



G6700 5G EDGE Computing Gateway



Yinghua G6700 series 5G IoT EDGE Gateway is designed for eMBB and URLLC applications which require higher speed, lower latency, and super edge computing capability. It uses OpenWrt based Linux OS, and offers C/C++, Python programmable embedded environment for IoT developers and programmers to implement their applications in easy way. It has rich I/O interface, like Gigabit Ethernet port, RS232/RS485, DI/DO, USB, WIFI, GPS, and rich protocols such as MQTT, Modbus RTU/TCP, Modbus to Json, TCP/UDP, to collect and transfer the data from diverse sensors and controllers to the server, also remotely control the equipment. It is using Industrial Grade equipment design standards, passed CE,FCC and EMC test, stable and reliable, widely used in Smart Energy, Agriculture, Traffic, Finance, industry 4.0 and other IoT projects.

MEET THE G6700 IOT EDGE COMPUTING GATEWAY

1. Super edge computing capability

The IoT Gateway device can realize edge node data optimization and real-time response. It will analyze, filter and judge the collected data, and then transmit valid data to the server to effectively share the load of cloud computing resources

2. Support user secondary development

It adopts ARM architecture high-end processor and standard Linux system, integrates Python development environment and C++, provides standard API interface and development guidance. Users can easily call various interfaces and resources of the system.

3. Rich interface

It is integrated 5 Gigabit Ethernet port, 1-RS232, 1-RS485, 2-DI, 3-ADC, 3-DO(Relay) TF card slot, 2.4G/5G WIFI, GPS interface, and supports Router functions.

4. Support third-party platform, Compatible with a variety of industry protocols

Support Alibaba Cloud, Huawei Cloud, Microsoft, Amazon, Schneider, Siemens and other platforms to access. Compatible with mainstream industrial protocols of various devices, such as MQTT, Modbus TCP/RTU, Modbus to Json, Profibus-DP, Profinet, OPC UA, etc.

5. Large memory

Support data storage and export, no data loss after power failure, automatic transmission of stored data after the network returns to normal

6. Cloud management

Through the IoT management platform, you can monitor the equipment status in real time, and modify equipment parameters remotely, to reduce operation and maintenance costs, and improve efficiency.

7. A variety of communication methods to ensure the stable operation of the network

The gateway integrates 5G, WAN, LAN and WIFI, supports wired and wireless backup for each other, and it can communicate with multiple servers at the same time.

8. Fast speed

Support global 5G SA/NSA Sub-6 mode, provide ultra-high data rates and ultra-low latency.

SPECIFICATIONS

MOBILE

Mobile module	5G SA Sub-6 - up to 2.1 Gbps downlink, 450 Mbps uplink 5G NSA Sub-6 - up to 2.5 Gbps downlink, 600/650 Mbps uplink LTE - up to 1 Gbps downlink, 200 Mbps uplink
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Status	Signal strength (RSSI), Attached network, IMSI, ICCID
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APN	Auto APN, Customized APN
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WIRELESS

Wireless mode	IEEE 802.11b/g/n/ac, Access Point (AP)
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WiFi security	WPA2-PSK, WEP, WPA-EAP, WPA-PSK; AES-CCMP, TKIP, Auto Cipher modes, client separation
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SSID	SSID stealth mode and access control based on MAC address
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WiFi users	Up to 60 simultaneous connections
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PHYSICAL INTERFACE

WAN	1 x WAN port (can be configured to LAN) 1000/100 Mbps, compliance with IEEE 802.3, IEEE 802.3af standards, supports auto MDI/MDIX
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LAN	4 x LAN port, 1000/100 Mbps, compliance with IEEE 802.3, IEEE 802.3u standards, supports auto MDI/MDIX The LAN ports can offer POE power to other devices, 802.3af(Optional).
Serial	1-RS232, 1-RS485. 3.5 mm female socket with lock
SD Card Slot	1x Micro SD interface, Up to 32G, for User Program, Data Storage and Firmware Upgrade
I/O	3.5 mm female socket with lock 2 x DI (0-30V Input), Status “0” : 0-3V, status “1” : 5-30V 3 x Relay Output (Up to 5A and 30VDC/250VAC switch) 3 x 16-bit Analog Input, supports 4-20mA current signal input, and 0-5V voltage signal input 2 x Power Output (12V output, current 1A), Built-in overcurrent protection, for external devices DC power input
GPS (Option)	Built in external GPS module
SIM	1 Standard SIM card slot, 1.8 V/3 V, external SIM holder
Antenna	4 x SMA for 5G, 2 x SMA for WiFi antenna connectors
LED	3 x Signal strength LEDs, 1 x Alarm LED, 1 x Run status LED, 1 x Power LED, 1 x VPN status LED, 1 x WIFI LED
Reset	Reboot/Factory reset button

NETWORK

Routing	Static routing, Dynamic routing (BGP, OSPF v2, RIP v1/v2, RIPng, OSPF6)
Network protocols	TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, TLS, ARP, VRRP, OSPF, PPPoE, UPnP, SSH, DHCP, Telnet client, SNMP
Serial Port	MQTT, Transparent (TCP Client/Server, UDP Client/Server), Modbus Gateway (Modbus RTU to Modbus TCP)
Connection monitoring	Ping Reboot, Periodic Reboot, LCP and ICMP for link inspection
Firewall	SPI Firewall, DoS attack, VPN traversal, Access Control, Port Mapping, DMZ Mapping, Access Control List(ACL), IP-MAC binding and Clone function
DHCP	Static and dynamic IP allocation, DHCP Relay
QoS	Traffic priority queuing by source/destination, service, protocol or port
DDNS	Supported >25 service providers, others can be configured manually
Network backup	VRRP, Mobile and Wired, each of which can be used as backup, using automatic failover

SECURITY

Attack prevention	DDOS prevention (SYN flood protection, SSH attack prevention, HTTP/HTTPS attack prevention)
VLAN	Port and tag based VLAN separation

WEB filter	Blacklist for blocking out unwanted websites, whitelist for specifying allowed sites only
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Access control	Flexible access control of TCP, UDP, ICMP packets, MAC address filter
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VPN

OpenVPN	Multiple clients can be running simultaneously, 10 encryption methods
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OpenVPN Encryption	DES-CBC, RC2-CBC, DES-EDE-CBC, DES-EDE3-CBC, DESX-CBC, BF-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-128-CBC, AES-192-CBC, AES-256-CBC
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IPsec	IKEv1, IKEv2, supports up to 10 x VPN IPsec tunnels (instances), with 5 encryption methods (DES, 3DES, AES128, AES192, AES256)
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GRE	GRE tunnel
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PPTP, L2TP	Client/Server services can run simultaneously
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SERIAL TRANSMISSION

TCP/UDP SERVER

Parameters	Port, Baud rate, Parity, Data bits, Stop bits, Flow control
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TCP/UDP CLIENT

Parameters	Port, Baud rate, Parity, Data bits, Stop bits, Flow control, Heartbeat
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Data center	Supported 4 server run simultaneously
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MONITORING & MANAGEMENT

WEB UI	HTTP, status, configuration, FW update, troubleshoot, event log, system log, kernel log
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FOTA	Firmware update from sever, automatic notification
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SNMP	SNMP (v1, v2, v3)
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IOT PLATFORMS

Cloud of Things	Allows monitoring Network info, Availability
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Configure	Configure parameters, Update firmware
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SYSTEM CHARACTERISTICS

CPU	32-bit, ARM 880MHz, dual core
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RAM	256 MB, DDR3
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FLASH	128MB, SPI
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FIRMWARE / CONFIGURATION

WEB UI	Update FW from file, check FW on cloud, configuration backup and restore
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FOTA	Update FW/configuration from cloud platform
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RMS	Update FW/configuration for multiple devices
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Keep settings	Update FW without losing current configuration
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POWER

Connector	2-pin with 3.5 mm terminal block
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Input voltage range	5 – 35 VDC, reverse polarity protection, surge protection
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Power consumption	< 9 W Max
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PHYSICAL SPECIFICATION

Casing material	Metal housing, DIN rail mounting
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Dimensions (W x H x D)	208 x 125x 48 mm
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Weight	990 g
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OPERATING ENVIRONMENT

Operating temperature -40 °C to 75 °C

Operating humidity 10% to 90% non-condensing

Ingress Protection Rating IP30

REGULATORY & TYPE APPROVALS

Regulatory CE, FCC, CCC

EMI IMMUNITY

Standards Draft EN 301 489-1 V2.2.0, Draft EN 301 489-17 V3.2.0, Draft EN 301 489-52 V1.1.0
FCC 47 CFR Part 15B (2017), ANSI C63.4 (2014)

ESD EN61000-4-2:2009

RS EN 61000-4-3:2006 + A1:2008 + A2:2010

EFT EN 61000-4-4:2012

Surge immunity (AC
Power Line) EN 61000-4-5:2006

Surge immunity (Ethernet ports) EN 61000-4-5:2014, clause 7.1 of ITU-T K21

CS EN 61000-4-6:2009

DIP EN 61000-4-11:2004

RF

Standards EN 300 328 V2.1.1, EN 301 511 V12.5.1, EN 301 908-1 V11.1.1, EN 301 908-2 V11.1.1, EN 301 908-13 V11.1.1
FCC 47 CFR Part 15C (2017), FCC 47 CFR Part 2 (2017), FCC 47 CFR Part 22H (2017), FCC 47 CFR Part 24E (2017),
FCC 47 CFR Part 27C (2017)
RSS-Gen Issue 4 (2014), RSS-247 Issue 2 (2017), RSS-132 Issue 3 (2013), RSS-133 Issue 6 (2013), RSS-139 Issue 3,
RSS-130 Issue 1
AS/CA S042.1:2018, AS/ACIF S042.3:2005, AS/CA S042.4:2018, AS/NZS 4268:2017

ORDER

Model	Region	5G Band
G6700-RM500Q-AE	Global	5G NR NSA: n1/n2/n3/n5/n7/n8/n12/n20/n25/ n28/n38/n40/n41/n48/n66/n71/ n77/n78/n79 5G NR SA: n1/n2/n3/n5/n7/n8/n12/n20/n25/ n28/n38/n40/n41/n48/n66/n71/ n77/n78/n79 LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12(B17)/ B13/B14/B18/B19/B20/B25/B26/ B28/B29/B30/B32/B66/B71 LTE-TDD: B34/B38/B39/B40/B41/B42/B43/B48

G6700-RM500Q-GL	Global (except the USA)	5G NR NSA: n41/n77/n78/n79 5G NR SA: n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48*/n66/n71/n77/n78/n79 LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/ B14/B17/B18/B19/B20/B25/B26/ B28/B29/B30/B32/B66/B71 LTE-TDD: B34/B38/B39/B40/B41/B42/B43/B48
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STANDARD PACKAGE

				
G6700 5G IOT Gateway	24W PSU	Ethernet cable, 1m	4 5G antenna, 1.5m cable	2 WiFi antenna

Note: The PSU can be customized.