonesia	Vietnam	Thailand	Philippines

Part.1   Industrial Routers/CPE Series

● Application

VPN Connection, Serial port/ Ethernet transmission, MQTT IoT Gateway, Video Surveillance, Lottery Networks, ATM Networks, Vehicle Networks, Dual Module Dual SIM Card, Mining Area/Factory Private Network, RedCap, Point-to-point Networks.
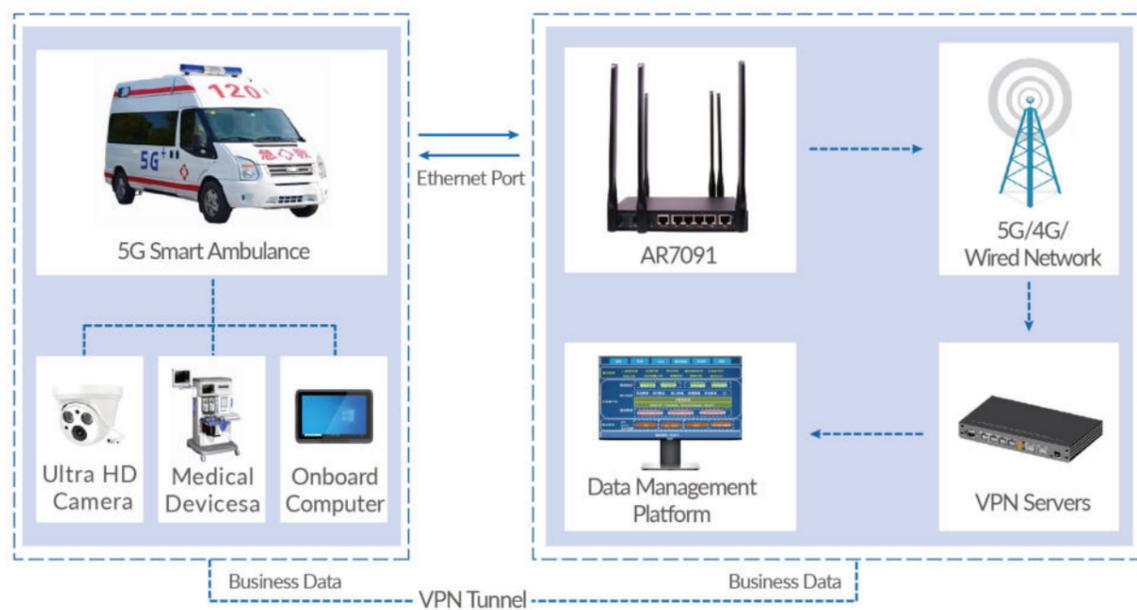
AD7028D (T/Z)

AR7000

AR7088H

AR7091

AD7028V (T/Z)

	Note: "●" means supported, "—" means not supported, "o" means optional function					
Item	Model	Alotcer 5G/4G-Industrial Routers Series				
		AD7028D(T/Z)	AD7028V(T/Z)	AR7088H	AR7000	AR7091
Networks	5G(SA/ NSA)	o	o	o	o	o
	4G(FDD/ TDD)	●	●	●	●	●
	Wired Network	●	●	●	●	●
	1 Module 1 SIM	●	●	●	●	o
	1 Module 2 SIM	o	o	o	o	●
	2 Module 2 SIM	—	—	—	—	o
Serial	Port No.	1	2	1/2	2	1
	Standard	RS232*1	RS232*2	RS232/RS485*1	RS232*1+RS485*1	RS232/RS485*1
	Optional	RS485*1	RS232*1 RS485*1	RS232*1 RS485*1	RS232*2	RS232*1 RS485*1
Serial Interface	Terminal	●	●	●	—	—
	RJ45	—	—	—	●	●
Ethernets	100Mbps	2	1	3	5	—
	1000Mbps	—	—	—	—	5
WIFI	2.4G—WIFI	—	—	o	●	●
	5.8G—WIFI	—	—	—	—	o
Voltage	9~35VDC	o	o	o	●	●
	9~60VDC	●	●	●	—	—
Beidou/ GPS	Beidou/ GPS	o	o	o	o	o
Serial Protocal	TCP/ UDP/ DCUDP/ DCTCP	●	●	●	●	●
Secondary Development	C/ Python 3.4	●	●	●	●	●
VPN	PPTP/ L2TP/ IPSEC/ GRE/ OPENVPN/ GRETAP/ DMVPN (Optional)	●	●	●	●	●
Routing	Static Routing/ BGP/ OSPF/ RIP	●	●	●	●	●
	Port Forwarding/Range Forwarding/DMZ	●	●	●	●	●
	VRRP/ VLAN/ DDNS/ DHCP	●	●	●	●	●
Protocol	DLT645/ DNP3/ DLMS/ Modbus/ 101/ 104	o	o	o	o	o
	Modbus/ MQTT	o	o	o	o	o
	Modbus RTU to Modbus TCP	o	o	o	o	o
IoT Platform	Remote Management	o	o	o	o	o
Consumption	Standby	125mA@12VDC				320mA@12V
	Communication	175mA@12VDC				390mA@12V
Installation	DIN Rail/ Mount Kit	●	●	●	●	●
Dimensions	Dimensions （mm）	110x85x32	110x85x32	107x98x24	186.8x120.2x28	186.8x120.2x28
	Weight （g）	330	330	354	580g	720

1　Smart 5G Medical Vehicle Networks Solution

5G Smart Ambulance

Ethernet Port

AR7091

5G/4G/Wired Network

Ultra HD Camera

Medical Devicesa

Onboard Computer

Data Management Platform

VPN Servers
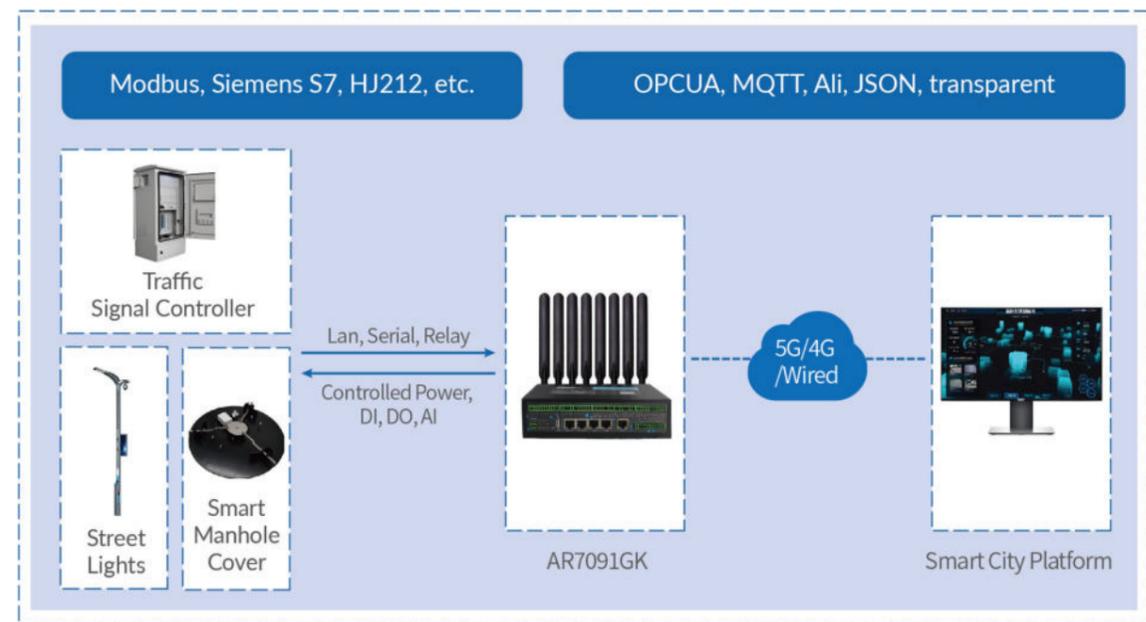
Business Data

VPN Tunnel

Business Data

2　Power Distribution Network Automation (transparent transmission)

Support 5G/4G + Serial Port/Ethernet Port, transparently transmits IEC101/104 protocol, and realizes stable and reliable two-way data interaction between the master station and the power terminal.

IEC101

Serial Port 101 Transparent Transmission

TCP

TCP client/TCP Server

TCP Server/TCP client

DTU

RS232/RS485

AD7028D

Ethernet + Port Forwarding

5G/4G/Wired Private Network

Power Center

FTU

AD7028D(T/Z)

Electrical Device

TCP Server/TCP client

TCP

TCP client/TCP Server

Serial Port 101 Transparent Transmission

IEC104

3　Smart City Solutions

Modbus, Siemens S7, HJ212, etc.

OPCUA, MQTT, Ali, JSON, transparent

Traffic Signal Controller

Lan, Serial, Relay

Controlled Power, DI, DO, AI
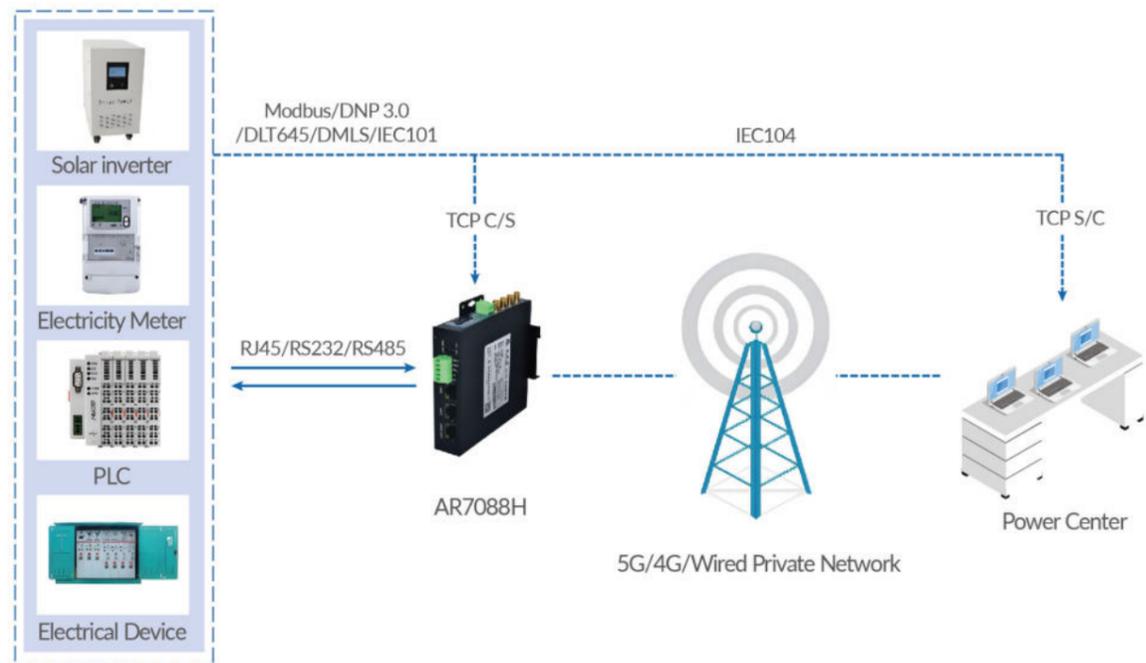
5G/4G /Wired

Street Lights

Smart Manhole Cover

AR7091GK

Smart City Platform

4　Power Industry Protocol Conversion

Support protocols in the power industry and perform 5G/4G transmission.

Solar inverter

Modbus/DNP 3.0 /DLT645/DMLS/IEC101

IEC104

TCP C/S

TCP S/C

Electricity Meter

RJ45/RS232/RS485

PLC

AR7088H

5G/4G/Wired Private Network
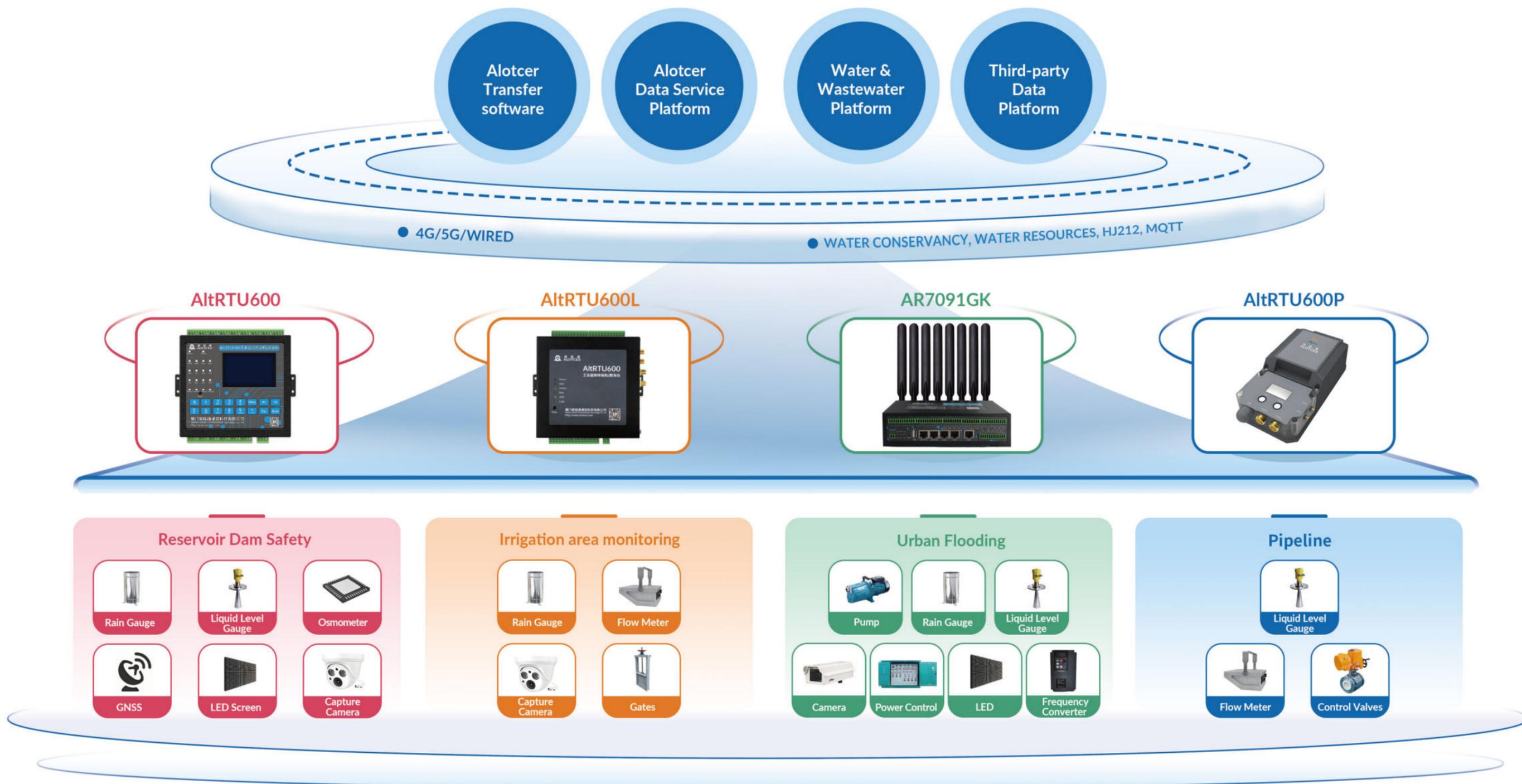
Power Center

Electrical Device

Part.2   5G/4G-RTU/EDGE Gateway/DTU Series

● Application

Water conservancy and water affairs, Environmental protection and meteorological, Industrial and agricultural.

AltRTU600M

AltRTU600P

AltRTU600

AR7091GK

AltRTU600L

Note: "●" means supported, "—" means not supported, "o" means optional function

	Model / Item	AltRTU600	AltRTU600L	AltRTU600M	AltRTU600P	AR7091GK
Networks	5G (SA/ NSA)	o	o	o	o	o
	4G (1 Module 1 SIM)	●	●	●	●	●
	Wired Network	●	●	●	—	●
	1 Module 2 SIM	o	—	o	—	●
	2 Module 2 SIM	—	—	—	—	●
Serial	Port No.	4	4	1	2	8
	Standard	RS232/ RS485*2 RS485*1 RS232*1	RS232/ RS485*2 RS485*1 RS485*1	RS232*1	RS485*1 RS232*1	RS232/ RS485*2 RS485*5 CAN*1
	Optional	RS232/ RS485*2 RS232*1 RS232*1	RS232/ RS485*2 TTL*1 RS232*1	RS485*1	RS485*1 TTL*1	—
Ethernets	100Mbps	1	1	1	—	—
	1000Mbps	—	—	—	—	5
Special	Expanded	LCD+SD card+POE	SD card+POE	—	LCD+IP68	2.4G/5.8G-WIFI+ Fiber+SD card USB+POE+24 I/O
I/O	Rain/ AI/ DI/ DO/ Relay/ Power	Rain*1+AI*6+ DI*8+DO*2+ Relay*4+Power*5	Rain*1+AI*4+ DI*4+DO*1+ Relay*2+Power*4	Rain*1+AI*1+ DI*1+Power*1	AI*2+DI*2+ Power*2	Rain*1+AI*2+ DI*2+Relay*2+ Power*2
Beidou/ GPS	Beidou/ GPS	o	o	o	o	o
Serial Protocal	TCP/ UDP/ DCUDP/ DCTCP (5 servers)	●	●	●	●	●
Routing	VPN/ Static (Dynamic) Routing/ VLAN	—	—	—	—	●
Secondary Development	C/ Python 3.4	—	—	—	—	●
Protocol Transfer	Modbus/ DLT645/ DNP3/ DLMS/ 101/ 104	—	—	—	—	o
	Modbus to MQTT/ Modbus RTU to Modbus TCP	o	o	o	o	o
IoT Platform	Remote Management	o	o	o	o	o
Consumption	Standby Power	40uA@12VDC	40uA@12VDC	—	40uA@7.2VDC	—
	Only Collect (Rain*1+RS485*1/ ADC Collect)	10mA@12VDC	10mA@12VDC	10uA@12VDC	12uA@7.2VDC	—
	Static	2mA@12V	2mA@12V	—	1.2mA@7.2VDC	—
	Peak Power	100mA@12V	100mA@12V	60mA@12VDC	80mA@7.2VDC	700mA@12VDC
Voltage	9~35VDC	●	●	—	—	●
	9~60VDC	—	—	●	●	—
Operating temperature	-35°C~+75°C	●	●	●	●	●
Installation	DIN Rail/ Mount Kit	●	●	●	—	●
Dimensions	Dimensions (mm)	166.2x147.8x44.5	116.2x114.2x33.1	110x85x32	—	209x150x55
	Weight (g)	1200	460	312	—	1575

Alotcer Transfer software

Alotcer Data Service Platform

Water & Wastewater Platform

Third-party Data Platform

● 4G/5G/WIRED

● WATER CONSERVANCY, WATER RESOURCES, HJ212, MQTT

AltRTU600

AltRTU600L

AR7091GK

AltRTU600P

Reservoir Dam Safety

Rain Gauge

Liquid Level Gauge

Osmometer

GNSS

LED Screen

Capture Camera

Irrigation area monitoring

Rain Gauge

Flow Meter

Capture Camera

Gates

Urban Flooding

Pump

Rain Gauge

Liquid Level Gauge

Camera

Power Control

LED

Frequency Converter

Pipeline

Liquid Level Gauge

Flow Meter

Control Valves

1　Irrigation District Solution

Background

China's Water Ministry plans to build 30 new large-scale irrigation districts and modernize 124 existing ones, co-funded by central and local governments. The initiative aims to add 10 billion m² of irrigated land and upgrade 6.53 billion m², prioritizing digital systems to boost water efficiency and agricultural modernization.

Features

Data Acquisition

RTU collect data via pulse/RS485/AI/Ethernet Port from sensors (rain gauges, flow meters, cameras.)

Communication

5G/4G/BeiDou-3 for data transmission to regional platforms.

Intelligent Analysis

Analyzes rainfall, water level, and image data for optimization and alerts.

System Function

- Lightweight Deploy | Plugins
- MQTT/Private Protocol
- Dashboards | Custom Metrics
- Data Hub | Ext. Libraries
- Formulas | Processing
- Trends | History
- Remote O&M | OTA
- Alerts | Multi-Notify
- Secure Access | Role Control
- Media Links | Quick Access

Topology

Sensor Layer
- Radar Flow Meter
- Tipping Rain Gauge
- Snapshot Camera

RS485 Flow and Water Level

Rain-Pulse Signal Rainfall Stats

RS485/232/RJ45 Picture

Alotcer RTU Series
- AltRTU600L (Compact)
- AltRTU600 (Standard)
- AltRTU600M (Mini)

5G/4G/Wired
- SL651-2014
- SZY206-2016
- SZY427-2021
- Custom Protocols

Business/Management Platform
- Alotcer Device Platform
- Alotcer Data Platform

2　Water and Rainfall Solution

Background

For global climate change and water resource pressure, the Internet of Things, remote sensing and big data technologies are integrated to achieve real-time monitoring, prediction, warning and scientific scheduling of core elements such as hydrology, meteorology and water volume, and provide precise support for flood prevention and disaster reduction, water resource optimization and government decision-making.

Features

Data Acquisition

RTU collect data via pulse/RS485/ AI/Ethernet Port from sensors (rain gauges, flow meters, cameras.)
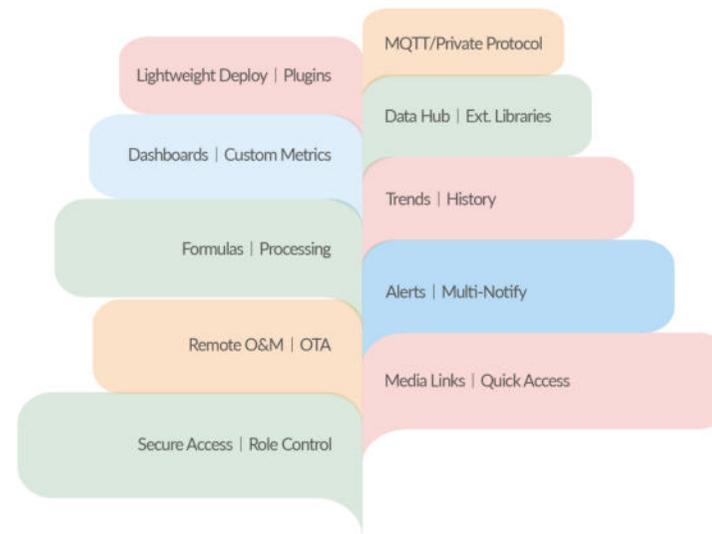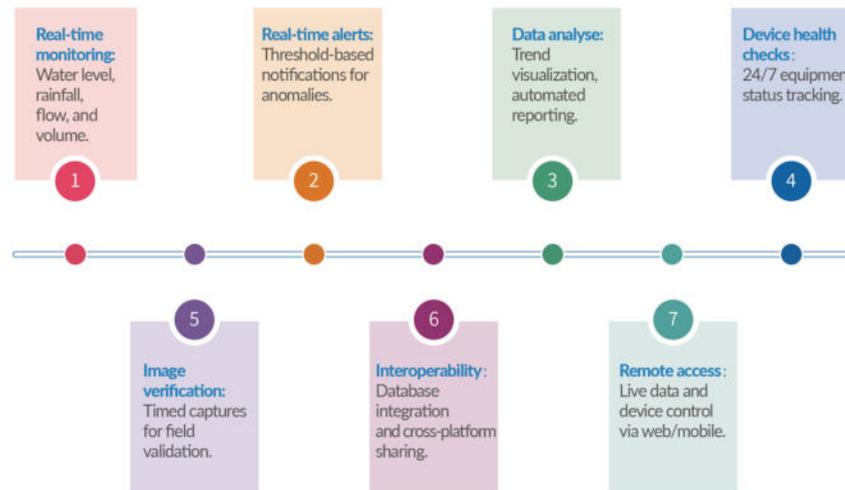
Communication

5G/4G/BeiDou-3 for data transmission to regional platforms.

Intelligent Analysis

Analyzes rainfall, water level, and image data for optimization and alerts.

System Function

1 Real-time monitoring: Water level, rainfall, flow, and volume.

2 Real-time alerts: Threshold-based notifications for anomalies.

3 Data analyse: Trend visualization, automated reporting.

4 Device health checks: 24/7 equipment status tracking.

5 Image verification: Timed captures for field validation.

6 Interoperability: Database integration and cross-platform sharing.

7 Remote access: Live data and device control via web/mobile.

Topology

Radar water Meter — RS485 Water Level → AltRTU600L (Compact)

Tipping Rain Gauge — Rain-Pulse Signal Rainfall Stats → AltRTU600 (Standard)

Snapshot Camera — RS485/232/RJ45 Picture → AltRTU600M (Mini)

5G/4G/Wired
•SL651-2014
•SZY206-2016
•SZY427-2021
•Custom Protocols

Alotcer Device Platform

Alotcer Data Platform

Sensor Layer　　　Alotcer RTU Series　　　Business/Management Platform

Part.3 5G/4G-Embedded Router Series

● Application

Embedded in all kinds of terminal, providing it with professional, stable, and reliable 5G/4G network.

AD7028D

AD7028V

AD7028H

AD7028S

AD7028N

	Note: "●" means supported, "—" means not supported, "o" means optional function					
Item	Model	Alotcer 5G/4G-Embedded Router Series				
		AD7028D	AD7028V	AD7028N	AD7028H	AD7028S
Networks	5G (SA/ NSA)	O	O	O	O	—
	4G -1 SIM	●	●	●	●	●
	Wired Network	●	●	●	●	—
	1 Module 2 SIM	O	O	—	—	O
Serial	Port No.	1	2	1	2	2
	Standard	RS232/ RS485*1	RS232*2	TTL*1	RS232/ TTL*1+RS232*1	RS232*2
	Optional	—	RS232*1+RS485*1	—	RS232/ TTL*1+RS485*1	RS232*1+RS485*1
Serial Interface	9 pin 2.54mm	●	●	—	—	●
	30 pin 2.54mm	—	—	—	●	—
	16 pin 2.54mm	—	—	●	—	—
Ethernets	100Mbps	2	1	1	2	—
Special	Expanded	—	—	Fiber/ WIFI	WIFI	—
Voltage	9~60VDC	●	●	—	—	●
	4-5.5VDC	—	—	—	●	—
	3.1-3.4VDC	—	—	●	—	—
Beidou/ GPS	Beidou/ GPS	O	O	O	O	O
Serial Protocol	TCP/ UDP/ DCUDP/ DCTCP (5 servers)	●	●	●	●	●
Secondary Development	C/ Python 3.4	●	●	●	●	—
VPN	PPTP/ L2TP/ IPSEC/ GRE/ OPENVPN/ GRETAP/ DMVPN (Optional)	●	●	●	●	—
Routing	Static Routing/ BGP/ OSPF/ RIP	●	●	●	●	—
	Port Forwarding/ Range Forwarding/ DMZ	●	●	●	●	—
	VRRP/ VLAN/ DDNS/ DHCP	●	●	●	●	—
Protocol	Modbus/ IEC101/ IEC104/ DLT645/ DNP3/ DLMS	O	O	O	O	—
	Modbus/ MQTT	O	O	O	O	O
	Modbus RTU to Modbus TCP	O	O	O	O	—
IoT Platform	Remote Management	O	O	O	O	O
Consumption	Standby	125mA@12VDC				10mA@12V
	Communication	175mA@12VDC				Low: 65mA@12VDC Hight: 80mA@12VDC
Operating temperature	-35ºC~+75ºC	●	●	●	●	●
Dimensions	Dimensions (mm)	65x65x32.1	65x65x32.1	85x65x19.1	70x70x21.6	65x65x24.6
	Weight (g)	77	77	48.5	50	65

1 Intelligent Inspection Solution for High-voltage Transmission lines

High Voltage Transmission Lines

Tower-stationed Robot

Data Monitoring and Control

VPN Tunnel

Visible Light Camera

Infrared Camera

RS232/485

Ethernet

AD7028D

5G/4G/ Wired Network

Data Center

LiDAR

2 AD7028H Embedded Applications

Application Server

Data Server

5G/4G APN Private Network

Robot

(Embedded AD7028H)

Lottery Machine

(Embedded AD7028H)

Industrial Computer

(Embedded AD7028H)

AD7028H

Part.4 Alotcer Transfer software

Online monitoring, data display, data reports, image reception, alarm, remote configuration, remote configuration of sensors, mobile web access, remote I/O monitoring and control, remote analysis.