

Four-Faith

5G Vehicle Gateway

FTV300

5G 5G Redcap | VPN | Wi Fi 6 WIFI 6 | Remote Management

RS232 | RS485 | GPS | Dual-SIM

Introduction

FTV300 is a rugged 5G in-vehicle gateway with GNSS, dual-band WiFi, edge computing, and M12 connectors, delivering fast, stable, and secure connectivity for efficient and scalable vehicle networking and management across diverse automotive scenarios.

Industrial-grade Design

- Passed vehicle vibration testing
- High-performance industrial-grade processor
- Metal casing, protection level is IP40
- Vehicle-grade M12 aviation and FAKRA connectors for secure
- Wide power input (DC 9–48V), compatible with various vehicle power systems

Stability & Reliability

- WDT Watchdog design to ensure system stability
- Adopt a complete anti-drop mechanism to ensure that the data terminal is always online
- Built-in 1.5KV electromagnetic isolation protection for Ethernet interface
- RS232/RS485 interface power and data isolation, with CSA, UL, and IEC standards
- SIM/UIM card interface built-in 15KV ESD protection
- Built-in reverse phase protection and over voltage protection for power interface

Standard & Convenience

- Provide standard RS232, RS485, Ethernet and WIFI interfaces
- Intelligent data terminal, can enter data transmission state after power on
- Convenient system configuration and maintenance interface (local, WEB or CLI)
- Supports wall mounted installation

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High Performance

- Supports 5G LAN function
- Supports FRP intranet penetration
- Supports Ethernet link status detection, speed reporting, and latency reporting
- Supports intelligent dual-link backup switching between 4G/5G and wired WAN
- Supports VPN: PPTP/L2TP/GRE/IPSec/OpenVPN
- Supports remote management: SYSLOG, SNMP, TELNET, SSHD, HTTPS
- Supports SPI firewall, VPN passthrough, access control, and URL filtering
- Wi-Fi supports multiple encryption methods: WEP, WPA, WPA2, and MAC address filtering
- SIM/UIM card interface with built-in 15KV ESD protection
- Supports frequency locking, cell locking, EOIP, bridge mode, VXLAN, virtual IP, GRETAP
- Supports multiple DHCP servers, MAC address binding, DDNS, firewall, NAT, DMZ host
- Supports VLAN, MAC address cloning, PPPoE server
- Supports various online/offline triggering modes, including serial and network data
- Supports seamless integration with Four-Faith Cloud for easier operation and maintenance

Product Specification

Cellular Specification		
Model	**FTV300-5G**	**FTV300-5R**
Items	**Contents**	
Standard and Frequency	**5G NR:** n1/n2/n3/n5/n7/n8/n20/n28/n41/n66/n71/n77/n78/n79 **LTE:** B1/B2/B3/B4(66)/B5(18/19/26)/B7/B8/B12(17)/B13/B14/B20/B25/B26/B28/B29/B30/B38/B39/B40/B41/B42/B43/ B46/ B48/B71	**5G NR:** n1/n3/n5/n8/n28/n41/n78/n79 **LTE-FDD:** B1/B3/B5/B8 **LTE-TDD:** B34/B38/B39/B40/B41
	Note: Different modules can be selected based on customer requirements to support various network standards.	
Theoretical Bandwidth	**5G NR**：downlink 3.4Gbps, uplink 350Mbps **LTE Cat20**：downlink 2.0Gbps, uplink 150Mbps **HSPA+**：downlink 42Mbps, uplink 5.76 Mbps	**5G NR**：downlink 226Mbps, uplink 120Mbps **LTE**：downlink 200Mbps, uplink 100Mbps
Hardware System		
Items	**Contents**	
CPU	CPU@880MHz，Dual Core	
FLASH	128MB	
DDR3	512MB	

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WIFI Specification		
Model	FTV300-5G	FTV300-5R
Items	Contents	
WIFI Protocol	IEEE802.11 a/b/g/n/ac/ax (WIFI 6)	
Frequency	2.4GHz + 5GHz	
Theoretical Bandwidth	2.4GHz 2x2MIMO 11ax (WIFI 6), 0.573 Gbps 5GHz 2x2MIMO 11ax (WIFI 6), 1.2 Gbps	
WIFI Bandwidth	20MHz, 40MHz, 80MHz	
MESH Network	Support Four-Faith router and CPE to build the MESH network	
Interfaces		
Items	Contents	
Power	M12 A-coded male connector with built-in reverse power protection	
Ethernet	M12 X-coded female connector 4× 1GE Ethernet ports (RJ45), auto MDI/MDIX; ETH1 is LAN by default and configurable as WAN	
Serial	1× RS232: RX, TX, GND, 1× RS485: A, B	
Indicator	LED Indicators: PWR, SYS, WiFi, Online ACT, Signal (3-level signal strength indicator) ETH1, ETH2, ETH3, ETH4	
SIM Card	2× Nano SIM cards (eSIM compatible)	
Antenna	**Cellular:** 4× FAKRA D-coded male, purple (dual antennas for 4G or RedCap) **WiFi:** 2× FAKRA I-coded male, beige **GNSS:** 1× FAKRA C-coded male (for positioning models), blue	
Reset Button	Supports restoring parameters to factory defaults	
Certification		
Items	Contents	
Certification	Third-party test reports (IP40 protection level test, vibration test, etc.)	
Items	Contents	
Casing	Metal housing, IP40	
Dimensions	226 × 160 × 36 mm (excluding antennas and accessories)	
Weight	930g	
Operating Temperature	-35 to +75ºC	
Storage Temperature	-40 to +85ºC	
Humidity	95% (non-condensing)	

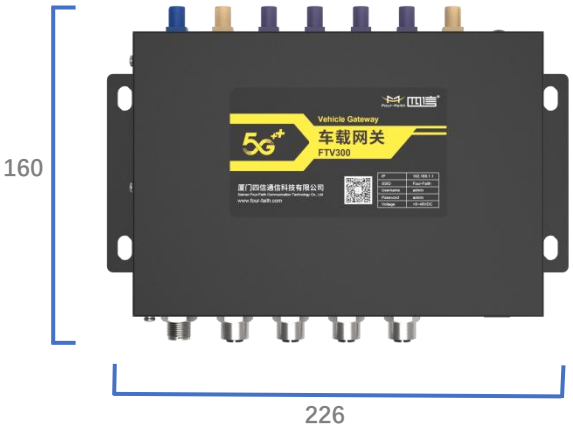
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Physical Properties	
Items	**Contents**
Shell	Metal shell, protection level IP30
Size	141x131.3x25 mm (Excluding antennas and mounts)
Weight	700g
Operating Temperature	-35~+75ºC（-31~+167℉）
Storage Temperature	-40~+85ºC（-40~+185℉）
Relative Humidity	95% (No condensation)

GNSS Specification		
Model	FTV300-NR-Beidou	FTV300-NR-GPS
Items	**Contents**	
Satellite Reception Frequency	BDS：B1I，B1C	BDS/GPS
Total Channels	88	Supports full-constellation BDS and GPS simultaneous reception
Data Update Rate	Default 1Hz	Default 1Hz, configurable up to 10Hz
Positioning Accuracy	<2m CEP	<2.5m CEP
Speed Accuracy	<0.1m/s CEP	<0.1m/s（1σ）
Time to First Fix (TTFF)	Hot Start: ≤1s, Cold Start: ≤32s	
Data Format	NMEA 0183 Protocol	
Power Consumption	<19mA@3.3V	<25mA @3.3V
Average Power Consumption	< 500mA (12V)	

Dimension (mm)





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Order Information

Models	Description
FTV300-5G	Cellular (5G NR), 2.4G/5.8G WIFI, SIM*2(or eSIM), GPS/Beidou Optional
FTV300-5R	Cellular (5G RedCap), 2.4G/5.8G WIFI, SIM*2(or eSIM)，GPS/Beidou Optional