AD7028 Cellular Router Specification

Support 2G/3G/4G Industrial Grade Cellular Router

爱 陆 通 ALOTCER

Xiamen Alotcer Communication Technology Co., Ltd.
Tel:+86 592-6195619
Fax:+86 592-6195620
Web:en.alotcer.com
E-mail:anne@alotcer.com
Add:NO.146-148, 2nd XingBei Road, JiMei District, XiaMen,China.

Applicable Models:

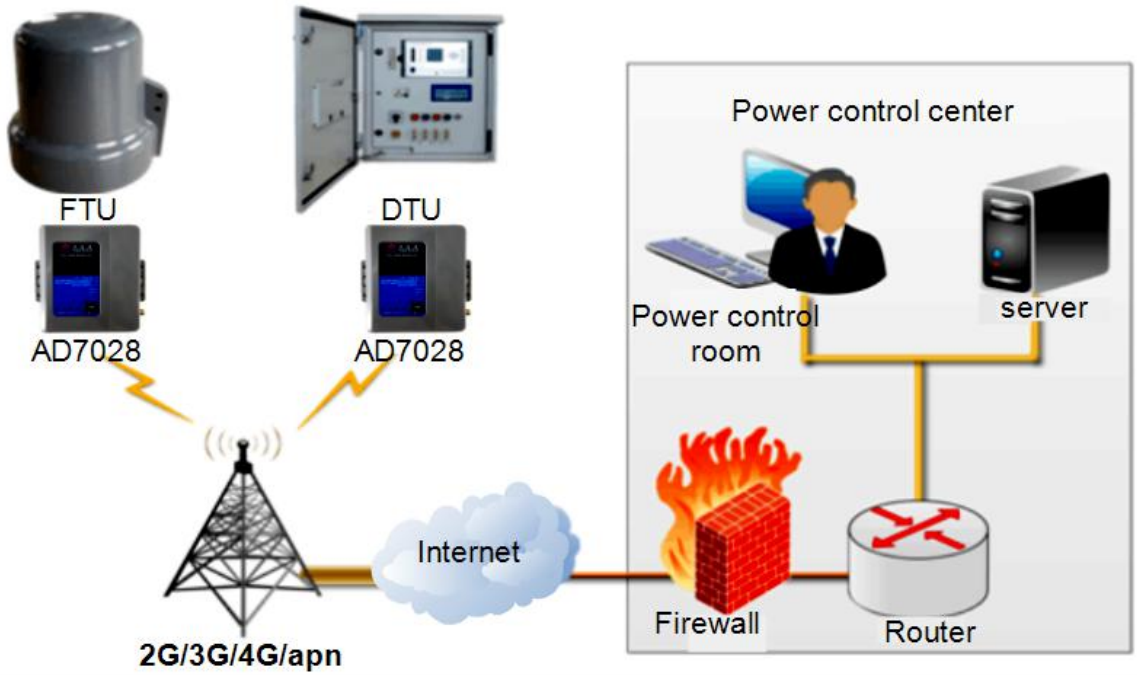
Product Type	Model	Product Name
Standard	AD7028-W	WCDMA Cellular Router
	AD7028-E	EVDO Cellular Router
	AD7028-F	FDD-LTE Cellular Router
	AD7028-T	TDD-LTE Cellular Router
	AD7028-D	TDD/FDD-LTE Cellular Router
Dual SIM	AD7028-WS	WCDMA Dual SIM Cellular Router
	AD7028-ES	EVDO Dual SIM Cellular Router
	AD7028-FS	FDD-LTE Dual SIM Cellular Router
	AD7028-TS	TDD-LTE Dual SIM Cellular Router
	AD7028-DS	TDD/FDD-LTE Dual SIM Cellular Router

General

AD7028 Cellular Router is a kind of cellular terminal device that developed based on 2G/3G/4G LTE connectivity, VPN client, among other features. It adopts high-powered industrial 32 bits CPU and embedded real time operating system. It supports 2 separate RS232 (or 1 RS232 and 1 RS485) and 1 LAN port that can conveniently and transparently connect one device to a cellular network. It support wide power range 5-60V DC. With a compact and robust design, it includes the necessary accessories for Mount kit or DIN rail.

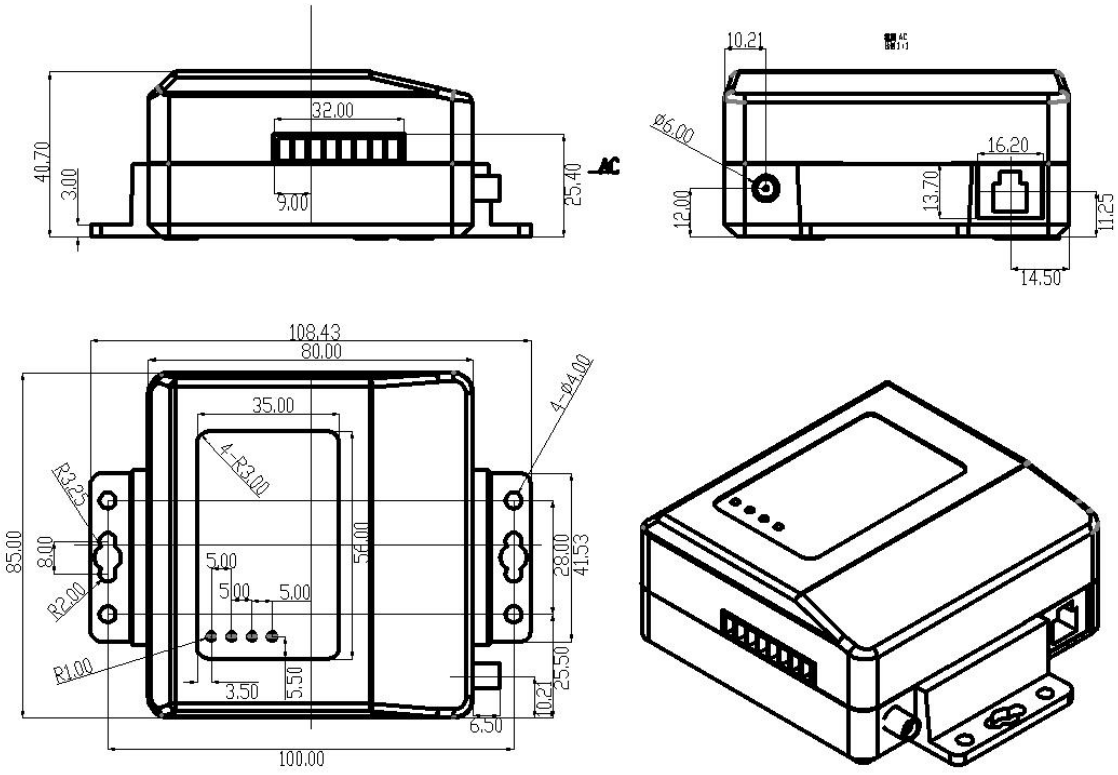
It has been widely used on M2M fields, such as intelligent transportation, smart grid, industrial automation, telemetry, finance, POS, water supply, environment protection, post, weather, and so on.

Application Topology



Product Size

Dimension: (Unit: mm)



Product Feature

Items	Contents
Industrial Design	High-powered industrial cellular module
	High-powered industrial 32bits CPU
	Wide Operating Temperature(-35~+75ºC)
	Power range: DC 5~60V
High Reliability	Support hardware and software WDT
	Support auto recovery mechanism, including online detect, auto redial when offline to make it always online
	Ethernet port: 1.5KV magnetic isolation protection
	RS232/RS485 ports:15KV ESD protection
	SIM/UIM port: 15KV ESD protection
	Power port: reverse-voltage and over voltage protection
	large serial port data cache(10MB) ,ensure the data is not lost
	Antenna port: lightning protection(optional)
Standard and Convenience	Adopt terminal block interface, convenient for industrial application
	Support standard two RS232(or RS232 and RS485) and Ethernet ports that can connect to serial devices directly
	Support several work modes
	Support intellectual mode, enter into communication state automatically when powered
	Convenient configuration and maintenance interface
High-performance and Security	Support TCP server
	Support double data centers, one main and another backup
	Support multi data centers and it can support 5 data centers at the same time
	Support NTP, RTC embedded.
	Support MAC address cloning.
	Support dynamic domain name(DDNS) and IP access to data center
	Design with standard TCP/IP protocol stack
	Support APN/VPDN
	Support local log storage.
	Support dual SIM/UIM card (optional).
	Support hardware encryption/decryption (optional)

Product Specification

Items		Contents
Hardware System	CPU	Industrial 32 bits CPU
	FLASH	16MB (Extendable to 64MB)
	SDRAM	128MB
Interface	Serial	2 RS232 ports (or 1 RS232 and 1 RS485), 15KV ESD protection Serial port: 8PIN industrial terminal, 3.81mm pitch Data bits: 5, 6 ,7, 8 Stop bits: 1, 1.5(optional), 2 Parity: none, even, odd, space, mark Baud rate: 110~230400 bps Large serial port data cache:10MB
	LAN	1 10/100Mbps Ethernet ports(RJ45), auto MDI/MDIX, 1.5KV magnetic isolation protection
	Antenna	Standard SMA female interface, 50 ohm
	SIM/UIM	Standard 3V/1.8V user card interface, 15KV ESD protection
	Power	Terminal block interface, reverse-voltage and over voltage protection
	Reset	Inside the module. Press this key for 8 seconds to restore the module to its original factory default settings
	Indicator	“POWER”、”MODULE”、”SIM”、”STATUS”
Network	Wireless Network	GSM/GPRS/EDGE: 850/900/1800/1900MHz CDMA: 800/1900MHz WCDMA/HSUPA/HSPA+: 850/900/1900/2100MHz CDMA2000 1x/ EVDO Rev. A: 800/1900MHz TD-SCDMA: 1880-1920/2010-2025MHz(A/F) TDD-LTE:Band 38/39/40/41& Band 61/62 (Private Network) FDD-LTE:Band1/2/3/4/5/7/8/12/13/17/18/19/20/21/25/26/28/66
	PPP Protocol	Support PPP Protocol
	PPP Heartbeat	Maintaining links with the cellular network to prevent forced sleep, to ensure the stability of dial-up link.
	Network Authentication	Support CHAP/PAP Authentication

	TCP Heartbeat	Monitor the server connection
Power supply	Power range	DC 5~60V, Recommended 12VDC
	Communication Current	<410mA (@12VDC)
	Standby Current	<250mA（@12VDC）
Physical	Shell Material	ABS
	Dimensions	108.43x85x40.7mm
	Weight	126g
	Installation	Mount Kit or DIN Rail 35mm (optional)
Environmental Limits	Operating Temperature	-35~+75ºC (-31~+167℉)
	Storage Temperature	-40~+85ºC (-40~+185℉)
	Operating Humidity	95% (unfreezing)

User Interface

Indicator status description：

Indicator				**Description**
POWER (Red)	MODULE (Blue)	SIM (Green)	STATUS (Green)	
ON	X	Alternate Fast Blink		Module is turned on in AT mode
ON	X	OFF	Slow Blink	Initialize the module
ON	Fast Blink	OFF	Slow Blink	The system is dialing
ON	X	Slow Blink	OFF	Waiting for activation
ON	X	Alternate Slow Blink		The system dials successfully, the module is in data mode but the centers are not connected.
ON	X	Sync Slow Blink		APP normal, MP normal, WMMP normal

Note:

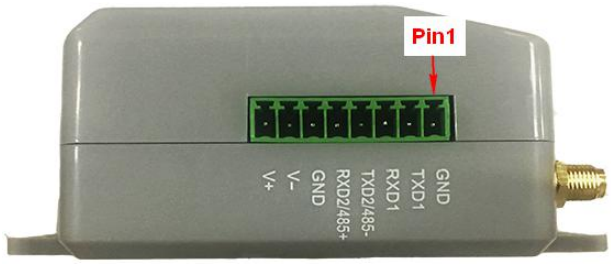
1, ON: Indicator Keep on at least 3s without blink;

2, OFF: Indicator Keep off at least 3s without blink;

3, Slow Blink: Indicator blink frequency is about 1Hz;

4, Fast Blink: Indicator blink frequency is about 3Hz.

Communication interface definition:



8PIN industrial terminal defined as follows:

Pin	Signal Name	Description
1	GND	Ground
2	TXD1	RS232-1 Transmit
3	RXD1	RS232-1 Receiver
4	TXD2/485-	RS232-2 Transmit or RS485-(optional)
5	RXD2/485+	RS232-2 Receiver or RS485+(optional)
6	GND	Ground
7	V-	Negative power supply
8	V+	Positive power supply

Product accessories:

Network Cable*1

Adapter*1

Cellular Antenna*1

RS232 Cable*1 or 2(optional)

RS485 Cable*1(optional)

35mm Din Rail*1(optional)

Reset Button Introduction:

There is a “Reset” button inside the module that to restore the module to its original factory default settings. When user press the “Reset” button for up to 8 seconds, the module will restore to its original factory default settings and restart automatically.

The auto-restart is as follows: The "POWER" indicator turns off for about 10 seconds and then functions normally.