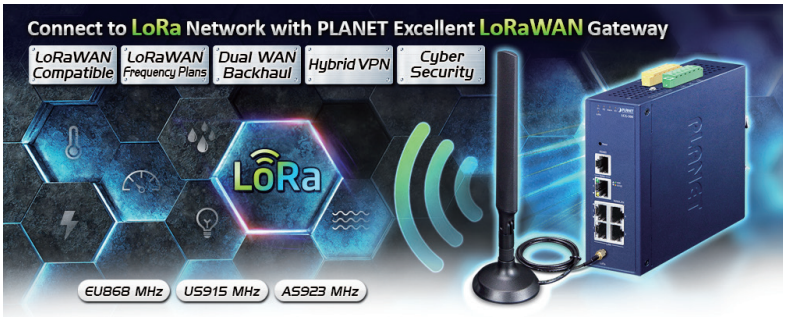
Industrial LoRaWAN Gateway with 5-Port 10/100/1000T

Connect to LoRa Network with Excellent LoRaWAN Gateway

PLANET LCG-300 is an industrial-grade LoRaWAN gateway with reliable connectivity for IoT deployments. With LoRaWAN protocol support, it helps to bridge LoRa wireless network to an IP network. The LoRa wireless allows sensors to transmit data over extremely long ranges with low power consumption. The LCG-300 is fully compatible with LoRaWAN protocol and supports connection with up to 300 end-nodes. It also provides pre-configured standard LoRaWAN frequency bands for different countries. PLANET LCG-300 is a best choice to help you to promote the implementation of AIoT network.



Comprehensive features for Industrial environemnt

The LCG-300 also features five Ethernet ports (4 LANs and 1 WAN), serial port (RS-485), and DI and DO interfaces designed in a compact yet rugged metal case. The LCG-300 also features several main categories across your industrial network deployments:

- SSL VPN and robust hybrid VPN (IPSec/PPTP/L2TP over IPSec)
- Cybersecurity and SPI firewall security protection
- Easy management with setup wizard, DHCP server and dashboard

LoRaWAN Compatibility

LoRaWAN is a low-power, wide area networking protocol built on top of the LoRa radio modulation technique. LoRaWAN networks and devices such as sensor and gateway allow public or private network to connect multiple applications such as IoT, M2M, smart city, sensor network, and industrial automation applications in the same space.

Highlights

- Supports EU868, US915, AS923 (Sub 1G)
- 8 programmable parallel demodulation paths
- 2 x DI/DO and 1 serial port (RS485) for Modbus applications
- SSL VPN and robust hybrid VPN (IPSec/PPTP/L2TP over IPSec)
- Stateful packet inspection (SPI) firewall and content filtering
- Blocks DoS/DDOS attack, port range forwarding
- Planet NMS controller system and CloudViewer app supported
- -45 to 75 degrees C operating temperature; DIN-rail and fanless designs

Hardware

- **4 x 10/100/1000BASE-T** RJ45 LAN ports, auto-negotiation, auto MDI/MDI-X
- **1 x 10/100/1000BASE-T** RJ45 WAN port, auto-negotiation, auto MDI/MDI-X
- **1 x LoRa** antenna
- **1 x** serial console port (RS485)
- **1 x** reset button

LoRa Interface

- Supports EU868/AU915/US915/AS923(Sub 1G)
- 8 programmable parallel demodulation paths

IP Routing Feature

- Static route
- Dynamic route
- OSPF

Firewall Security

- Cybersecurity
- Stateful Packet Inspection (SPI) firewall
- Blocks DoS/DDoS attack
- Content filtering
- MAC filtering and IP filtering
- NAT ALGs (Application Layer Gateway)
- Blocks SYN/ICMP flooding

VPN Features

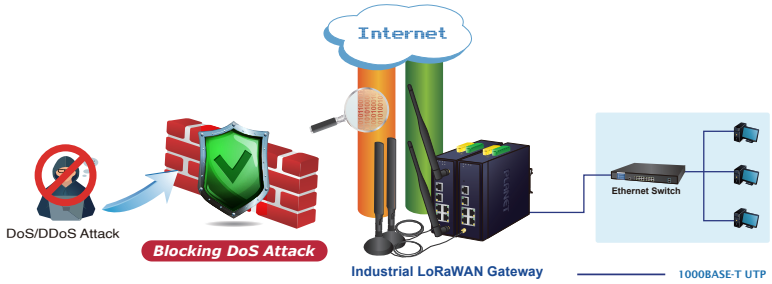
- IPSec/Remote Server (Net-to-Net, Host-to-Net), GRE, PPTP Server, L2TP Server, SSL Server/Client (Open VPN)
- Max. Connection Tunnel Entries: 60 VPN tunnels,
- Encryption methods: DES, 3DES, AES, AES-128/192/256

The LCG-300 is LoRaWAN compatible and make sure it works well with LoRa sensor without any problem.

Excellent Ability in Threat Defense

The LCG-300 has built-in SPI (stateful packet inspection) firewall and DoS/DDoS attack mitigation functions to provide high efficiency and extensive protection for your network. Thus, virtual server and DMZ functions can let you set up servers in the Intranet and still provide services to the Internet users.

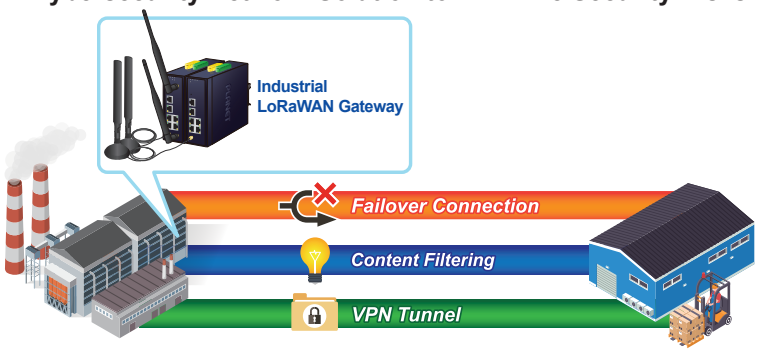
Excellent Ability in Threat Defense



Cybersecurity Network Solution to Minimize Security Risks

The cybersecurity feature included to protect the switch management in a mission-critical network virtually needs no effort and cost to install. For efficient management, the LCG-300 is equipped with HTTPS web and SNMP management interfaces. With the built-in web-based management interface, the LCG-300 offers an easy-to-use, platform independent management and configuration facility. The LCG-300 supports SNMP and it can be managed via any management software based on the standard SNMP protocol.

Cybersecurity Network Solution to Minimize Security Risks



- Authentication methods: MD5, SHA-1, SHA-256, SHA-384, SHA-512

Networking

- Outbound load balancing
- Failover for dual-WAN
- Static IP/PPPoE/DHCP client for WAN
- DHCP server/NTP client for LAN
- Protocols: TCP/IP, UDP, ARP, IPv4, IPv6
- Port forwarding; QoS; DMZ; IGMP; UPnP; SNMPv1,v2c, v3
- MAC address clone
- DDNS: PLANET DDNS, Easy DDNS, DynDNS and No-IP

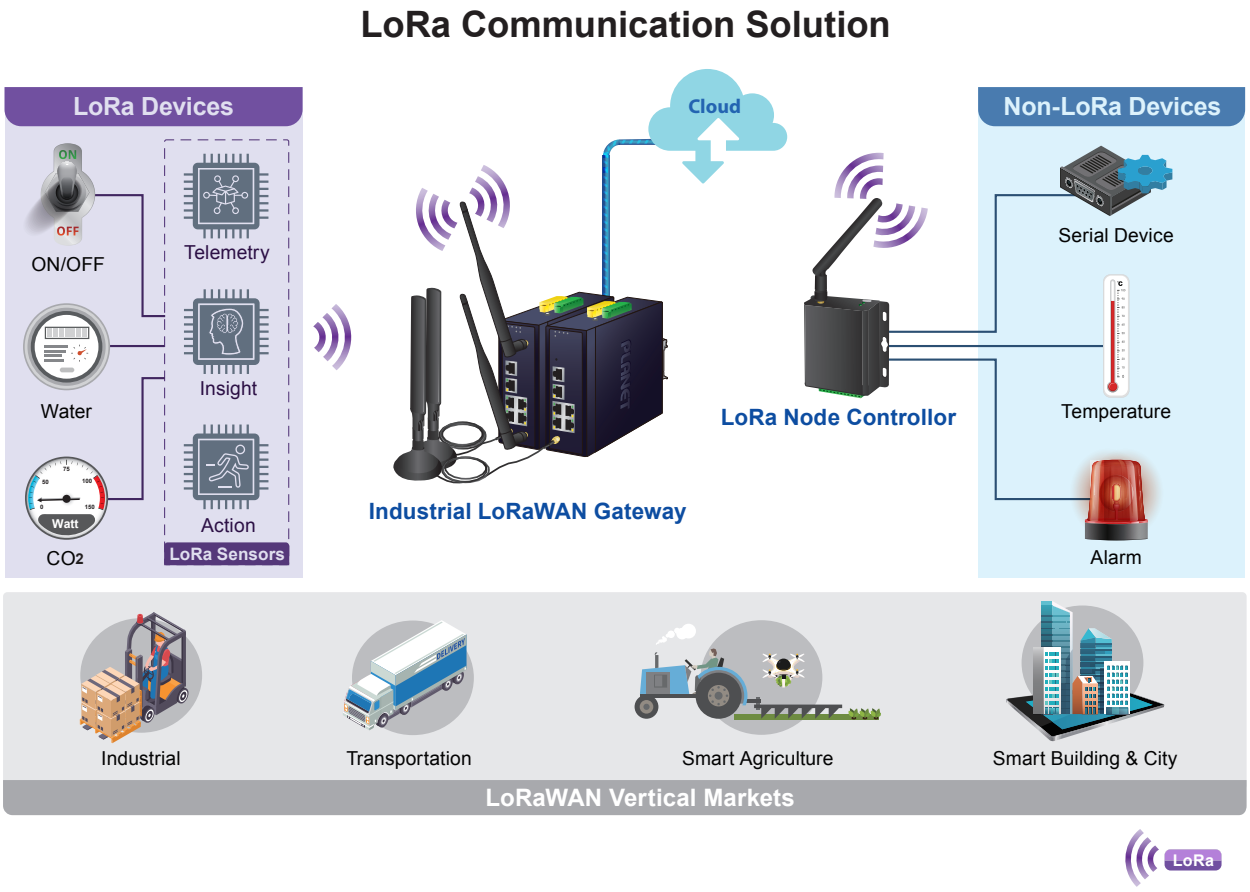
Others

- Setup wizard
- Dashboard for real-time system overview
- Supported access by HTTP or HTTPS
- Auto reboot
- PLANET NMS System and Smart Discovery Utility for deployment management
- Planet CloudViewer app for real-time monitoring

Applications

LoRa Communication Solution

PLANET LCG-300 LoRa gateway supports LoRa and LoRaWAN standard. Transceivers configured with LoRa devices like CO2 and water sensors are embedded into end-nodes, or sensor devices that capture and transmit data to gateways over distances through wireless network. The LCG-300 can send information via Ethernet to the Network Server, which is responsible for network management functions that distribute information to each application accordingly.

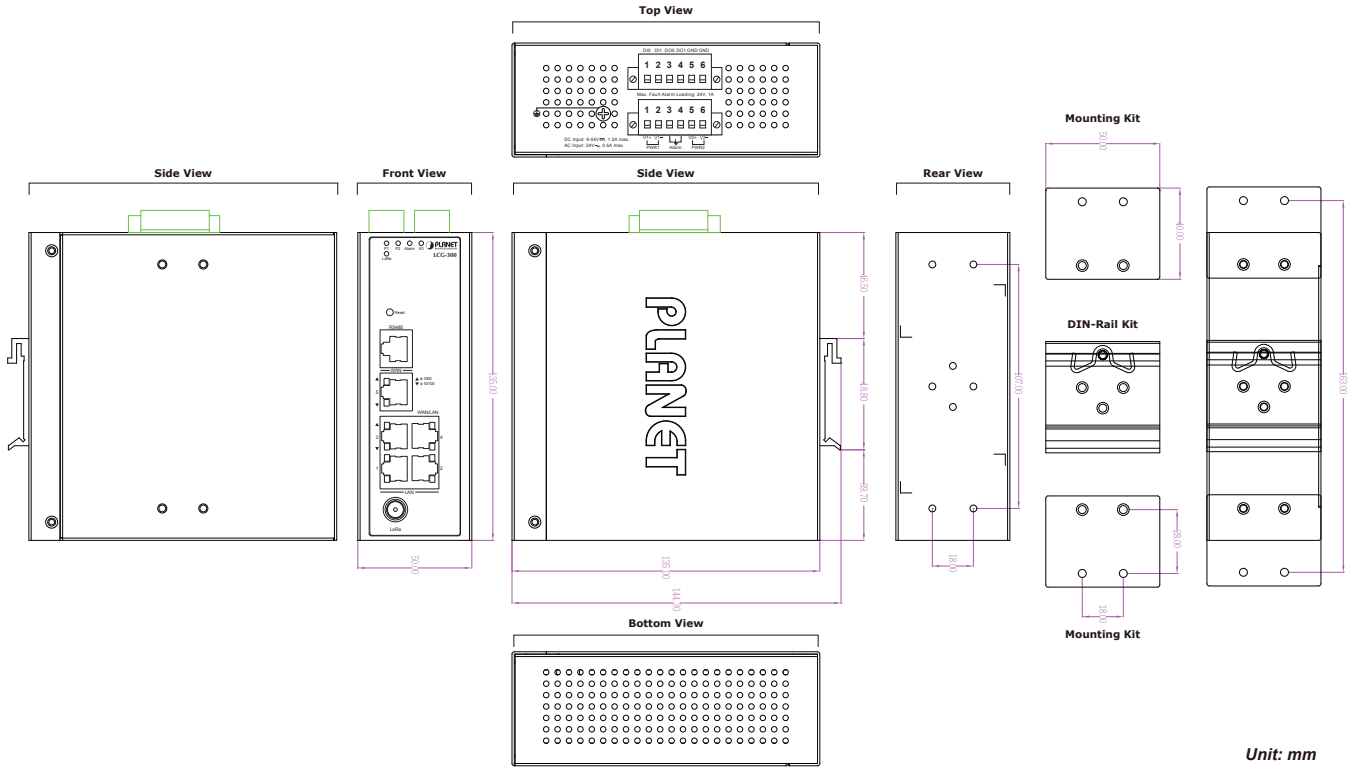


Specifications

Product	LCG-300
Hardware Specifications	
Copper Ports	5 10/100/1000BASE-T RJ45 Ethernet ports including 3 LAN ports (Ports 1 to 3) 1 LAN/WAN port (Port 4) 1 WAN port (Port 5)
Serial Interface	RJ45 serial port
LoRa Antenna	2 dBi external antennas with SMA connectors for LoRa
DI & DO Interfaces	2 Digital Input (DI): Level 0: -24V~2.1V (±0.1V) Level 1: 2.1V~24V (±0.1V) Input Load to 24V DC, 10mA max. 2 Digital Output (DO): Open collector to 24V DC, 100mA max.
Connector	Removable 6-pin terminal block for power input Pin 1/2 for Power 1, Pin 3/4 for fault alarm, Pin 5/6 for Power 2
Reset Button	< 5 sec: System reboot > 5 sec: Factory default
Enclosure	IP30 metal case
Installation	DIN rail, desktop, wall-mounting
LED Indicators	System: P1 (Green) P2 (Green) Alarm (Red) I/O (Red) LoRa (Green) Ethernet Interfaces (Ports 1-4 and WAN Port): 1000 LNK/ACT (Green) 10/100 LNK/ACT (Amber)
Enclosure	IP30 metal case
Installation	DIN-rail, desktop, wall-mounting
Dimensions (W x D x H)	50 x 135 x 135 mm
Weight	0.9 kg
Power Requirements – DC	9~54V DC, 1.3A Max.
Power Consumption	8 watts/ 27.3 BTU
LoRaWAN	
Frequency Band	LCG-300-EU:863~870MHz (IN865/EU868/RU864) LCG-300-US: 902~928MHz (US915/AU915/KR920/AS923)
Receiving Sensitivity	-142.5dBm
Output Power	27dBm Max.
Advanced Functions	
VPN	IPSec/Remote Server (Net-to-Net, Host-to-Net) GRE PPTP Server L2TP Server SSL Server/Client (Open VPN)
VPN Tunnels	Max. 60
VPN Throughput	Max. 60Mbps
Encryption Methods	DES, 3DES, AES or AES-128/192/256 encrypting
Authentication Methods	MD5/SHA-1/SHA-256/SHA-384/SHA-512 authentication algorithm
Management	
Basic Management Interfaces	Web browser SNMP v1, v2c PLANET Smart Discovery utility/UNI-NMS supported
Secure Management Interfaces	SSHv2, TLSv1.2, SNMP v3
System Log	System Event Log

Others	Setup wizard Dashboard System status/service Statistics Connection status Auto reboot Diagnostics
Standards Conformance	
Regulatory Compliance	CE, FCC
Environment	
Operating	Temperature: -40 ~ 75 degrees C Relative humidity: 5 ~ 90% (non-condensing)
Storage	Temperature: -40 ~ 85 degrees C Relative humidity: 5 ~ 90% (non-condensing)

Dimensions



Unit: mm

Ordering Information

LCG-300-EU	Industrial LoRaWAN Gateway with 5-Port 10/100/1000T (2 DI/DO, -40~75 degrees C, EU868 Sub 1G)
LCG-300-US	Industrial LoRaWAN Gateway with 5-Port 10/100/1000T (2 DI/DO, -40~75 degrees C, US915 Sub 1G)

Related Products

LCG-300W	Industrial LoRaWAN Wireless Gateway with 5-Port 10/100/1000T
LN501	IP67 LoRaWAN Node Controller
LN1152	IP30 LoRaWAN Node Controller

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