

TG451 Series Industrial Cellular Gateways



Introduction

TG451 Series Gateway is a type of industrial 802.11/b/g/n cellular gateway, which adopts high-powered industrial 32-bits CPU, with multi-layer software detection and hardware protection mechanism to ensure reliability and stability of the device. It supports worldwide carrier 4G/3G/2G cellular network FDD-LTE, TDD-LTE, and WCDMA, EVDO, TD-SCDMA, EDGE, CDMA 1X and GPRS. With rich VPN protocols (IPSEC, PPTP, L2TP, GRE and OpenVPN) to ensure the security of data transmission, and rich interfaces, such as 4x LAN ports, 1x WAN port, 1x USB port, 2x Relay(Optional), 1x RS232, 1x RS485, 2x DI(Digital Input), 1x CAN(Optional), Dual SIM(Single module and Dual module, option), GPS(Optional) and WIFI, etc.

TG451 Series Gateway can help users to quickly access the Internet, to ensure secure and reliable data transmission. It's ideal for IOT (Internet of Things) and M2M (Machine to Machine) applications, and has been widely used in many applications, such as Intelligent Transportation, Smart Grid, Oil and Gas, ATM, Vending Machine, Agricultural Irrigation, Environmental Protection, Industrial Automation, Energy

Saving, Smart Home, etc.

Key Features

- OPEN WRT, support second development
- Rich interfaces, 4x LAN ports, 1x WAN port, 1x USB port, 2x Relay(Optional), 1x RS232, 1x RS485, 2x DI, 1x CAN(Optional), GPS(Optional)
- High power and speed WIFI
- Din-rail mounting
- Dual SIM on dual module(option) or single module(option), failover and load balance(only available on dual module mode)
- Support 2-channel Digital Input and DI alarm
- 4G/3G/PPPoE/DHCP and Static address connection mode, auto switchover between wired and wireless connectivity
- Support MQTT protocol(Optional)
- APN/VPDN to ensure the security of data transmission.
- Multiple VPN protocols, IPSec, L2TP, PPTP and OPEN VPN.
- DHCP server, DHCP binding MAC address, DDNS, Firewall, NAT, DMZ host, QoS, Traffic Analysis, Real-time display of data transfer rate, etc.
- TCP/IP, UDP, FTP, HTTP network protocols.
- SPI Firewall, DoS attack, VPN traversal, Access Control, Port Mapping, DMZ Mapping, Access Control List(ACL), IP-MAC binding and Clone function, etc.
- Support heartbeat link detection, offline automatic reconnection.
- Hardware and software auto inspection technology, enable operation fault auto repairing.
- Status query of system, network connection, routing.
- Telnet, web, ssh configurations.
- Web upgrade, local system log, remote log, serial port output log.
- Sending SMS via web UI
- Remote configuration and management

Specifications

System

CPU: Industrial 32-bit

FLASH: 16MB (Extendable to 32MB)

SDRAM: 128MB (Extendable to 256MB)

Cellular Interface

4G/3G/2G for option (FDD-LTE, TDD-LTE, HSPA/WCDMA, EVDO, TD-SCDMA, EDGE, CDMA 1X and GPRS)

Cellular Antenna Interface

Number of Ports: 2

Note: Standard SMA female antenna interface, characteristic impedance 50Ω

SIM Interface

Number of Ports: 1, or 2(Dual SIM is optional)

Note: Standard drawer type card holder, support 1.8V/3V SIM/UIM card, built-in 15KV ESD protection

Ethernet Port (RJ45)

Number of Ports: 5, 1x WAN, 4x LAN

Note: 10/100M, Auto MDI/MDIX, 1.5KV magnetic isolation protection

USB Port

Number of ports: 1x USB 2.0

Note: used for data storage (up to 128G) or gateway upgrade.

Relay(Optional)

Number of ports: 2, up to 5A output

Note: to control the power supply of external devices.

DI(Digital Input)

Number of ports: 2

Input range: DC 0-30V

Note: to check the status of external devices.

CAN(Optional)

Number of ports: 1x standard CAN interface

WIFI

Standard: IEEE802.11b/g/n for wireless LAN

Transmission Rates:

IEEE802.11b/g: Up to 54Mbps, IEEE802.11n: Up to 300Mbps

Security: WEP, WPA/WPA2

TX Transmit Power: 21.5dBm (11g), 26dBm (11b)

RX Sensitivity: <-72dBm@54Mbps

GPS (Option)

Built in external GPS module

Serial Interface (6-pin Industrial terminal block)

Number of interfaces: 2, 1x RS232, 1x RS485

Note: Built-in 8KV ESD protection for RS232, and 15KV ESD protection for RS485

Serial Communication Parameters

Baudrate: 300~230400bits/s

Data Bit: 5, 6, 7, 8 bits

Stop Bit: 1, 1.5, 2 bits

Check: No, Even-parity, Odd Parity, SPACE and MARK

Power Requirements

Standard Power: DC 12V/1.5A

Power Range: DC 5~35V

Note: Built-in power inverting protection and over voltage protection

Power Consumption

Communication: 121~280mA@12VDC

Standby: 115~210mA@12VDC

Scheduled Shutdown: 2mA@12VDC

LED Indicators

Power, System, WIFI, Alarm, Online, Signal Strength

Reliability

EMC up to level 3

Use NTP technology, build-in RTC

SIM/UIM card port built-in 15KV ESD protection

Warranty

Warranty Period: 12 months

Environmental Limits

Operating Temperature: -35~+75°C (-31~+167 °F)

Storage Temperature: -40~+80°C (-40~+176 °F)

Ambient Relative Humidity: 93%±3%, non-condensing

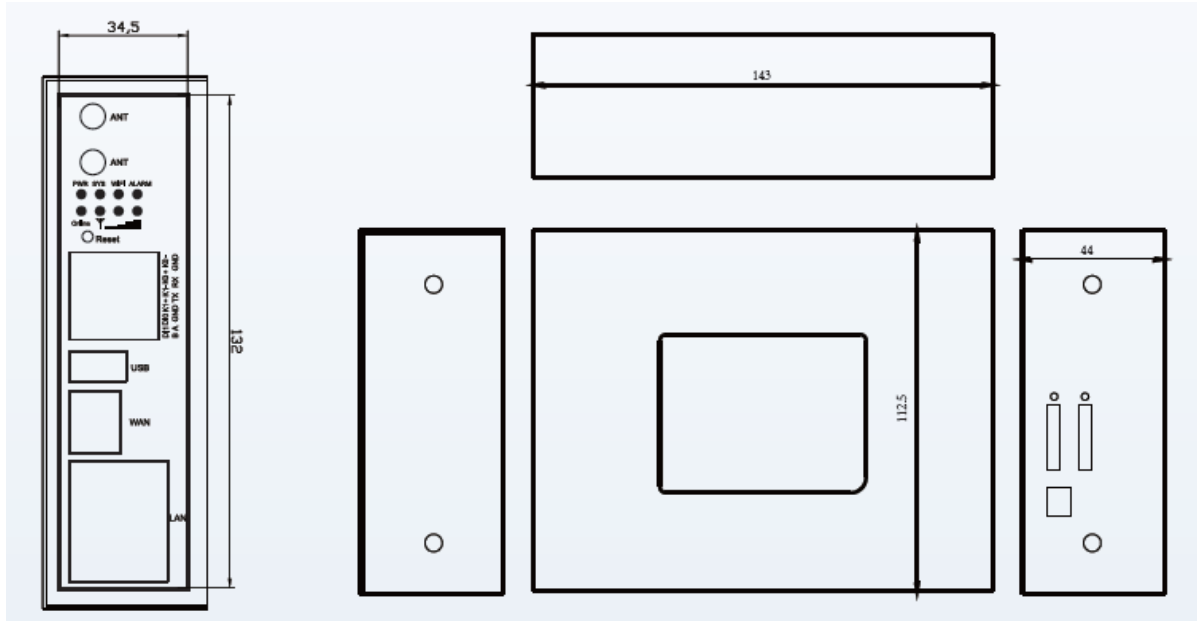
Physical Characteristics

Protection Class: IP30, Housing and system are isolated safely, ideal for industrial automation application

Housing: Iron

Weight: 790g (1.74lbs)

Dimensions



Order Information

Models to choose

TG451-LF, Industrial LTE/WCDMA
WIFI Gateway

TG451-W, Industrial WCDMA WIFI
Gateway

Standard Package Content

- TG451 Gateway Host
- Power Adapter(DC 12V/1.5A)
- WIFI Antenna(Female SMA)
- 2x Cellular Antenna (Male SMA)
- Console Cable(RS232)
- Ethernet Cable(1 meter)
- 2x 6-Pin Terminal Block
- 1x 2-Pin Terminal Block
- DIN-rail mount

Note: Please visit our website for available frequency band of Bivocom industrial cellular gateways, or contact sales@bivocom.com for more information.