

High-performance, Powerful, Programmable



VG710 4G Vehicle Gateway

· LTE Cat.6/Cat.4

· Wi-Fi 5

· Telematics

· Programmable Edge

1. Product Overview

VG710 4G gateway provides reliable, secure, and programmable in-vehicle connectivity for logistics, transport, heavy equipment, and public safety scenarios.

Positioning: Rugged LTE in-vehicle gateway for fleet telemetry and edge intelligence

Key Features:

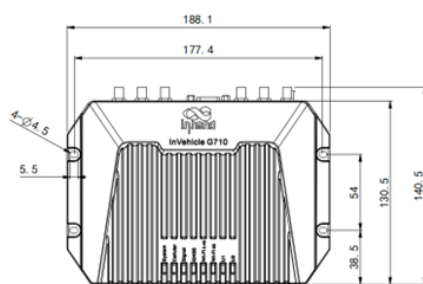
- **Reliable LTE networking:** LTE Cat.6/Cat.4 with broad global and regional band coverage
- **Vehicle-grade robustness:** IP64 protection, wide input voltage, and industrial design
- **Rich telematics interfaces:** CAN, RS-485, DI/DO/AI, and serial ports for vehicle integration
- **Accurate tracking:** GNSS + inertial navigation for stable positioning in complex environments
- **Open edge architecture:** Python/C/C++/Docker with cloud integration APIs

Core Technical Specifications

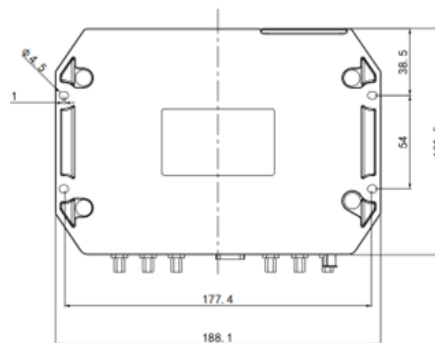
Technical Indicator	Specification
Cellular Network	LTE Cat.6/Cat.4, supporting global and regional band variants
Positioning Capability	GNSS (GPS/GLONASS/Galileo/Beidou) + inertial DR
Edge Computing	Supports Python, C/C++, and Docker application development and deployment
Cloud & IoT Integration	Supports MQTT, DDS, AMQP, REST, and CoAP; compatible with Azure and third-party platforms
VPN	Supports IPsec/OpenVPN/L2TP/GRE

Technical Indicator	Specification
Wireless Access	Dual-band Wi-Fi 5 (AP/Client) + Bluetooth 4.1
Dimensions	188.1 × 140.5 × 48.8 mm (7.41 × 5.53 × 1.92 in)
Weight	775 g (1.71 lb)
Vehicle Interfaces	4 x Gigabit Ethernet, CAN, RS-485, DI/DO/AI, RS-232, USB 2.0
Input Voltage Range	9-36 V DC (configurable to 7-36 V DC)
Operating Temperature	-30 °C ~ +70 °C (-22 °F ~ +158 °F)
Protection Rating	IP64

2. Product Dimensions



Front View



Bottom View



Side View

Notes:

1. All dimensions are in millimeters (mm), with inches (in) in parentheses.
2. All dimensions are approximate and **for reference only**.
3. Drawings **must not be used for manufacturing**.
4. Dimensions are subject to part and manufacturing tolerances.
5. Specifications may change without prior notice.

3. Hardware Specifications

Category / Parameter	Specification
Performance Metrics	
CPU	ARM Cortex A7
Main Frequency	717 MHz
RAM	1 GB / 512 MB DDR3 (model dependent)
Storage	8 GB eMMC
Connectivity	
Cellular	LTE Cat.6 / Cat.4
Ethernet	4 × 10/100/1000 Mbps RJ45
Serial Port	RS-232 (DB-9)
USB Port	USB 2.0 Micro-B (up to 480 Mbps)
microSD	Up to 32 GB, 20 MB/s
Bluetooth	Bluetooth 4.1
Antenna	SMA-K: Cellular/GNSS/Diversity; RP-SMA-K: 2 × Wi-Fi + BLE
Satellite Navigation	
GNSS Receiver	GPS, GLONASS, Galileo, Beidou
Built-in Sensor	Accelerometer + gyroscope, supports DR
Position Accuracy	2.5 m CEP
Tracking Sensitivity	-160 dBm
Location Update Rate	Up to 30 Hz
Wi-Fi	
Frequency	2.4 / 5 GHz dual-band
Protocol	Wi-Fi 5
Max Output	2.4G: 17 dBm; 5G: 17 dBm

Category / Parameter	Specification
Working Mode	AP / Client
Automotive Interfaces	
Diagnostics Interface	CAN bus
DI/DO/AI	6 × DI, 4 × DO, 6 × AI
RS-485	RS-485 serial (A+, B-, GND)
Other	1-WIRE (driver ID / temperature)
Power	
Input Voltage	9–36 V DC (configurable to 7–36 V DC)
Pin Definition	V+, V-, ignition signal, NC (4 pins)
Protection	Built-in voltage transient protection with delayed ignition induction
Standby Power	0.006 W
Operating Power	12.00 W average
Peak Power	18.20 W peak
Mechanical & Environment	
Installation	Wall-mounting
Protection Rating	IP64
Cooling	Radiation cooling
Housing	Die-cast aluminum
Dimensions (W × D × H)	188.1 × 140.5 × 48.8 mm (7.41 × 5.53 × 1.92 in)
Weight	775 g (1.71 lb)
RTC	Supported
SIM	Dual-SIM, 2FF
Operating Temp.	-30 °C ~ +70 °C (-22 °F ~ +158 °F)
Storage Temp.	-40 °C ~ +85 °C (-40 °F ~ +185 °F)
Humidity	95% RH @ 60 °C

Category / Parameter	Specification
Standards & Certifications	
Vehicle Standard	ECE-R10, R118
Rail Standard	EN50155, EN50121, EN61373
Fire Prevention	EN45545-2:2020
Certification	CE, E-Mark, ITxPT, FCC, IC, PTCRB, RoHS, VZW, AT&T, TMO
Warranty	3 years

4. Software Specifications

Category / Parameter	Specification
Network Features	
Network Access	APN, VPDN
LAN Protocol	ARP, Ethernet
Authentication	CHAP/PAP/MS-CHAP/MS-CHAP V2
IP Application	IPv6, Ping, Traceroute, DHCP server/relay/client, DNS relay, DDNS, Telnet, SSH, HTTP, HTTPS, TFTP, FTP, SFTP, Portal
IP Routing	Static routing, RIP, OSPF, BGP, IGMP Proxy
Security	
Firewall	SPI, DoS defense, multicast/Ping filter, ACL, NAT/PAT/DMZ/port mapping/virtual server
User Level	Administrator / read-only
AAA	Local authentication, Radius, Tacacs+, LDAP
CA Certificate	PEM, PKCS12, SCEP
VPN	IPsec VPN, L2TP, GRE, OpenVPN, CA
Reliability	
Backup	Floating routing, VRRP, interface backup
Link Detection	Heartbeat detection, auto redial

Category / Parameter	Specification
Watchdog	Self-detection and auto-repair
Offline Storage	Built-in cache when network unavailable
Ports & WLAN	
VLAN Partition	Supported
Port Mirroring	Supported
WLAN Protocol	IEEE 802.11 b/g/n/a/ac
WLAN Security	Shared key, WPA/WPA2, WEP/TKIP/AES
Configuration	Local/remote HTTP, HTTPS, Telnet, SSH
Upgrade	Local/remote WEB, DM, TFTP, FTP, SFTP server
Diagnostics	Ping, Traceroute, Sniffer
Edge Computing	
Edge Platform	Integrated network-computing-storage-application edge platform
Programmable	Python, C/C++, Docker
SDK	Python 3 SDK, Docker SDK, Azure IoT Edge SDK
IDE	Visual Studio Code
IoT Architecture	MQTT, DDS, AMQP, XMPP, JMS, REST, CoAP
3rd Party Cloud	MS Azure, SmartFleet and APIs for third-party platforms
Docker Images	Node-RED, Ubuntu, Docker for ARM 32, etc.
Application Services	
Fleet Cloud	InHand SmartFleet for route planning, tracking, geofencing, and batch operations
Vehicle Telemetry	Rich interfaces for telemetry and asset tracking devices
Event Alarm	Customizable alarms for DI, network, service, power, temperature, voltage
Message Push	SMS, Email, App, digital output

5. Ordering Information

Model Rule

Model code: VG710-<L/NA>-<WMNN>

<WMNN>: Cellular Type & Module

Product Models

Model	Cellular Type	UE Category	RAM	Region
VG710-L-FQ09	LTE-FDD/LTE-TDD/WCDMA (global bands)	LTE Cat.6	1 GB	Global
VG710-L-FQ78	LTE-FDD/TDD + WCDMA + GSM/EDGE	LTE Cat.4	1 GB	Latin America, Australia, New Zealand
VG710-FQ09	LTE-FDD/LTE-TDD/WCDMA (global bands)	LTE Cat.6	512 MB	Global
VG710-FQ78	LTE-FDD/TDD + WCDMA + GSM/EDGE	LTE Cat.4	512 MB	Latin America, Australia, New Zealand
VG710-EN00	NONE	NONE	512 MB	Global

Antenna Options

Antenna	Order Code	Specifications
LTE 4G Antenna	AANT090025	LTE/GSM/CDMA multi-band antenna, SMA-J1.5 connector, RG-174, 2000±20 mm
GNSS Antenna	AANT040005	GPS/GALILEO/GLONASS GNSS antenna, dimensions 55.6 × 50.5 mm (2.19 × 1.99 in)
GNSS Antenna	AANT040006	GPS/GALILEO/GLONASS GNSS antenna, dimensions 50 × 38.5 mm (1.97 × 1.52 in)
Wi-Fi Antenna (Rubber Ducky)	AANT060016	2400–2500 MHz / 4900–5850 MHz, peak gain 5±0.5 dBi
Wi-Fi Antenna (Adhesive)	AANT060018	2400–2500 MHz / 4900–5850 MHz, peak gain ≤3 dBi, 2000±20 mm
Bluetooth Antenna (Rubber Ducky)	AANT060017	2.4 GHz, peak gain ≤2 dBi

Cable Options

Cable	Order Code	Specifications
Power Cable	SCAB000216	4PIN to open-end cable for field engineering; indoor test requires separate power adapter
20 PIN Extension Cord	SCAB000219	20PIN extension cable for field engineering and testing
OBD-II Power Cable	SCAB000235	20PIN + 4PIN power + OBD-II male + I/O open end + ignition wire
J1939 9PIN Power Cable	SCAB000234	20PIN + 4PIN power + J1939 9PIN female + I/O open end + ignition wire
J1939 6PIN Power Cable	SCAB000233	20PIN + 4PIN power + J1939 6PIN female + I/O open end + ignition wire
20 PIN to OBD-II	SCAB000215	A/B/C/D end cable set for field projects and testing

6. Contact Us

- Website: [InHand Networks](https://www.inhandnetworks.com)
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7. 20PIN Definition

PIN	Definition	PIN	Definition
1	-485	11	485
2	CANL	12	CANH
3	1-Wire	13	GND
4	DO4	14	DO3
5	DO2	15	DO1
6	GND	16	GND
7*	AI6/DI6	17*	AI5/DI5
8	AI4/DI4	18	AI3/DI3
9	AI2/DI2	19	AI1/DI1

10	GND	20	GND
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Note:

- 7* : AI6/DI6/FWD
- 17* : AI5/DI5/WHEELTICK

Power Pin Definition (4 pins)

- V+ : Power positive
- V- : Power negative
- Ignition Signal : ACC/IGN input
- NC : Reserved (not connected)