



TG463 Series

5G IoT Gateways with I/O, PoE

Introduction

The TG463 is an industrial 5G/4G IoT gateway for high-speed, low-latency IIoT and M2M applications. Powered by Bivocom OS, it supports secondary development via C/C++, Python* and Node-RED* for customized industrial logic.

It features full industrial interfaces: 5-GbE (4-PoE+ PSE, Optional), 1 × RS232, 1 × RS485, 2 × DI, 3 × ADC, 3 × Relay, 2 × DC power output and 1 × TF slot. The built-in peripheral power outputs simplify on-site wiring and support local data caching via TF card.

Integrated Wi-Fi enables local wireless networking. It adopts 5G/4G cellular network for cloud data transmission and supports MQTT, Modbus, BACnet* and OPC UA*. Comprehensive VPN protocols and VXLAN ensure secure encrypted data transmission. Cooperated with Bivocom DMP*, it realizes centralized remote device management.

Optional dual-SIM* redundancy guarantees continuous and stable network connection for key industrial projects. The optional GNSS* provides accurate positioning and tracking for remote mobile assets.

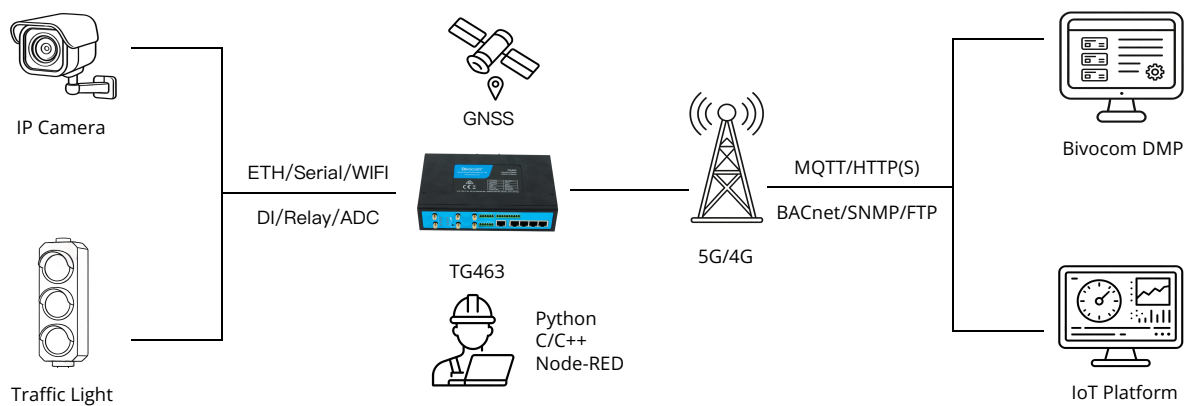
Key Features

- Optional Global 5G NR, 5G RedCap and 4G LTE
- 5-GbE(4-PoE+ PSE, Optional), 1-RS232, 1-RS485, 2-DI, 3-ADC, 3-Relay, 1-TF Slot, 2-DC Power Output, 2.4G & 5.8G WIFI*, GNSS*
- Programmable Bivocom OS: C/C++, Python*, Node-RED*
- Dual SIM/Dual Module for failover/load balance*
- Modbus RTU/TCP, JSON, BACnet*, OPC UA*, IEC 101/104/61850* and customized industrial protocols
- MQTT, FTP*, HTTP(S), VPN, SNMP*, BGP, Telnet, SSH, CLI, Firewall

Applications

- Traffic Light
- Solar Panel
- HVAC
- Industry 4.0
- BESS
- IP Camera
- PLC
- Weather Station

Diagram



Specifications

Systems

CPU	32-bit, dual core, 880MHz, MIPS
Flash	32MB (Up to 1GB Optional)
RAM	256MB (512MB Optional)

Cellular

Antenna	4 x 50 Ω SMA-K (TG463-NR) 2 x 50 Ω SMA-K (TG463-LF, TG463-RC)
SIM Slot	1 Mini SIM(2FF), or 2 (DSSM, DSDM Optional)

Ethernet

Ports	5 x 10/100/1000 Mbps 1 x WAN, 4 x LAN, or 5 x LAN Configurable
PoE+ (Optional)	4-PoE+ PSE (802.3at)

Serial

Ports	1 x RS232, 1 x RS485
Baud Rate	1200bps to 230400bps

I/O

Digital Input	2-DI (Isolation, Dry contact), Optional Wet contact (Status "1": 0-3V, Status "0": 5-30V)
Relay Output	3-Relay (Up to 5A and 30VDC/250VAC switch)
Analog Input	3 x 12-bit AD (4-20mA, 0-5/15/24V Optional)
Power Output	2 x 12VDC/1A for powering field sensors & devices

Wi-Fi*

Antenna	2, or 4 x 50 Ω RP-SMA-J (Optional)
Standard	IEEE 802.11b/g/n/ac (Optional), AP/Client modes
Bands	2.4GHz, or 2.4G & 5.8GHz (Optional)
Security	Open, WPA, WPA2, Radius

GNSS / GPS (Optional)

Module	GNSS from cellular module, or independent GPS Module
Antenna	1 x 50 Ω SMA-J

External Storage

TF Slot	1 x Micro SD slot, Up to 32GB
Usage	User Program and Data Storage

Power

Input	5-35VDC, or 48-60 VDC (PoE+ optional)
Standard Power	12VDC/1.5A, or 48V/2A (PoE+ optional)
Idle Mode	253~360mA@12VDC
Working Mode	318~425mA@12VDC

Physical Characteristics

IP Rating	IP30
Housing & Weight	Metal, 1,000g (2.2lbs), without accessories
Dimensions	207*124*47mm (8.15*4.88*1.85in)
Mounting	Desktop, DIN-Rail

Environmental

Operating Temp.	-35° C to +75° C (-31°F to +167°F)
Storage Temp.	-40° C to +80° C (-40°F to +176°F)
Relative Humidity	5% to 95% (non-condensing)

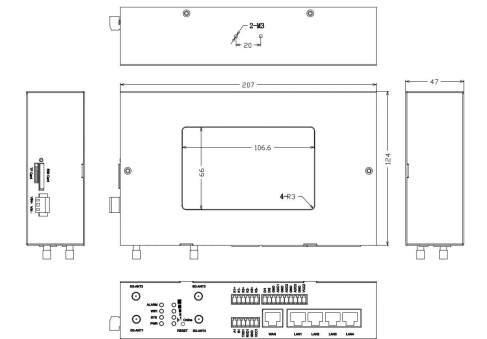
Others

Reset Button	1
LED Indicators	Signal, WIFI, System, Online, Power, Alarm
Built-in	Watchdog, RTC, Timer
Approvals	CE*, RCM*, FCC*
Warranty Period ⁶	Standard: 2-Year limited warranty Extended: 3-5 Years

Software

Programming	Bivocom OS (OpenWrt based Linux OS) C/C++, Python*, Node-RED*, LUA* and SDK Available Flash (32MB Version): 20MB (FW with C/C++ Only); 4MB (FW with C/C++, Python)
Data Protocols	Modbus RTU/TCP, SMS, SNMP*, IEC101/104*, IEC61850*, BACnet IP/MSTP*, OPC UA*, etc.
Network Protocols	VXLAN, GNSS, IPV6*, DDNS, DNS, ARP, Static Routing, NAT, Firewall, Telnet/SSH, PPP, PPPoE, DHCP, ICMP, NTP, etc.
Server Supported	MQTT, HTTP(S), Transparent TCP/UDP, FTP*
VPN	Wireguard/OpenVPN/IPsec/PPTP/L2TP
Firewall	ACL/DMZ/Port Mapping/MAC Binding
Management	Web, CLI, SMS, Bivocom DMP (Device Management Platform)*
Reliability	Dual SIM*, WWAN and WAN Failover, Hardware & Software Watchdog

Dimensions



Ordering Information

Model	Part Number	Cellular	Frequency Bands	Package Contents
TG463-NR	TG463 - NR <1><2> - <3>	5G NR	5G NR Sub-6 SA* (Optional Global or Regional Version) - n1/n2/n3/n5/n7/n8/n12/n20/n28/n41/n66/n71/n77/n78/n79 - LTE FDD: B1/B2/B3/B4/B5/B7/B8/B9/B12/B13/B14/B17/B18/B19/B20/ B21(TBD)/B25/B26/B28/B29/B30/B32/B66/B71 - LTE TDD: B34/B38/39/B40/B41/B42/B43/B48	- TG463 Unit x 1 - Cellular Antennas x 4 - DIN-Rail mounting kit x 1 - Ethernet Cable x 1 2-Pin Terminal Block x 1 10-Pin Terminal Block x 1 6-Pin Terminal Block x 2 - Power Adapter x 1 (Optional EU/UK/AU/US/CN Type)
TG463-RC	TG463 - RC <1> <2>- <3>	5G RedCap	5G NR Sub-6 SA* (Optional Global or Regional Version) - n1/2/3/5/7/8/12/13/14/18/20/25/26/28/30/38/40/41/48/66/70/71/77/78/79 - LTE FDD B1/2/3/4/5/7/8/12/13/14/17/18/19/20/25/26/28/30/66/70/71 - LTE TDD B34/38/39/40/41/42/43/48	- TG463 x 1 - Cellular Antenna x 2 - DIN-Rail Mounting Kit x 1 - Ethernet Cable x 1 2-Pin Terminal Block x 1 10-Pin Terminal Block x 1 6-Pin Terminal Block x 2 - Power Adapter x 1 (Optional EU/UK/AU/US/CN Type)
TG463-LF	TG463 - L <1><2> - <3>	4G LTE	4G LTE CAT 4* (Optional Global or Regional Version) - EMEA/Asia: B1/B3/B5/B7/B8/B20/B38/B40/B41 - ANZ/LATAM: B1/B3/B5/B7/B8/B28 - NA: B2/B4/B5/B12/B13/B14	

Part Number:
<1>: 5G or 4G module for different countries and regions
<2>: DS=dual SIM on single module, failover only
DM=dual SIM on dual module, load balance
<3>: W=2.4G Single band WIFI
DW=2.4G/5G dual band WIFI
G=GPS (Standalone GPS)
GN=GNSS from cellular module

- Note:**
- Region-specific cellular modules are available; consult Bivocom sales for details.
 - Compiler & SDK are provided for secondary development. Python/LUA/Node-RED require dedicated hardware&firmware; Node-RED requires 64MB Flash or larger version.
 - DSSM: Dual-SIM single-module design with automatic network failover; DSDM: Dual-SIM dual-module design supporting load balancing.
 - Bivocom DMP (Device Management Platform) requires a license fee.
 - *Optional functions rely on matching hardware/firmware versions; not all features supported on one device.
 - Power consumption is measured under laboratory conditions and is for reference only.
 - *Listed certifications are pending.
 - Extended warranty pricing varies.
 - Digital user manuals are free to download from [Bivocom](#) official website for environmental protection.

About Bivocom

Founded in 2014, Bivocom specializes in industrial IoT communication technology. Our comprehensive product portfolio covers IoT sensors, cellular gateways, industrial routers, RTUs, modems, as well as self-developed IoT cloud management platforms. We deliver ruggedized industrial wireless hardware, full-lifecycle OEM/ODM customization services and end-to-end IoT connectivity one-stop solutions to industrial partners worldwide.

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