Connecting things
Hongdian

www.hongdian.com

H6700

5G Vehicle Gateway



Overview

The Hongdian H6700 is a next-generation 5G vehicle gateway, a high-performance communication terminal designed for commercial vehicles, unmanned vehicles, and special vehicles. It integrates three core advantages: dual 5G link aggregation, 1000BASE-T1 high-speed data backbone, and edge computing processing. It meets the stringent requirements of the Internet of Vehicles (IoV) for high bandwidth, high reliability, and low latency. The H6700 integrates communication connectivity, data processing, and vehicle network management functions, providing intelligent connected vehicles with high-speed, secure, and reliable connectivity.

Features

High Speed Cellular Communication

- Supports dual 5G FRER(Frame Replication and Elimination for Reliability), as well as dual-module hot backup
- Dual module load balancing, aggregate bandwidth for significantly faster speeds
- DL 3.4Gbps & UL 900Mbps, and is backward compatible with LTE Cat19

Multiple Positioning Systems

- Supports GPS, BD, GLONASS, and Galileo satellite positioning systems, suitable for deployment in various regions around the world
- Optional supports GPS DR for vehicle tracking, which can still provide excellent positioning accuracy when the positioning is inaccurate due to weak, no signal, or multipath effects

Rich External Device Interfaces

- 4 * GigE M12 X-coded, 4 * RS-232/RS-485 serial ports, 1 * DI, 1 * DO, 1* VCC out, 2 * CAN, can be connected to rich sensors, record the vehicle's operating status and fault information

Easy APP Development & Deployment

- Provide supports for secondary development environments for C and Python
- Supports Hongdian standard industrial protocol plugins
- Supports obtaining APP plugins locally and installing, uninstalling, starting, stopping plugins

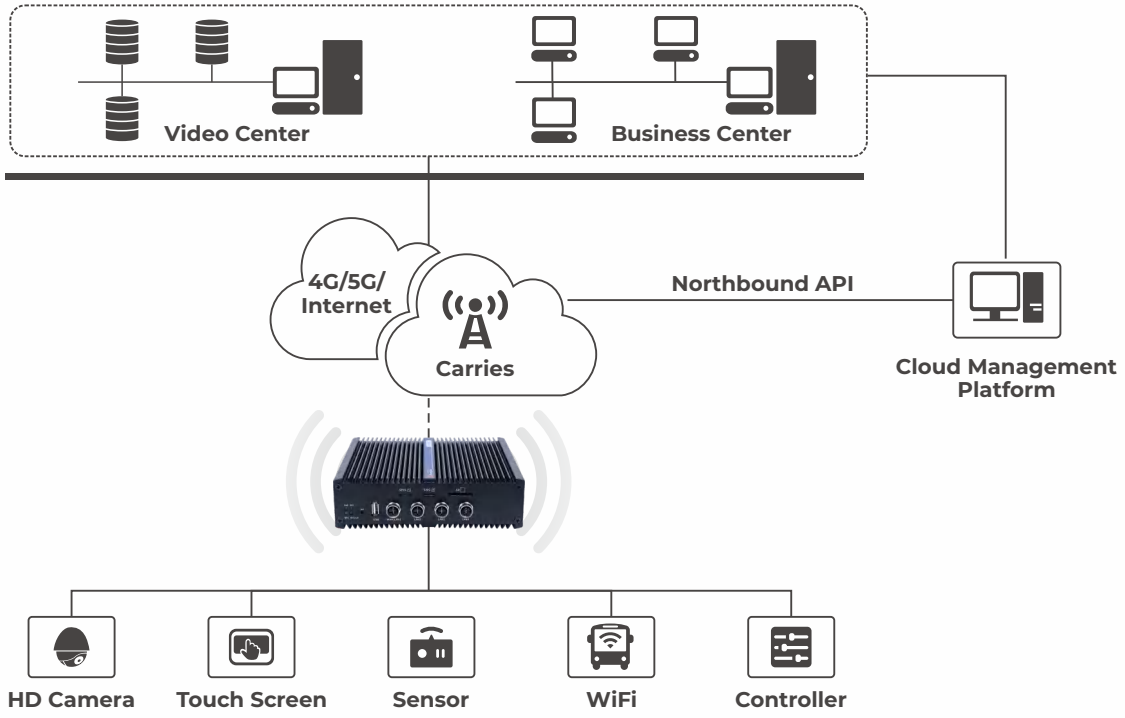
Excellent Network Security and Quality

- Built-in T1 & TSN automotive backbone, powering deterministic, low-latency SDVs(Software-Defined Vehicles)
- Supports SDWAN self-organizing network
- Supports VXLAN to achieve layer 2 networking

Remote Management Platform

- Supports integration with the Hongdian Sandora platform and third-party fleet management platform
- Supports zero-touch deployment of gateway devices and SDLAN remote management.

Topology Diagram



Application Scenario



Train



Tram



Bus



Logistic Vehicle



Mining Truck



Unmanned Vehicle



Amubulance



Police Vehicle



Fire Truck

Specification

HARDWARE			
CPU	Quad-core ARM Cortex A7 @717MHz	**Built-in storage**	512MB RAM+32GB eMMC
CELLULAR INTERFACE			
Modem	1/2×5G NR (SA/NSA) or 1/2×LTE	**Number of Antennas**	Max 8×5G antennas
SIM	2×nano SIM (4FF), 2×eSIM optional	**Connector**	FAKRA D-coded
WIRELESS INTERFACE			
Standards	802.11b/g/n/ac/ax, AP or station modes	**Frequency Bands**	2.4 GHz & 5GHz
Encryption	64/128 AES, TKIP	**Security**	WEP, WPA, WPA2, WPA3
Number of Antennas	2	**Connector**	FAKRA I-coded
GNSS INTERFACE			
GNSS	GPS, GLONASS, BeiDou and Galileo, (GPS DR Optional)		
Number of Antennas	1	**Connector**	FAKRA C-coded
PERIPHERAL INTERFACE			
Ethernet	3×LAN 10/100/1000Mbps + 1×WAN/LAN 10/100/1000Mbps(M12 X-coded)		
Serial Type	4×RS-485 serial port (1×RS-485 port can be configured as RS-232 port)		
Socket Form	2×10-pin female header	**USB**	1×USB2.0 Type A
TF Card	1×SD Card	**Can**	2×CAN 2.0 (2 pins)
IO	1×DO, 1×DI		
POWER SUPPLY AND CONSUMPTION			
Connector	M12 A-coded { V+, V-, IGT, NC (4 pins) }	**Voltage Input**	+9V~+36V DC
Power Consumption	Idle power consumption: 360mA@24V; Max power consumption: 650mA@24V		
OTHERS			
LED Indicators	4 indicators for NET2/SIG1, NET1, Wi-Fi, PWR	**Reset Button**	Yes
PHYSICAL CHARACTERISTICS			
Ingress Protection	IP30	**Housing & Weight**	Metal, about 1500g, Dual 5G module
Dimension	195×164.2×55.5mm	**Installations**	Wall-mounting
Operating temperature	-40°C~+75°C	**Storage temperature**	-40°C~+85°C
Relative humidity	5 ~ 95% RH		

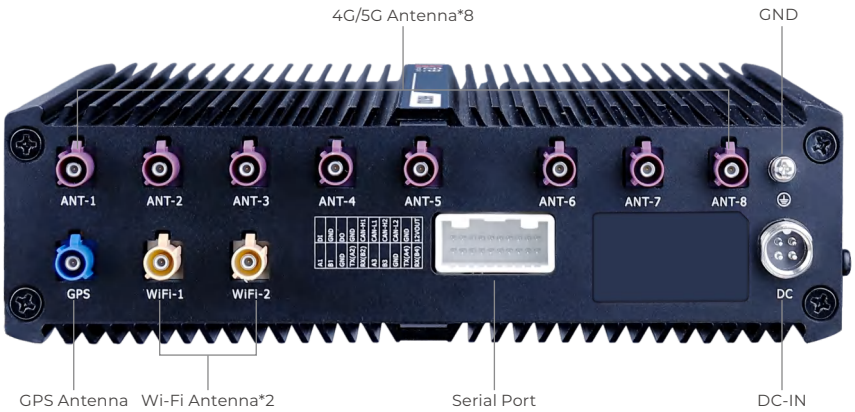
Fuctions & Features

BASIC FUNCTIONS	
Communication	Supports 4G/5G full-network connectivity based on different modules; supports 5G R16 and R17 features
Private Network Access	Supports APN and VPDN dial-up; supports CHAP and PAP access authentication
Wired Access	WAN port with static IP/DHCP/PPPoE dial-up
Wireless Access	DHCP automatic dial-up and on-demand dial-up
Wi-Fi	• Supports Wi-Fi function (Wi-Fi AP/station client mode) • Supports IEEE 802.11b/g/n/ac/ax • Supports 2.4G and 5.8G dual-band WiFi • Supports WPA/WPA2/WPA3 authentication, TKIP/AES encryption, and hidden SSID

LOCATION FUNCTIONS	
GNSS	GPS, GLONASS, BeiDou and Galileo, (GPS DR Optional)
NETWORK FUNCTIONS	
Network Address Translation	Supports NAT and MASQ dynamic source address translation
Routing Policy	Supports static routing, policy-based routing, and RIP/OSPF dynamic routing
NETWORK SECURITY	
Data Security	• Supports IPSec, GRE, IPIP, PPTP, L2TP, OpenVPN • Supports combined VPNs such as GRE over IPSec and IPSec over PPTP/L2TP/GRE/IPIP • IPSec supports IKE v1/v2 automatic negotiation and perfect forward secrecy • Supports md5, sha1, sha2_256 encryption algorithms
Firewall	• Supports NAT, DMZ, and port mapping • Supports filtering rules based on 5-tuple (source IP, destination IP, MAC, port, protocol)
QoS	Supports QoS; enables intelligent bandwidth management via multiple methods for services, protocols, and IP segments
DDNS	Supports Dynamic Domain Name System (DDNS)
Anti-DOS	Supports port scan protection and defense against UDP, ICMP, and TCP flood attacks
VXLAN	Supports VXLAN technology for overlay 2 networking
CLOUD APPLICATIONS	
Cloud Management	Hongdian DMP platform for batch power environment management of devices
Cloud Transmission	Supports intranet penetration and DFS remote access
Cloud Networking	Supports SD-WAN self-organizing network
WEB Page Status Monitoring	• Supports CPU/memory usage monitor via status page • Supports mobile network interface traffic statistics and slave device terminal monitoring via status page
EDGE COMPUTING	
Secondary Development	Supports secondary development in C and Python; provides secondary development environment
Intelligent Plugins	• Supports Hongdian standard industrial protocol plugins and DTU plugins • Supports local acquisition of APP plugin packages and plugin management (installation, uninstallation, startup, shutdown)
RELIABILITY FUNCTIONS	
Link Backup	• Supports simultaneous online access of multiple networks (WAN, WiFi, 5G) • Supports dual-SIM link switching • Supports multi-network link backup for mutual backup switching between wireless-wireless and wireless-wired links
Link Aggregation	• Supports multi-network link aggregation • Supports dual-link simultaneous bandwidth-sharing transmission and intelligent route selection based on link quality
Link Detection	Supports ping detection; enables intelligent link function by setting actions based on detection results
Low Power Consumption	Supports air interface/IO wake-up
Parameter Backup	Parameter backup and import
Watchdog	Hardware and software watchdog; system status self-inspection
Parameter Management	Multiple parameter management methods (WEB, platform)
MANAGEMENT AND MAINTENANC	
Upgrade	Supports local, remote, and platform-based firmware and patch upgrades
Network Diagnosis	Supports Ping and Traceroute network analysis
Log Management	Supports viewing/exporting of local and remote system logs; supports log type selection
Time Synchronization	Supports NTP network time synchronization
Indicator Lights	Supports LED status monitoring display status of power, Wi-Fi, network, signal, data, etc.
RST Function	Supports RST function, default restoration, and factory reset
User Management	Supports master and guest user management
Task Management	Supports schedule management and scheduled task execution

Appearance





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