



VG465 Series

CAN FD/CAN Vehicle Gateways

Introduction

The VG465 is a smart programmable 5G/4G edge gateway for automotive ECU remote diagnostics. Built around a quad-core 64-bit ARM A55 processor, it delivers reliable performance for in-vehicle network remote monitoring.

It integrates an LCD screen, six programmable buttons, and abundant interfaces: 3-Gigabit RJ45 Ethernet, 1-CAN FD / CAN 2.0B, Wi-Fi, Bluetooth, GPS; 2-RS232 (1 dedicated for debug), 1-USB2.0, 1-USB3.0, and a TF card slot supporting up to 32 GB storage.

Featuring a wide 5-60VDC power input, the VG465 withstands harsh on-vehicle operating conditions. Powered by Bivocom OS, it supports C/C++ and Python SDK for agile development. Ubuntu with Docker container is also available as an alternative runtime. It supports comprehensive protocols: MQTT broker/client, Modbus RTU/TCP, JSON, TCP/UDP, SNMP, OPC UA*, IEC 101/104* and VPN, enabling flexible, secure communications for diverse monitoring scenarios.

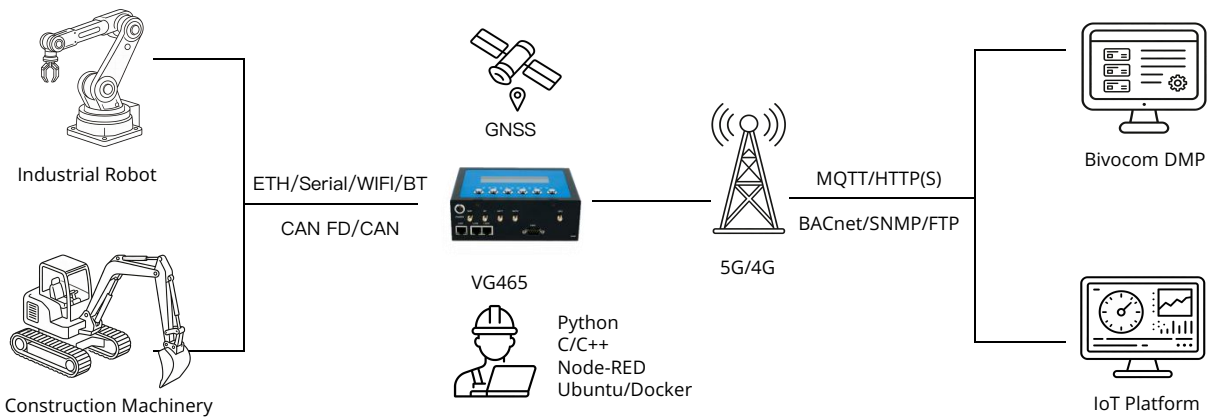
Key Features

- Optional 5G NR, 5G RedCap and 4G LTE
- LCD screen, 3-RJ45 (GbE), 1-CAN FD/CAN, WIFI6, Bluetooth, GPS, 6-programmable buttons, 2-RS232 (1-Debug) 1-USB2.0, 1-USB3.0, 1-TF Slot
- Programming Bivocom OS: C/C++, Python, Node-RED*, Ubuntu*, Docker*
- Dual SIM for failover (Optional)
- Modbus RTU/TCP, JSON, BACnet IP/MSTP*, OPC UA*, IEC 101/104/61850*, DNP3* and customized industrial protocols
- MQTT, FTP*, HTTP(S), Wireguard, Tailscale*, SNMP*, Telnet, SSH

Applications

- ECU
- AGV/AMR robots
- Construction Machinery
- Agricultural Equipment
- Industrial Robotics
- Motion Control
- BMS
- BESS

Diagram



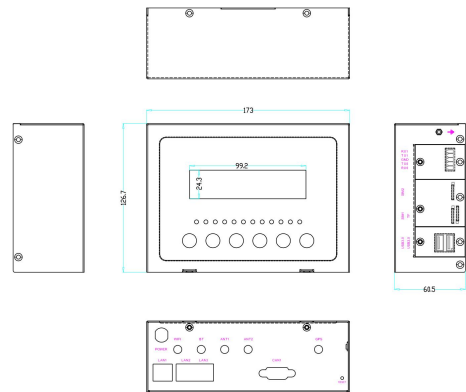
Specifications

Systems		Screen	
CPU	ARM Cortex-A55, 64-bit, Quad-core	LCD	STN, 160 × 32 Dots, backlight
RAM	DDR4, 2GB (Up to 8GB, Optional)	Power	
Flash	eMMC, 16GB (Up to 128GB, Optional)	Connector	2 Pin EGG 1B LEMO
NPU	512MAC , Up to 1 TOPS	Standard Power	12VDC/1.5A
GPU	Mali-G52, OpenGL ES 1.1/2.0/3.2, OpenCL 2.0, Vulkan 1.1	Input Voltage	5-60 VDC
Cellular		Physical Characteristics	
Antenna*	4 x 50 Ω SMA-K (VG465-NR) 2 x 50 Ω SMA-K (VG465-LF, VG465-RC)	IP Rating	IP30
SIM Slot	2 Micro SIM (3FF), DSSM*	Housing & Weight	Metal, 1051g (2.32lbs), without accessories
CAN FD / CAN		Dimensions	173x126.7x60.5mm (6.81 x 4.96 x 2.38in)
Ports	1 x 9-Pin D-SUB, Male	Mounting	Desktop
Standard	Conforms to ISO 11898-1:2015 CAN 2.0 B and CAN FD Arbitration Bit Rate up to 1 Mbps Data Bit Rate up to 5 Mbps	Environmental	
Ethernet		Operating Temp.	-20° C to +60° C (-4°F to +140°F)
Ports	3 x 10/100/1000 Mbps 1 x WAN, 2 x LAN, or 3 x LAN Configurable	Storage Temp.	-30° C to +70° C (-22°F to +158°F)
Serial		Relative Humidity	5% to 95% (non-condensing)
Ports	2-RS232 (1-Debug),	Others	
Baud Rate	1200bps to 230400bps	Reset Button	1
Bluetooth		Program Button	6
Standard	BT 5.0	LED Indicators	12 (SYS, 4G, WIFI, GPS, BT, CAN, ETH1, ETH2, ETH3, 3 Reversed)
Antenna	1 × 50 Ω RP-SMA J	Built-in	Watchdog, RTC, Timer
Wi-Fi		Approvals	CE*, RCM*, FCC*
Antenna	1 × 50 Ω RP-SMA J	Warranty Period	Standard: 2-Year limited warranty Extended: 3-5 Years
GPS		Software	
Module	Independent GPS module	Programming	Bivocom OS (OpenWrt based Linux OS, Or Optional Ubuntu OS) C/C++, Python, Node-RED*, Docker(Ubuntu)*, LUA* and SDK
Antenna	1 x 50 Ω SMA-J	Data Protocols	Modbus RTU/TCP, SMS, SNMP*, IEC101/104*, IEC61850*, DNP3*, BACnet IP/MSTP*, OPC UA*, etc.
External Storage (Optional)		Network Protocols	VXLAN, GNSS, IPV6*, DDNS, DNS, ARP, Static Routing, NAT, Firewall, Telnet/SSH, PPP, PPPoE, DHCP, ICMP, NTP, etc.
TF Slot	1x Micro SD Slot, Up to 32GB	Server Supported	MQTT, HTTP(S), Transparent TCP/UDP, FTP*
USB	1x USB3.0, 1x USB2.0	VPN	Wireguard/OpenVPN/IPsec/PPTP/L2TP/ Tailscale*
Usage	Data Storage and Firmware Upgrade	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

Note:

- 1. Region-specific cellular modules are available; consult Bivocom sales for details.
- 2. Compiler & SDK are provided for secondary development, Ubuntu requires different firmware version.
- 3. DSSM: Dual-SIM single-module design with automatic network failover; DSDM: Dual-SIM dual-module design supporting load balancing.
- 4. Bivocom DMP (Device Management Platform) requires a license fee.
- 5. *Optional functions rely on matching hardware/firmware versions; not all features supported on one device.
- 6. Power consumption is measured under laboratory conditions and is for reference only.
- 7. *Listed certifications are pending.
- 8. Extended warranty pricing varies.
- 9. Digital user manuals are free to download from [Bivocom](#) official website for environmental protection.

Dimensions



Ordering Information

Model	Part Number	Cellular	Frequency Bands	Package Contents
VG465-NR	VG465 - 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	- VG465 Unit x 1 - Cellular Antenna x 4 - WIFI Antenna x 1 - Bluetooth Antenna x 1 - GPS Antenna x 1 - Ethernet Cable x 1 5-Pin Terminal Block x 1
VG465-RC	VG465 - 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	- VG465 Unit x 1 - Cellular Antenna x 2 - WIFI Antenna x 1 - Bluetooth Antenna x 1 - GPS Antenna x 1 - Ethernet Cable x 1 5-Pin Terminal Block x 1
VG465-LF	VG465 - 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>: W=WIFI, G=Standalone GPS
GN=GNSS from cellular module

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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