

G402 Edge Computing Gateway



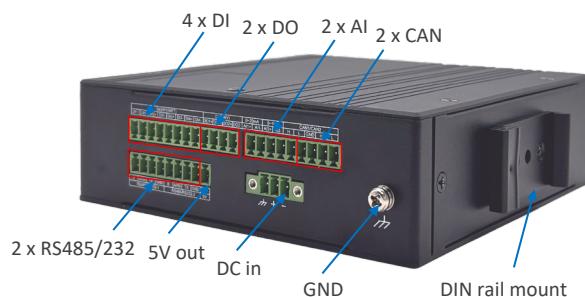
Product Overview

Vantron G402 industrial edge computing gateway is an Arm®-based cost-effective solution built for industrial applications. The gateway features dual-SIM 4G connectivity, Wi-Fi, Bluetooth, dual Ethernet jacks, while supporting virtual private network (VPN) to address diversified networking requirements. It also offers multiple DI, DO, and AI channels for status monitoring, control, and data visualization.

G402 features edge computing capabilities, enabling data processing and analysis directly at the edge for faster decision-making. It supports various southbound protocols, including Modbus TCP, Modbus RTU, EtherNet/IP, ISO-on-TCP, and CC-Link, ensuring seamless communication with industrial devices. The MQTT northbound protocol allows for flexible transfer of edge data to cloud servers. Meanwhile it supports interfacing with prevailing cloud platforms, including the self-developed BlueSphere GWM platform, for remote management to ease the efforts of users by real-time monitoring, OTA updates, remote maintenance, and task assignment.

Optional industrial interfaces such as RS232/RS485, DI, DO, AI, and CAN bus enable communication with a wide range of peripherals, while the DIN rail mount offers compact and efficient space utilization in cabinets, automation systems, and industrial control panels. G402 is an ideal solution for industrial applications such as industrial automation, grid infrastructure, and water management.

Exterior and Features



- ❖ Low power, complete industrial design
- ❖ DI/DO/AI, isolated CAN buses & RS232/RS485
- ❖ Dual Gigabit ETH, dual SIM backup, Wi-Fi, Bluetooth
- ❖ Southbound and northbound protocols for data transfer
- ❖ Local edge computing support
- ❖ SDK available with system-level API
- ❖ Optional BlueSphere GWM support for remote control
- ❖ Industrial extended temperature and input voltage
- ❖ Space-efficient design for flexible installation

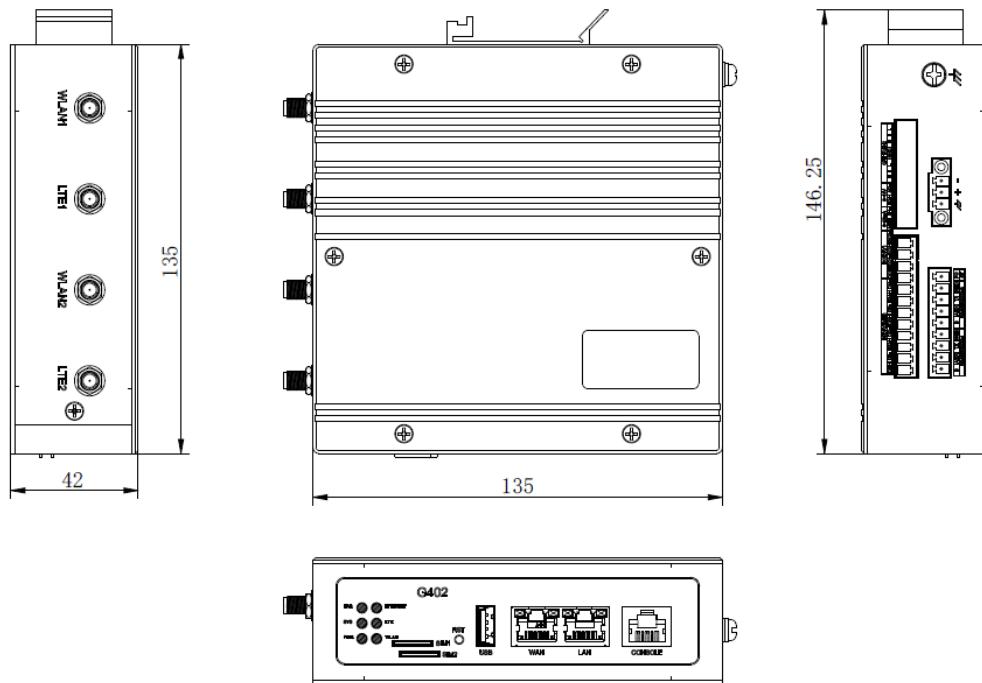
G402 Edge Computing Gateway Specifications (Hardware)

G402		
System	CPU	Single-core 64-bit Arm Cortex-A53 microprocessor, 1.0GHz (Max.) Single-core Arm Cortex-R5F MCU, 800MHz (Max.) Single-core Arm Cortex-M4F MCU, 400MHz (Max.)
	Memory	512MB DDR4
	Storage	8GB eMMC
Cellular (Optional)	Modem	4G LTE, CAT 4
	SIM	2 x Micro SIM slot
	Antenna	2 x Antenna (SMA-K connector)
Ethernet	Port	2 x RJ45, 10/100/1000Mbps
	Configuration	1 x WAN + 1 x LAN
Wi-Fi	Standard	IEEE 802.11 b/g/n/ac
	Frequency band	2.4GHz, 5GHz
	Working mode	AP, Station
	Antenna	2 x Antenna (RPSMA-K connector)
Bluetooth	Security	AES, WPS
	Bluetooth	Bluetooth 5.2
I/O	Serial port	2 x RS232/RS485 (isolated), Max. 250kbps
	USB	1 x USB 2.0 Type-A
	DI	4 x DI (dry / wet contact)
	DO	2 x DO, 5A @30V DC
	AI	2 x AI (measurement signal: 0~20mA or 4~20mA / 0~5V or 0~10V)
	CAN	2 x CAN bus (isolated)
	Debug	1 x RJ45 console port (Baud rate: 115200)
System Control	Button	1 x Reset button ([2, 6s]: Restart; [6, 12s]: Configuration clear; [12, 20s]: Factory reset; [20s, +∞]: Initial state)
	LED indicator	1 x Power indicator
		1 x Status indicator
		1 x Error indicator
	Watchdog timer	Hardware watchdog
Power	RTC	Supported
	Input	9V-36V DC
	Socket	1 x 3-pin x 3.81mm
Physical Characteristics	Protection	Over-current protection, Reverse polarity protection
	Dimensions	146.25mm x 135mm x 42mm
	Enclosure	Sheet metal
	Weight	716g (Not including accessories)
	Installation	DIN rail mounting
	IP rating	IP40
	Cooling mode	Heat sink
EMC	Mechanical test	Drop: IEC60068-2-32 Vibration: IEC60068-2-6
	ESD	IEC 61000-4-2 (Contact: 6kV, Air: 8kV)
Environmental Condition	Temperature	Operating: -40°C ~ +80°C
	Humidity	5%-95% RH (Non-condensing)
Certification	Compliance	FCC, ISED, CE
	Carrier certification	AT&T, Verizon, T-Mobile

— **G402 Edge Computing Gateway** Specifications (Software)

G402		
Edge Computing	Edge computing script	JavaScript, MicroPython
	Southbound protocol	Modbus TCP, Modbus RTU, EtherNet/IP, ISO-on-TCP, CC-link, etc.
	Northbound protocol	MQTT
Custom Development	IPK import	Supported
	Documentation support	SDK available, API documentation
Device Management	Operating system	Web-based VantronOS
	Configuration	VantronOS, SSH, Console port, cloud-based BlueSphere GWM (Optional)
	Remote management	BlueSphere GWM (Optional)
Routing & Network	Upgrade	VantronOS, BlueSphere GWM (Optional)
	Network protocol	IPV4, HTTPS, TCP & UDP, NTP client and server, ARP, TLS
	Link detection & report	Address: IP, URL
	Failover	Protocol: ICMP, TCP, HTTP
	Dual SIM	Auto routing, Auto reconnection
Reliability	NAT	Network priority: Ethernet > Wi-Fi client > Cellular (def.)
	WAN protocol	DHCP client, PPPoE, Static IP
	Network management	SNMP v1/v2c/v3
Network Diagnostics	IP application	Ping, Traceroute, Nslookup, DHCP Server/Client, DDNS
	IP routing	Static routing
	Network capture	By time or packet count
	Statistics	Traffic data and up time at Ethernet WAN, Wi-Fi client WAN, cellular WAN
		Cellular and Wi-Fi signal strength; SIM card switch frequency
Security	Health check	Usage of CPU, memory, disk
		Service running status
		Alarm on Ethernet/Wi-Fi/cellular hardware abnormality
	Log	System log, diagnostic log
		Log export supported
	Firewall	Stateful, whitelist control, port mapping
	Access control	MAC address filtering, IP address filtering
	VPN	PPTP, L2TP, GRE, IPSec, OpenVPN
	Firmware validation	SHA256 checksum

Product Outlines



Ordering Information

Ordering No.	Ethernet	Wi-Fi	Cellular	I/O
G402	1 x WAN, 1 x LAN	IEEE 802.11 b/g/n/ac	4G LTE	RS232/RS485, 5V output, CAN, DI, DO, AI
G402-LI	1 x WAN, 1 x LAN	IEEE 802.11 b/g/n/ac	4G LTE	RS232/RS485, 5V output
G402-NC	1 x WAN, 1 x LAN	IEEE 802.11 b/g/n/ac	-	RS232/RS485, 5V output, CAN, DI, DO, AI

Packing List	
G402 Edge computing gateway	1
Wi-Fi antenna	2
Mating connector for RS232/RS485 & 5V out	1
DC power connector	1

Optional Accessories	
12V DC Power adapter	1
Power cord	1
4G LTE antenna	2
Mating connector for CAN, DI, DO, AI	2