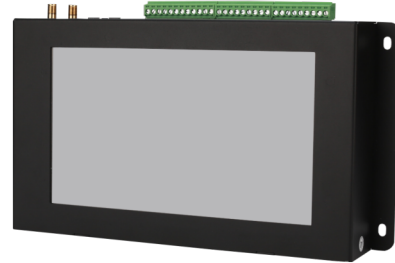


## TG462



## TG462S



## Extend your IoT analytic at the edge network

### Introduction

The TG462/TG462S Industrial cellular Edge Gateways are designed for connecting diverse types of field sensors and equipment to cloud via LTE/3G cellular network, which is suitable for IIoT and M2M applications that require secure and rugged LTE connectivity in harsh environment, such as water&waste water, gas&oil, industry 4.0, smart city, vending machines, etc.

With rich interfaces, includes Ethernet ports, RS232/RS485, digital inputs, analog inputs, relay outputs, I2C, power output, USB, GPS, WIFI, etc., The TG462/TG462S Edge Gateways allow users to integrate legacy systems with modern sensors. With high-performance 32-bit ARM-based CPU, Modbus RTU/TCP, MQTT, TCP/IP, and customized protocols, as well as up to 1G flash and 32G micro SD local data storage, enables users to collect, store and process data at IoT edge network. Besides, TG462S embedded with a 7inch HD TFT touch screen provides a better user experience for field data display and maintenance.

The LTE CAT 6/CAT4 and VPN provide ample bandwidth and secure connectivity for transferring field data to remote server.

- 1** High-performance 32-bit ARM-based CPU, and operational temperature ranges from -35 °C to +75 °C, providing a rugged system for running 24x7 in harsh environment
- 2** LTE CAT6/CAT 4 upload speed of up to 50Mbps and download speed up to 300Mbps/150Mbps providing ample bandwidth for high data demand applications
- 3** Large capacity of data storage with flash up to 1GB<sup>1</sup>, and additional Micro SD card up to 32GB
- 4** OpenWrt based, Linux OS and Python programming, flexible for secondary development<sup>2</sup>, and OEM/ODM are available for equipment manufacturers
- 5** Rich I/O and customized protocols<sup>3</sup>, suitable for the mainstream sensors and controllers  
1-WAN, 1-LAN, USB, 4-RS232, 3-RS485, 1-I2C, 1-TTL, 8-ADC, 4-DI, 4-DO, 5-Power Output, Micro SD card slot, WIFI\*, GPS
- 6** Built in 7 inch HD touch screen<sup>4</sup>, easy for local real time and historic data query, system or equipment configuration

# Specifications

## System

CPU	32-bit ARM Cortex A7, 528MHz
Flash	TG462: 256MB (Extendable to 1GB) TG462S: 1GB
RAM	256MB DDR3

## Cellular Interfaces

Antenna Connector	2 x 50 Ω SMA Female
SIM Slot	1 15KV ESD Protection

## LCD Screen

TG462S	800*480, TFT Touch Screen
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## Ethernet Port

Ports	2 x RJ45 (1-WAN, 1-LAN or 2-LAN, configurable via Web UI)
Data Rate	10/100 Mbps (Auto-Sensing), Auto MDI/MDIX, 1.5KV Magnet Isolation

## Serial Port

Connector	Terminal block, 3.5 mm female socket with lock
Ports	4 x RS232(1 for debug), 3 x RS485 15KV ESD protection
Baud Rate	100bps to 230400bps

## I/O

Connector	Terminal block, 3.5 mm female socket with lock
I2C	1 For temperature, humidity sensors
TTL	1
ADC	2 x 16-bit AD, supports 4-20mA current signal input, or 0-5V voltage signal input (Option)
DI	4 Logic 0: Wet contact 0-3VDC, or dry contact close Logic 1: Wet contact DC 5-30V, or dry contact open
DO(Relay)	4 (5A and 30VDC/250VAC output)
Power Output	5 (3-channel 12V output, 1-channel 9V output, rated current 1A, 1-channel 5V output, rated current 1A) Built-in overcurrent protection, for external devices DC power input.

## WiFi(Optional)

Antenna Connector	1 x 50 Ω SMA Male (or 2, option) Standard IEEE 802.11b/g/n, supporting AP and Client modes
Transmission Rate	IEEE802.11b/g: Up to 54Mbps, IEEE802.11n: Up to 300Mbps
Security	Open, WPA, WPA2, WPA/WPA2 Enterprise, Radius

## GPS(Optional)

Module	Built-in independent GPS Module
Antenna Connector	1 x 50 Ω SMA Female

## External Storage Interface

Micro SD Card Slot	1 x TF card, Up to 32GB
USB	1 x USB2.0
Usage	User Program, Data Storage and Firmware Upgrade

## Power Supply and Consumption

Connector	4-pin with 3.5 mm terminal block Main and backup power input
Standard Power	DC 12V/1.5A
Input Voltage	5-35 VDC
Data acquisition	251mA-357mA @ 12VDC
Communication	305mA-412mA @ 12VDC

## Software

Network Protocols	PPP, PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, RIPv1/v2, OSPF, DNS, DDNS, HTTP, ARP, QoS, SNTp, Telnet, SSH, etc.
Serial Port	MQTT, Transparent (TCP Client/Server, UDP Client/Server), Modbus Gateway (Modbus RTU to Modbus TCP)
VPN Tunnel	IPsec/PPTP/L2TP/GRE/OpenVPN
Firewall	ACL/DMZ/Port Mapping/MAC Binding
Management	Web, CLI, SMS, Cloud DMP (Device Management Platform) <sup>5</sup>
Reliability	WAN Failover, Hardware & Software Watchdog
Secondary Development	OpenWrt based, support Python, LUA and SDK

## Physical Characteristics

Ingress Protection	IP30
Housing & Weight	Metal TG462: 850g(1.87lbs) TG462S: 900g(1.98lbs), without accessories
Dimensions	228x122.5x38.2mm(8.97x4.82x1.50in)
Mounting	Wall mount, Desktop

## Environmental

Operating Temperature	-35°C to +75°C (-31℉ to +167℉)
Storage Temperature	-40°C to +80°C (-40℉ to +176℉)
Relative Humidity	0% to 93% (non-condensing) at 25°C/77℉
Ethernet Isolation	1.5 kV RMS

## Others

LED Indicators	Signal strength, WIFI, System (SYS), Online, Power (PWR), GPS*
Built-in	Watchdog, RTC, Timer
Certifications <sup>6</sup>	CE*, RCM*, FCC*
Warranty Period	Standard: 12 Months Extended: 2-5 Years <sup>7</sup>

## Standard Package Content

1 x TG462/TG462S Gateway 1 x Power Adapter (DC 12V/1.5A, EU/US/UK/AU plug optio) 2 x Mag-mount Cellular Antenna (SMA Male, 1 meter, 5dBi) 1 x RS232 Cable (DB9 Female, 1 meter) 1 x Ethernet Cable (1 meter) 3 x 12-Pin Terminal Block 3 x 9-Pin Terminal Block 1 x 4-Pin Terminal Block (Power) 1 x Quick Start Guide (Printed)*
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## Order Information<sup>8</sup>

Model	Part Number
TG462	TG462-<...>-<...>
TG462S	TG462S-<...>-<...>

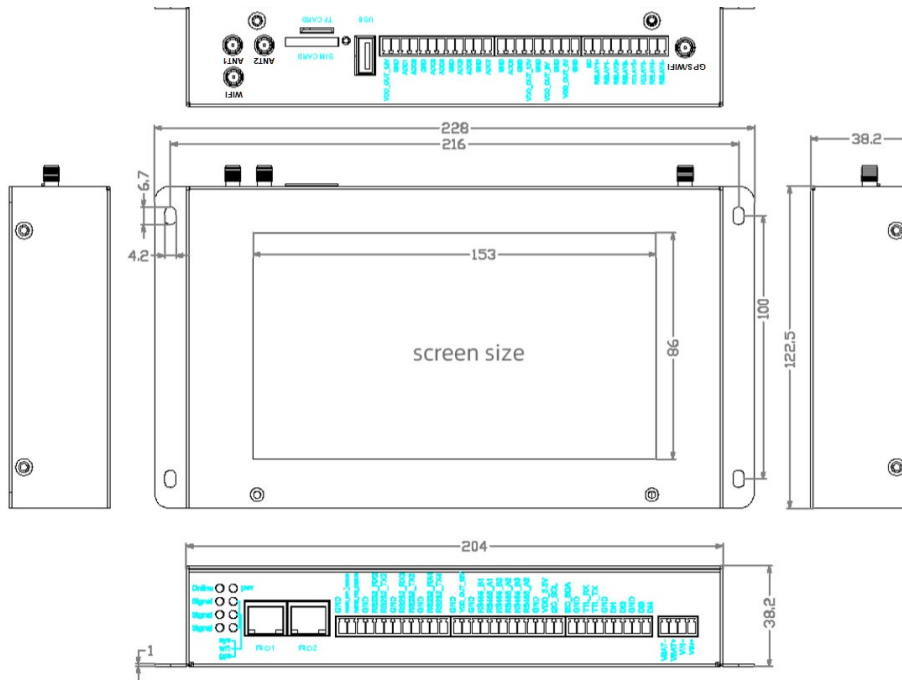
## Cellular Frequency Band<sup>9</sup>

LTE	4G LTE CAT 6 EMEA&APAC:B1/B3/B5/B7/B8/B20/B28 NA: B2/B4/B5/B7/B12/B13/B25 4G LTE CAT 4 EMEA: 1/B3/B5/B7/B8/B20/B38/B40/B41 ANZ/LATAM: B1/B3/B5/B7/B8/B28 NA: B2/B4/B5/B12/B13/B14
WCDMA	HSPA/UMTS/WCDMA 900/2100MHz, or 850/1900/2100MHz Global: 800/850/900/1900/2100

### Note:

- TG462S comes with 1GB flash, while default flash of TG462 is 256MB, 1GB is for option.
- Bivocom provides complier and SDK for customer to do their second development.
- Bivocom offers customization service for protocols of different applications, there maybe MOQ or RD cost.
- Touch screen available for TG462S only, and Bivocom offer customized UI for screen.
- There is license fee for DMP.
- Under development.
- Price of extended warranty will be different.
- <...> in part number means different frequency band for different market, please ask Bivocom sales representatives or your local partner for more information.
- Frequency band in the table are just part of our models, if you couldn't find the frequency band in your regions, please feel free to contact us.

# Dimensions(mm)



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