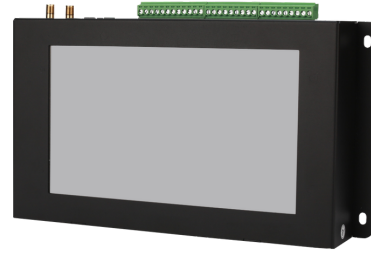




TG462



TG462S

## Introduction

### Extend your IoT analytic at the edge network

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.

## Key Features

- 1 High-performance 32-bit ARMbased CPU, and operational temperature ranges from -35 °C to +75 °C, providing a rugged system for running 24x7 in harsh environment
- 2 Rich I/O and customized protocols<sup>1</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, TF card slot, WIFI\*, GPS\*
- 3 Built in 7 inch HD touch screen<sup>4</sup>, easy for local real time and historic data query, system or equipment configuration
- 4 OpenWrt based, Linux OS and Python programming, flexible for secondary development<sup>2</sup>, and OEM/ODM are available for equipment manufacturers
- 5 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
- 6 Large capacity of data storage with flash up to 1GB<sup>3</sup>, and additional Micro SD card up to 32GB

## System

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

## Cellular Interfaces

|           |                         |
|-----------|-------------------------|
| Antenna   | 2 × 50 Ω SMA Female     |
| Connector |                         |
| SIM Slot  | 1 (15KV ESD Protection) |

## LCD Screen

|        |                              |
|--------|------------------------------|
| TG462S | 800*480, 7" TFT Touch Screen |
|--------|------------------------------|

## 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,                |

## Serial Port

|           |  |
|-----------|--|
| Connector | Terminal block, 3.5 mm female socket with lock           |
| Ports     | 4 x RS232(1 for debug), 3 x RS485<br>15KV ESD protection |

## I/O

|              |  |
|--------------|--|
| Connector    | Terminal block, 3.5 mm female socket with lock   |
| I2C          | 1, for temperature, humidity sensors   |
| TTL          | 1  |
| ADC          | 8 x 16-bit AD, supports 4-20mA current signal input, or 0-5V voltage signal input (Option)   |
| DI           | 4<br>Logic 0: Wet contact 0-3VDC, or dry contact close<br>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)<br>Built-in overcurrent protection, for external devices DC power input. |

## WIFI(Optional)

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

## GPS(Optional)

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

## 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 |

## Power Supply and Consumption

|                  |   |
|------------------|---|
| Connector        | 4-pin with 3.5 mm terminal block<br>Main and backup power input |
| Standard         | DC 12V/1.5A   |
| Power Input      | 5-35 VDC  |
| Voltage          |   |
| 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                   | IPsec/PPTP/L2TP/GRE/OpenVPN  |
| Tunnel                |  |
| Firewall Management   | ACL/DMZ/Port Mapping/MAC Binding<br>Web, CLI, SMS, Cloud DMP (Device Management Platform)5                     |
| Reliability           | WAN Failover, Hardware & Software watchdog   |
| Secondary Development | OpenWrt based, support Python, LUA and SDK, QT   |

## Physical Characteristics

|                  |   |
|------------------|---|
| IP Rating        | IP30  |
| Housing & Weight | Metal<br>TG462: 850g(1.87lbs)<br>TG462S: 900g(1.98lbs), without accessories |
| Dimensions       | 228×122.5×38.2mm(8.97x4.82x1.50in)<br>Mounting Wall mount, Desktop          |

## Environmental

|                       |   |
|-----------------------|---|
| Operating Temperature | -35°C to +75°C (-31°F to +167°F)        |
| Storage Temperature   | -40°C to +80°C (-40°F to +176°F)        |
| Relative Humidity     | 0% to 93% (non-condensing) at 25°C/77°F |

## Others

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

## Order Information<sup>8</sup>

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

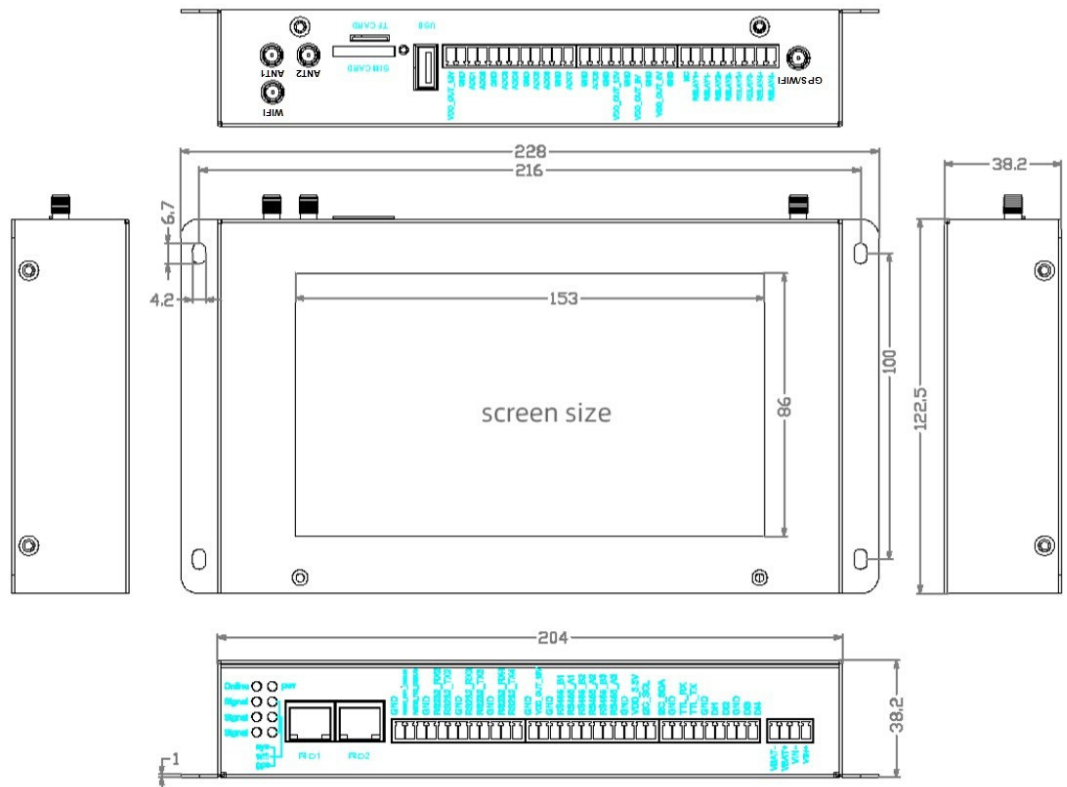
## Cellular Frequency Band<sup>9</sup>

|        |  |
|--------|--|
| 4G LTE | 4G LTE CAT 6<br>EMEA&APAC: B1/B3/B5/B7/B8/B20/B28<br>NA: B2/B4/B5/B7/B12/B13/B25                                 |
|        | 4G LTE CAT 4<br>EMEA: 1/B3/B5/B7/B8/B20/B38/B40/B41<br>ANZ/LATAM: B1/B3/B5/B7/B8/B28<br>NA: B2/B4/B5/B12/B13/B14 |
| 3G     | HSPA/UMTS/WCDMA<br>900/2100MHz, or 850/1900/2100MHz<br>Global: 800/850/900/1900/2100                             |

## 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)\*

## Dimension



### Note:

1. TG462S comes with 1GB flash, while default flash of TG462 is 256MB, 1GB is for option.
2. Bivocom provides complier and SDK for customer to do their second development.
3. Bivocom offers customization service for protocols of different applications, there maybe MOQ or RD cost.
4. Touch screen available for TG462S only, and Bivocom offer customized UI for screen.
5. There is license fee for DMP.
6. Under development.
7. Price of extended warranty will be different.
8. <...> in part number means different frequency band for different market, please ask Bivocom sales representatives or your local partner for more information.
9. 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.