

Product Specifications

Industrial 4G LTE Cellular Gateway with 4-Port 10/100TX

ICG-2420-LTE-EU/US

ICG-2420G-LTE-EU/US

Version 1.1

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Change History:

Revision	Date	Author	Change List
1.1	2017/8/31	Bryant Wu	Add ICG-2420G Series
1.0	2017/8/11	Bryant Wu	Initial release

Author	Bryant Wu	Editor:	Bryant Wu
Reviewed by:		Approved by:	Kent Kang

1. PRODUCT DESCRIPTION



Making Network Connection Easy with 4G LTE Cellular Gateway

PLANET ICG-2420(G) series is a highly-reliable and secure cellular communications gateway for industrial networking. With four Ethernet ports (3 LAN and 1 WAN) and LTE (Long Term Evolution), the ICG-2420(G) series offers the cellular connection for at least 3 devices. In addition, it supports LTE 2x1 DL MIMO technology which can reach a download (DL) speed of up to 150Mbps and an upload (UL) speed of 50Mbps. The Cellular Gateway also supports multi-band connectivity including GSM, WCDMA and LTE FDD/TDD for a wide range of applications and vertical machine-to-machine (M2M) platform. The IGS-2420(G) series is specially designed for deploying cellular communications networks for heavy industrial use with wide temperature range from **-20 to 70** degrees C.

Dual SIM Design

To enhance reliability, the ICG-2420(G) series is equipped with dual SIM slots that support failover and roaming over to ensure uninterrupted connectivity for mission-critical cellular communications.

GPS Included (ICG-2420G-LTE Series Only)

The ICG-2420G-LTE series is equipped with one convenient feature and that is GPS (Global Positioning System). It is a positioning system based on a network of satellites that continuously transmits necessary data. More signals transmitted from more satellites can triangulate its location on the ground, meaning any location can be easily tracked.

Cost-effective VPN Solution

The ICG-2420(G) series provides a complete data security and privacy feature for access and exchange of sensitive data. The full VPN capability of the ICG-2420(G) series including built-in **OpenVPN** and **IPSec VPN** functions with DES/3DES/AES encryption and MD5/SHA-1 authentication makes the shared connection more secure and flexible. The IPSec VPN also makes the private tunnel over Internet more secure for enterprises doing business transactions.

Remote Manageable Solution for Ethernet to RS232/RS485 Application

PLANET ICG-2420(G) series' serial RS232/RS485 communication interface can be converted over the Fast Ethernet networking. It can operate as a virtual server or client where IP-based serial equipment can be managed. The ICG-2420(G) series helps save the network administrator's valuable time in detecting and locating network problems, rather than visual inspection of cabling and equipment.

Superior Management Functions

The ICG-2420(G) series provides convenient management interface that can be managed easily through standard web browsers. For networking management features, the ICG-2420(G) series provides such functions as DMZ and Port Forwarding, as well as full secure functions including IP/URL/MAC filtering.

User-friendly and Secure Management

For efficient management, the ICG-2420(G) series is equipped with console, web and SNMP management interfaces. With the built-in web-based management interface, the ICG-2420(G) series offers an easy-to-use, platform-independent management and configuration facility. The ICG-2420(G) series supports SNMP and it can be managed via any management software based on the standard SNMP v1 or v2 Protocol. Moreover, the ICG-2420(G) series offers the remotely secure management by supporting **SSHv2** and **SNMP v3** connection where the packet content can be encrypted at each session.

IPv6/IPv4 Dual Stack Capability

The ICG-2420(G) series supports both IPv4 and IPv6 Protocols. As more network devices are growing and the needs for larger addressing and higher security become critical, the ICG-2420(G) series is the best solution for applications of 4G LTE and serial communication to connect with the IPv6 network.

2. PRODUCT FEATURES

➤ **Physical Port**

- 3 10/100BASE-TX RJ45 LAN ports, auto-negotiation, auto MDI/MDI-X
- 1 10/100BASE-TX RJ45 WAN port, auto-negotiation, auto MDI/MDI-X
- 2 4G LTE 2dBi antennas
- 2 SIM card slots
- 1 GPS antenna (ICG-2420G-LTE Series)
- 3 console interfaces (2 RS232 and 1 RS485)
 - COM1 (RS232 for management and setup)
 - COM2 (RS232 for remote serial device)
 - COM3 (RS485 for remote serial device)
- One DIP switch to improve the communication of RS485 networks

➤ **Cellular Interfaces**

- Supports multi-band connectivity with FDD LTE/ TDD LTE/ WCDMA/ GSM/ LTE Cat4
- Built-in dual SIM for network redundancy
- Two detachable antennas for protection against radio interference
- LED indicators for connection and data transmission status

➤ **Industrial Case and Installation**

- IP40 aluminum case
- DIN-rail design
- Power requirement: 10~32V DC
- Supports EFT protection for 2000V DC power and 6000V DC Ethernet ESD protection
- -20 to 70 degrees C operating temperature

➤ **Digital Input and Digital Output (Alarm)**

- 2 digital input (DI)
- 1 digital output (alarm)
- Integrates sensors into auto alarm system
- Transfers alarm via SNMP trap

➤ **Advanced Features**

- Supports demilitarized zone (DMZ).
- Supports OpenVPN
- Supports IPSec (3DES, AES128, AES196, AES256, MD5, SHA-1, SHA256)
- Supports Modbus TCP (Only functions with COM3 RS485)
- Supports Port Forwarding
- Supports Dynamic DNS and PLANET DDNS
- Supports WAN connection types: DHCP client, static IP and PPPoE client
- Secures network connection
 - IP filter
 - URL filter
 - MAC filter

➤ **Management**

- IPv4 and IPv6 dual stack management
- Switch management interfaces
 - Console/Telnet Command Line interface
 - Web switch management
 - SNMP v1, v2c, and v3
 - SSHv2 secure access
- IPv6 IP address/DNS management
- System Maintenance
 - Firmware upload via HTTP
 - Reset button for system reboot or reset to factory default
 - Dual images
- SNTP (Simple Network Time Protocol)
- TR069
- System log
- Remote system log
- SNMP trap for interface Link Up and Link Down notification
- Configuration backup and restore

3. PRODUCT SPECIFICATIONS

3.1 MAIN COMPONENTS

Main Chip:	i.MX6UL	x 1
PHY:	KSZ8081,KSZ8794	x 2
CPU:	i.MX6UL 528MHz	x 1
Flash:	MXIC MX30LF2G18AC (2Gbit)	x 1
DDR RAM:	DDR3 NT5CC256M16 (512Mbyte)	x 1
Cellular Module	ICG-2420(G)-LTE-EU: Quectel EC25-E ICG-2420(G)-LTE-US: Quectel EC25-A	x 1

3.2 FUNCTION SPECIFICATIONS

Product	ICG-2420-LTE	ICG-2420G-LTE
Hardware Specifications		
Copper Ports	3 LAN 10/100BASE-TX RJ45 auto-MDI/MDI-X ports 1 WAN 10/100BASE-TX RJ45 auto-MDI/MDI-X port	
Serial Interface	3 serial interfaces (2 RS232 and 1 RS485) COM1 (RS232 for management and setup) (115200, N, 8, 1) COM2 (RS232 TXD/RXD for remote serial device) COM3 (RS485 D+/D- for remote serial device)	
SIM Interface	2 SIM card slots with mini SIM card tray	
Cellular Antenna	2 2dBi external antennas with SMA connectors for LTE	
GPS Antenna	-	1 28dB gain external antennas with SMA connectors - 2m
DI & DO Interfaces	<ul style="list-style-type: none"> ■ 2 Digital Input (DI): Level 0: 0V~3V (±0.1V) Level 1: 10V~30V (±0.1V) ■ 1 Digital Output (alarm): Open collector to 50V DC, 500mA (max.) 	
Connector	Removable 3-pin terminal block for power input Removable 11-pin terminal block for DI/DO and serial interface	
Switch Architecture	Store-and-Forward	
Address Table	1K entries, automatic source address learning and aging	
Flow Control	IEEE 802.3x pause frame for full-duplex Back pressure for half-duplex	
Reset Button	< 5 sec: System reboot > 10 sec: Factory default	
Surge Protection	2KV DC	
ESD Protection	6KV DC	

Enclosure	IP40 aluminum case	
Installation	DIN rail kit	
LED	<p>System: SYS (Green)</p> <p>Ethernet Interfaces (Port1-3 and WAN Port): LNK/ACT (Green) 100 (Orange) 10 (off)</p> <p>LTE SIM and Signal : VPN (Green) SIM1 and SIM2 (Green) Cellular signal: High and low (Green)</p>	
Dimensions (W x D x H)	60 x 106 x 110 mm	
Weight	452g	457g
Power Requirements – DC	10~32V DC, 1A	
Power Consumption	7 watts/24 BTU	
Multi Band Supports		
EU Model	<ul style="list-style-type: none"> ■ FDD LTE B1/B3/B5/B7/B8/B20 (2100/1800/850/2600/900/800) ■ TDD LTE B38/B40/B41 (2600/2300/2500) ■ WCDMA B1/B5/B8 (2100/850/900) ■ GSM/EDGE B3/B8 (1800/900) 	
US Model	<ul style="list-style-type: none"> ■ FDD LTE B2/B4/B12 (1900/AWS1700/700) ■ WCDMA B2/B4/B5 (1900/AWS1700/850) 	
LTE Data Rate	20MHz bandwidth: 150Mbps (DL), 50Mbps (UL)	
Advanced Functions		
VPN	<p>Tunnel Number</p> <ul style="list-style-type: none"> ■ OpenVPN: 10 ■ IPSec 12: <p>IPSec: Encryption Algorithm: 3DES/AES128/AES196/AES256 Integrity Algorithm: MD5/SHA1/SHA256</p>	
WAN Connection Types	<p>DHCP Client</p> <p>Static IP</p> <p>PPPoE Client</p>	
Secure Network	<p>IP filter</p> <p>URL filter</p> <p>MAC filter</p>	
Other	<p>Supports demilitarized zone (DMZ)</p> <p>Supports Modbus TCP (only functions with COM3 RS485)</p> <p>Supports Port Forwarding</p>	

	Supports Dynamic DNS and PLANET DDNS
Management	
Basic Management Interfaces	Console; Telnet; Web browser; SNMP v1, v2c, TR069
Secure Management Interfaces	SSHv2, SNMP v3
SNMP MIBs	RFC 1213 MIB-II RFC 1643 Ethernet MIB RFC 2665 Ether-Like MIB RFC 4293 IP MIB
Standards Conformance	
Regulatory Compliance	FCC Part 15 Class A, CE
Standards Compliance	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3x flow control and back pressure RFC 768 UDP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP
Environment	
Operating	Temperature: -20 ~ 70 degrees C Relative Humidity: 5 ~ 95% (non-condensing)
Storage	Temperature: -40 ~ 85 degrees C Relative Humidity: 5 ~ 95% (non-condensing)

3.3 PHYSICAL SPECIFICATIONS:

■ **Dimensions:**

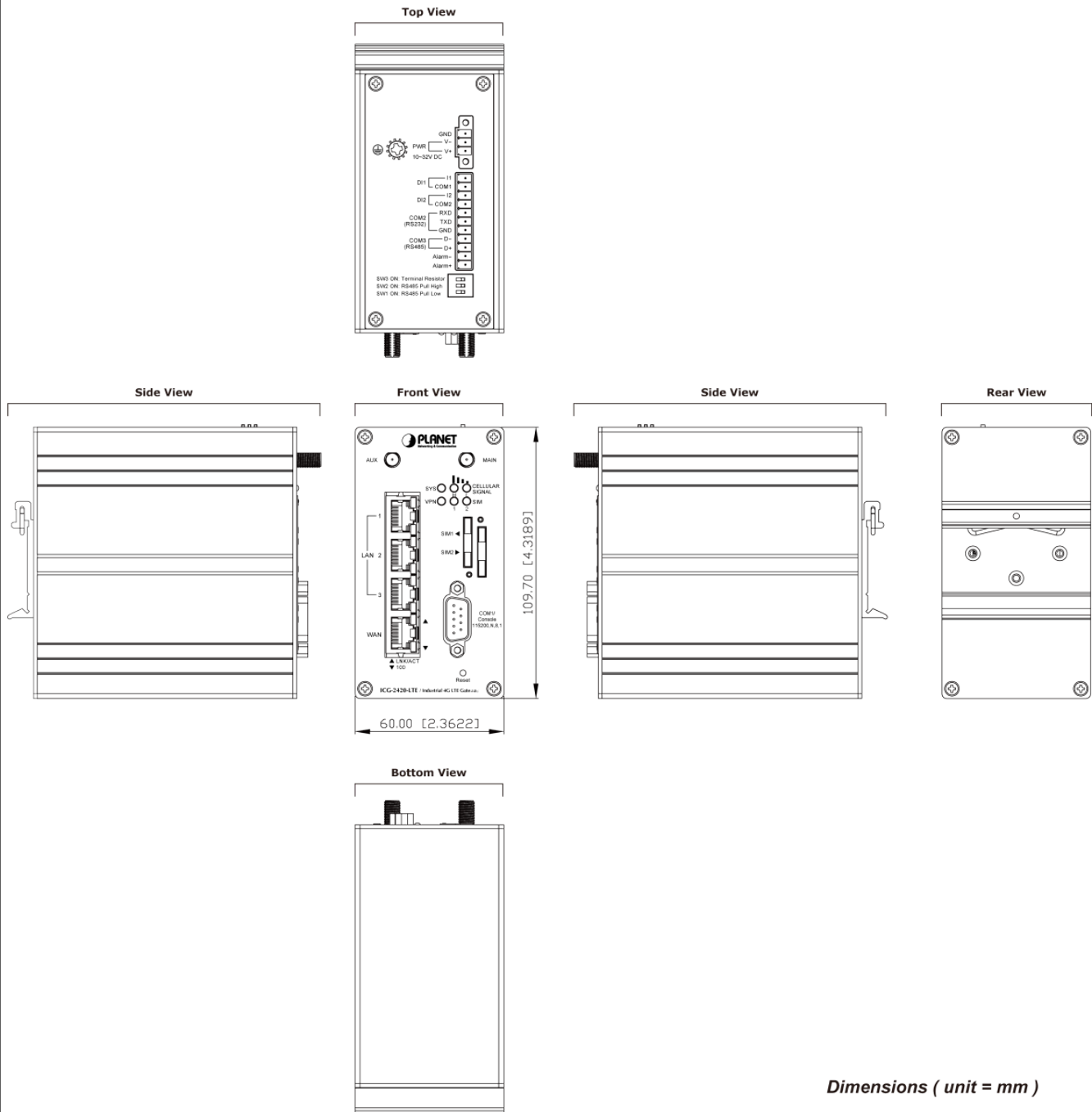
60 x 106 x 110 mm (W x D x H)

■ **Weight:**

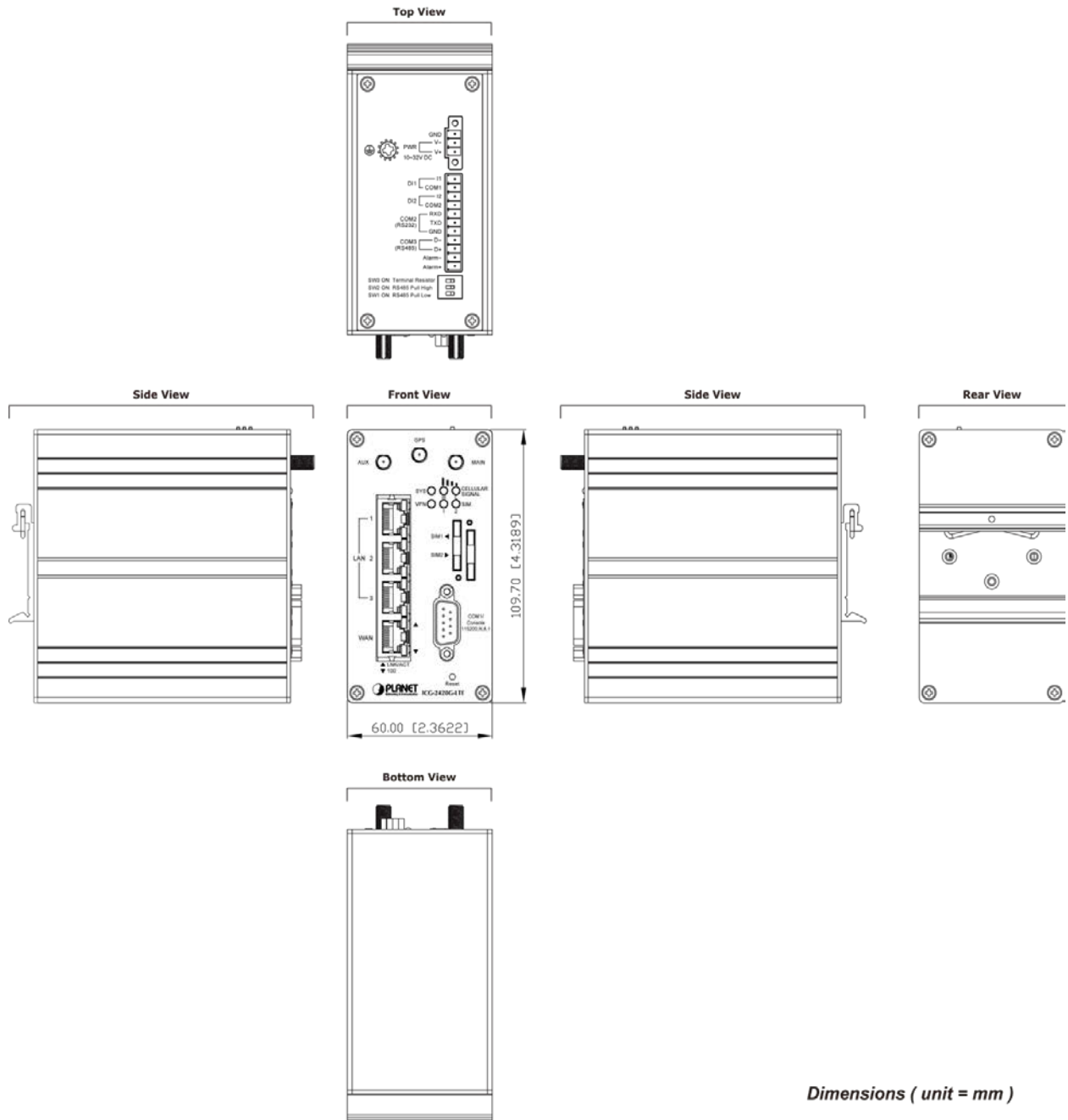
452g

■ **Three View**

ICG-2420-LTE:

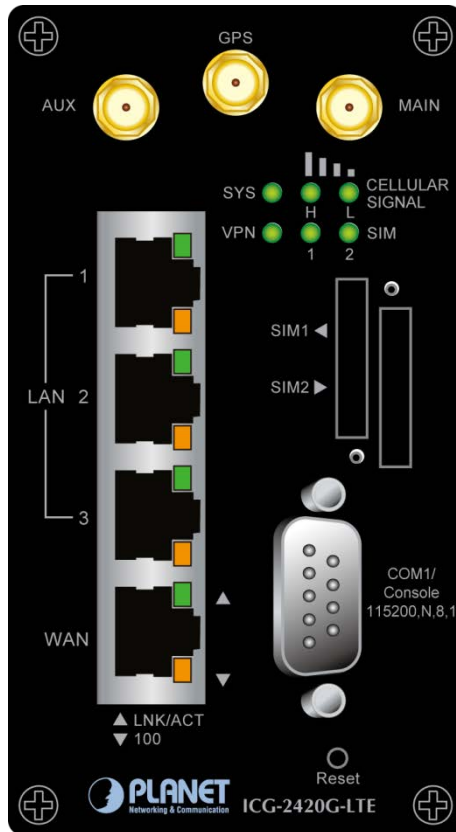


ICG-2420G-LTE:



Dimensions (unit = mm)

Front View



■ LED Definition

■ System

LED	Color	Function	
SYS	Green	Lights	Indicates the system is working on properly.
		Slow Blinking	Indicates the system is booting
		Off	Indicates the system is down.
VPN	Green	Lights	Indicates the VPN is connected.
		Slow Blinking	Indicates the WAN is connected.
		Off	Indicates the WAN is not connected.
Cellular Signal (L)	Green	Lights	Indicates the signal is low.
Cellular Signal (H)	Green	Lights	Indicates the signal is normal or high.
SIM1 & 2	Green	Lights	Indicates the SIM1 or SIM2 is connecting successfully.
		Slow Blinking	Indicates the SIM1 or SIM2 is trying to connect.
		Fast Blinking	Indicates the SIM1 or SIM2 is connecting fail or no SIM card insert.

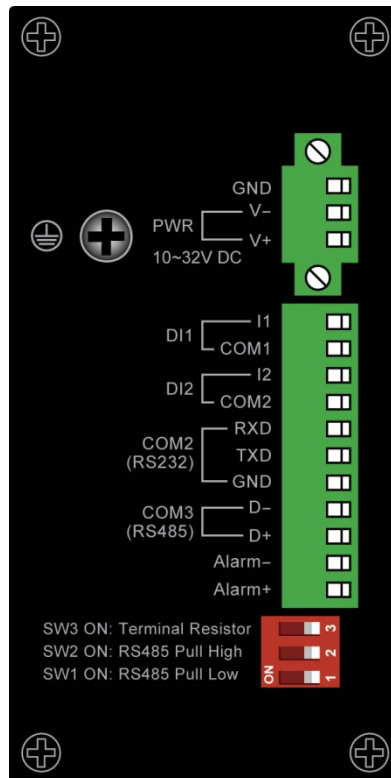
■ 10/100BASE-TX LAN Port Interfaces (Port-1 to Port-3)

LED	Color	Function	
Ethernet	Green	Lights	Indicates that the link is successfully established.
		Blinking	Indicates that the port is actively sending or receiving data.
	Orange	Lights	Indicates that the port is operating at 100Mbps.
		Off	Indicates that the port is operating at 10Mbps.

■ 10/100BASE-TX WAN Port Interfaces

LED	Color	Function	
Ethernet	Green	Lights	Indicates that the link is successfully established.
		Blinking	Indicates that the port is actively sending or receiving data.
	Orange	Lights	Indicates that the port is operating at 100Mbps.
		Off	Indicates that the port is operating at 10Mbps.

■ Upper Panel:



3.4 ENVIRONMENTAL SPECIFICATIONS

Operating:

- Temperature:** -20 ~ 70 degrees C
- Relative Humidity:** 5% ~ 95% (non-condensing)

Storage:

- Temperature:** -40 ~85 degrees C
- Relative Humidity:** 5% ~ 95% (non-condensing)

3.5 ELECTRICAL SPECIFICATIONS

Full Load: 7 watts

3.6 REGULATORY COMPLIANCE

FCC Part 15 Class A, CE

3.7 RELIABILITY

MTBF > 100,000hrs @ 25 degrees C

3.8 BASIC PACKAGING

<input checked="" type="checkbox"/> The ICG-2420(G)-LTE-EU/US Cellular Gateway	x 1
<input checked="" type="checkbox"/> Quick Installation Guide	x 1
<input checked="" type="checkbox"/> 2dBi Antenna	x 2
<input checked="" type="checkbox"/> 2m GPS Antenna	x 1
<input checked="" type="checkbox"/> 1.5m Cat6 UTP RJ45 Cable	x 1
<input checked="" type="checkbox"/> DIN Rail Kit	x 1
<input checked="" type="checkbox"/> Antenna Dust Caps	x 2

3.9 PACKING DIMENSIONS

Dimensions:	1971 x 652 x 393mm
Weight:	TBD
Quantity:	10pcs in one carton