

High-performance, Powerful, Programmable



VG710 Vehicle Gateway

· 5G/LTE

· Wi-Fi 5

· GNSS

· M12 Connector

1. Product Overview

VG710 provides fast, secure, and reliable in-vehicle connectivity for public transport, heavy equipment, logistics, and emergency fleets.

Key Features:

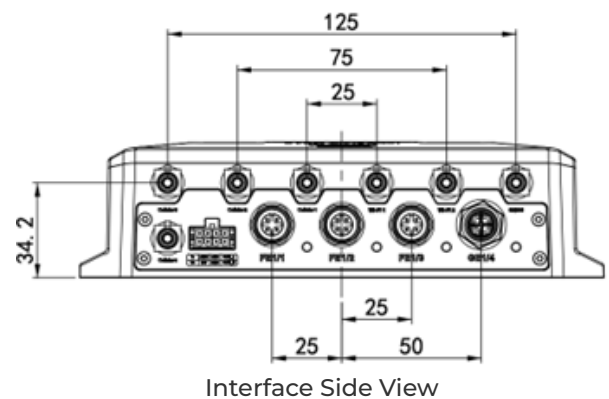
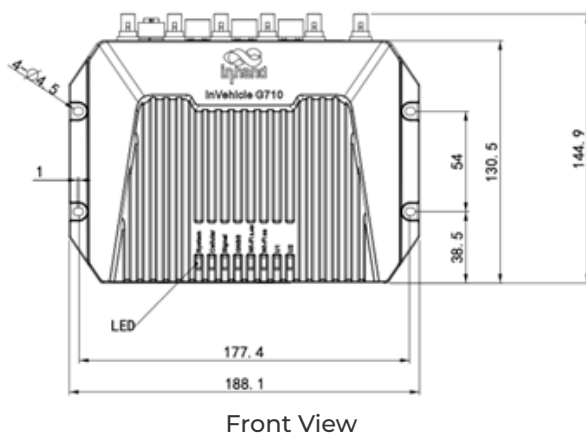
- **Vehicle-ready design:** M12 Ethernet interface with IP64 rugged protection and ITxPT compliance
- **High-speed connectivity:** 5G/LTE WAN + dual-band Wi-Fi + Gigabit Ethernet
- **Accurate telemetry:** GNSS multi-constellation positioning with inertial navigation support
- **Open edge platform:** Python/C/C++/Docker for rapid custom application development
- **Cloud integration:** Ready for Azure, AWS, and fleet management platforms

Core Technical Specifications

Technical Indicator	Specification
Cellular Network	Supports 5G / LTE CAT6 / LTE CAT4 (model dependent)
Positioning Capability	Supports GPS + BDS + Galileo + GLONASS + QZSS, with inertial navigation
Cloud	Supports MQTT, DDS, AMQP, REST, and CoAP
VPN	Supports IPSec/L2TP/GRE/OpenVPN
WLAN	Dual-band Wi-Fi 5 (2.4/5 GHz, AP/Client)
Edge Computing	Supports Python, C/C++, and Docker
Dimensions	188.1 × 144.9 × 48.8 mm
Weight	974 g
Interface Capability	3× M12 10/100 + 1× M12 10/100/1000, Ethernet/CAN/AI-DI

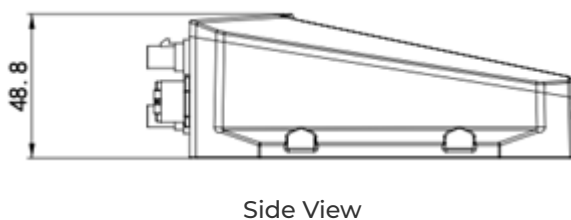
Technical Indicator	Specification
Input Voltage Range	9-36 V DC (configurable to 7-36 V DC)
Operating Temperature	-30 °C to +70 °C
Protection Rating	IP64

2. Product Dimensions



Notes:

1. All dimensions are in millimeters (mm).
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
Hardware Platform	
CPU	ARM Cortex A7
Main Frequency	717 MHz
RAM	1 GB DDR3
Storage	8 GB eMMC
Connectivity	
Cellular	5G, LTE CAT6, LTE CAT4
SIM	Dual SIM, 2FF
Ethernet	3 × M12 D-coded 10/100 Mbps; 1 × M12 X-coded 10/100/1000 Mbps
Antenna	Cellular: 4 or 2 × FAKRA D-coded; Wi-Fi: 2 × FAKRA I-coded; GNSS: 1 × FAKRA C-coded
Satellite Navigation	
GNSS Receiver	GPS L1 C/A + L5, BDS, Galileo, GLONASS, QZSS
Built-in Sensor	Accelerometer and gyroscope, supports inertial navigation
Position Accuracy	1 m CEP
Tracking Sensitivity	-165 dBm
Update Rate	10 Hz
Wi-Fi	

Category / Parameter	Specification
Frequency	2.4 / 5 GHz dual-band
Protocol	Wi-Fi 5
Max Output	2.4G: 17 dBm; 5G: 17 dBm
Mode	AP / Client
Vehicle Interfaces	
CAN Bus	CAN Bus [2 pins], CAN 2.0
I/O	1 × AI/DI
Indicator	System, Cellular, Signal, GNSS, Wi-Fi 2.4G, Wi-Fi 5G, U1, U2
RTC	Supported
Power	
Input Voltage	9–36 V DC (configurable to 7–36 V DC)
Pin Definition	V+, V-, IGT (8 pins)
Protection	Built-in voltage transient protection, delayed ignition induction
Average Power	6.44 W (RF module not at full load)
Mechanical & Environment	
Dimensions (W × D × H)	188.1 × 144.9 × 48.8 mm
Weight	974 g
Installation	Wall-mounting
Cooling	Radiation cooling

Category / Parameter	Specification
Housing	Die-cast aluminum
Protection Rating	IP64
Operating Temp.	-30 °C ~ +70 °C
Storage Temp.	-40 °C ~ +85 °C
Humidity	95% RH @ 60 °C
Standards & Certifications	
Vehicle Standard	ECE-R10, R118
Rail Standard	EN50155, EN50121, EN61373
Fire Prevention	EN45545
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



Category / Parameter	Specification
IP Applications	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
Configuration	HTTPS, Telnet, SSH, DeviceLive Platform
Upgrade	Local/remote WEB, DM, TFTP, FTP, SFTP server, DeviceLive Platform
Diagnostics	Ping, Traceroute, Sniffer
Security	
Firewall	SPI, DoS defense, multicast/Ping filter, ACL, NAT/PAT/DMZ/port mapping/virtual server
User Level	Administrator and read-only user
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 when disconnected
Watchdog	Self-detection and auto-repair of device faults
Offline Storage	Built-in cache for key data when network is unavailable
WLAN	
Protocol	IEEE 802.11 b/g/n/a/ac
Security	Shared key, WPA/WPA2, WEP/TKIP/AES

Category / Parameter	Specification
Edge Computing	
Edge Platform	Integrated edge platform for network, computing, storage, and applications
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 3rd-party platforms
Docker Images	Node-RED, Ubuntu, Docker for ARM 32, etc.
Application Services	
Fleet Management	InHand SmartFleet: task allocation, route planning, tracking, messaging, geofencing, batch upgrades
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, device digital output

5. Ordering Information

Model Rule

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

<WMNN>: Cellular Type & Module

Product Models

Model	Cellular Type	UE Category	Region
VG710-M-NRQ5	5G NSA/SA; LTE-FDD; LTE-TDD; WCDMA (global multi-band)	5G	Global
VG710-M-FQ09	LTE-FDD; LTE-TDD; WCDMA (global multi-band)	LTE CAT6	Global
VG710-M-FQ58	LTE-FDD B1/B3/B7/B8/B20/B28A; LTE-TDD B38/B40/B41; WCDMA B1/B8; GSM B3/B8	LTE CAT4	EMEA / APAC
VG710-M-EN00	NONE	-	Global

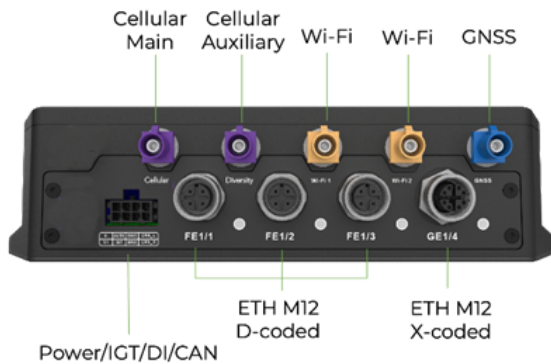
Antenna Options

Antenna	Order Code	Specifications
4G FAKRA Antenna	AANT090038	4G adhesive antenna, FAKRA purple connector, 2000 mm cable
5G FAKRA Antenna	AANT110017	5G adhesive antenna, FAKRA purple connector, 2000 mm cable
Wi-Fi FAKRA Antenna	AANT060024	Wi-Fi/BLE 2.4-2.5 GHz / 5-5.8 GHz, FAKRA beige connector, 2000 mm cable
GNSS FAKRA Antenna	AANT040013	GPS L1 + BD + GLONASS, 2000 mm cable

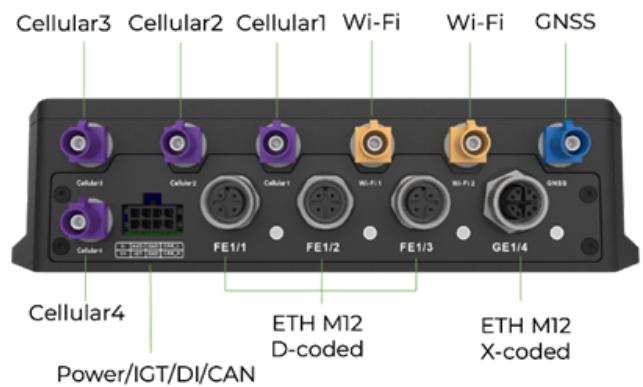
Cable Options

Cable	Order Code	Specifications
VG710-M12 Version Power Cable	SCAB00056 4	8PIN power cable for VG710-M12, 2000 mm
Network Cable M12 X to RJ45	AETH050002	M12 X-coded to RJ45 cable, 1000 mm

7. Connector Pin Definition



Pin Interface Diagram (4G Version)



Pin Interface Diagram (5G Version)