Industrial 4G LTE Cellular Gateway with 4-Port 10/100TX (2-SIM Card Slot, 2 RS232, 1 RS485, DI/DO, GPS, -20~70 degrees C)

Making Network Connection Easy with 4G LTE Cellular Gateway

This 4G LTE Cellular Gateway is a reliable, secure and high-bandwidth communications industrial-grade cellular gateway for demanding mobile applications, **M2M** (machine-to-machine) and **IoT** deployments. It features **4G LTE** (Long Term Evolution), **four Ethernet** ports (3 LAN and 1 WAN), **serial ports**, **DI** and **DO** interfaces and **VPN** technology bundled in a compact yet rugged aluminum case. It establishes a fast cellular connection between Ethernet and serial port equipped devices.

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
- 1 GPS antenna
- **2** SIM card slots
- 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)

High-performance 4G LTE

The 4G LTE Cellular Gateway 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 LTE FDD/TDD, WCDMA and GSM for a wide range of applications.

Dual SIM Design

To enhance reliability, the 4G LTE Cellular Gateway is equipped with dual SIM slots that support failover and roaming over to ensure uninterrupted connectivity for mission-critical cellular communications. It provides a more flexible and easier way for users to create an instant network sharing service via 4G LTE whenever in public places like transportation, outdoor event, etc.

Dual SIM 4G

GPS Included

The 4G LTE Cellular Gateway 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 transmit necessary data. More signals transmitted from more satellites can triangulate its location on the ground, meaning any location can be easily tracked anytime.

- Supports Modbus TCP (Only functions with COM3 RS485)
- Supports Port Forwarding
- Supports Dynamic DNS
- 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

Cost-effective VPN Solution

The 4G LTE Cellular Gateway provides a complete data security and privacy feature for access and exchange of sensitive data. The full VPN capability of the 4G LTE Cellular Gateway 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.
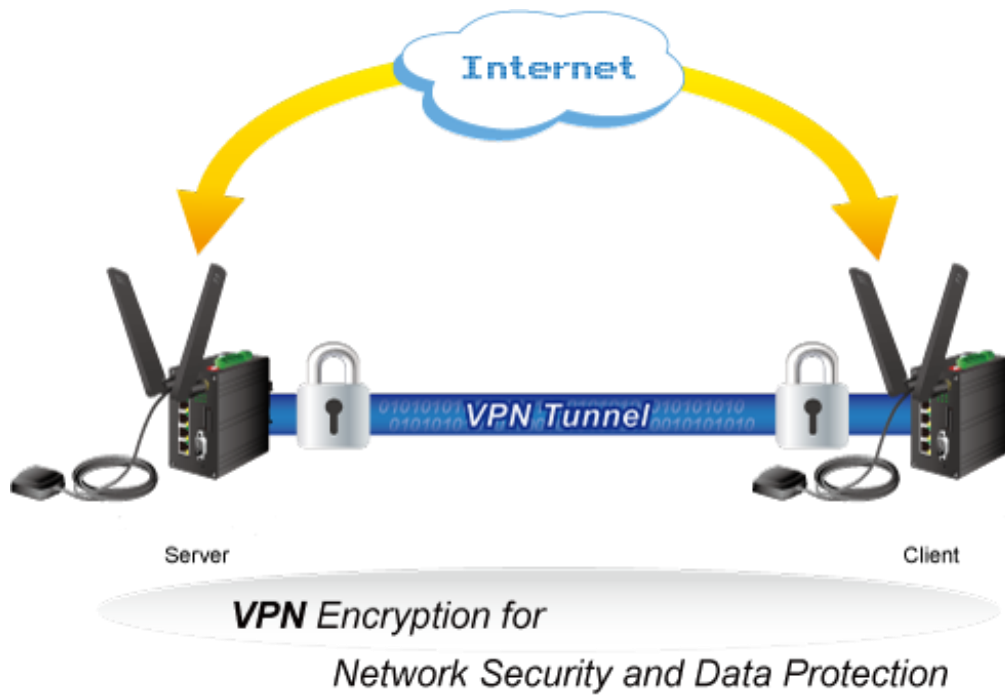
Remote Manageable Solution for Ethernet to RS232/RS485 Applications

4G LTE Cellular Gateway's serial RS232/RS485 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 4G LTE Cellular Gateway helps save the network administrator's valuable time in detecting and locating network problems, rather than visual inspection of cabling and equipment.

100BASE-TX UTP
Serial Line (RS485)
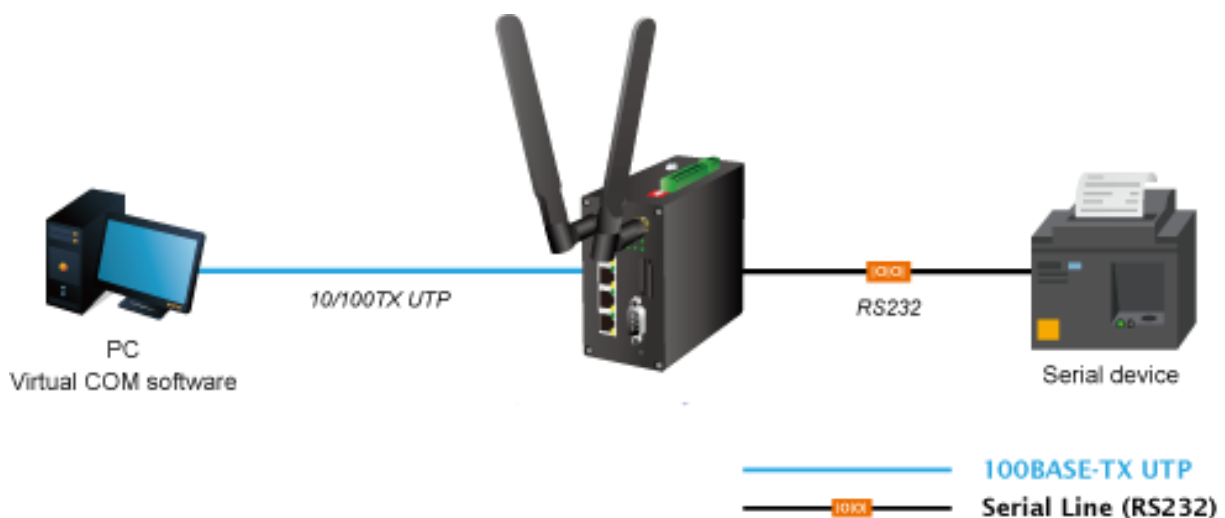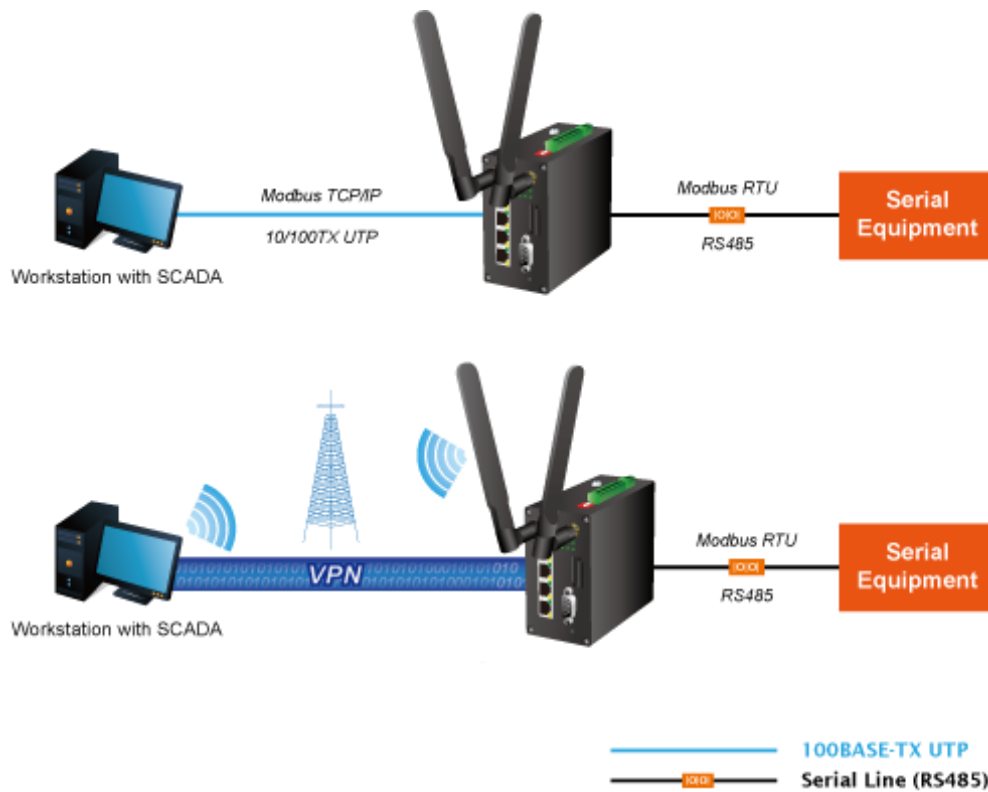
Superior Management Functions

For networking management features, the 4G LTE Cellular Gateway provides such functions as DHCP server, DMZ and Port Forwarding, as well as full secure functions including Network Address Translation (NAT), IP/URL/MAC filtering. The 4G LTE Cellular Gateway has 4G and WAN connection failover characteristics, which can automatically switch over to the redundant, stable WAN connection to keep users always online without missing any fascinating moments.

User-friendly and Secure Management

For efficient management, the 4G LTE Cellular Gateway is equipped with console, web and SNMP management interfaces. With the built-in web-based management interface, the 4G LTE Cellular Gateway offers an easy-to-use, platform independent management and configuration facility. The 4G LTE Cellular Gateway supports SNMP and it can be managed via any management software based on the standard SNMP v1 or v2 Protocol. Moreover, the 4G LTE Cellular Gateway 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 4G LTE Cellular Gateway supports both IPv4 and IPv6 Protocols. As more network devices are growing and the needs for larger addressing and higher security become critical, the 4G LTE Cellular Gateway is the best solution for applications of 4G LTE and serial communication to connect with the IPv6 network.

Application

4G LTE Cellular Communication Solution

4G LTE Cellular Gateway adopts 4G LTE cellular technology and thus breaks the 100m limitation of RJ45 transmission. Moreover, wherever there is a cell site, the data rate can be transmitted as far as the distance goes. To avoid data loss affected by an unexpected breakdown connection on the part of ISP, the 4G LTE Cellular Gateway has dual SIM card slots, meaning it can support two different ISPs for redundancy.
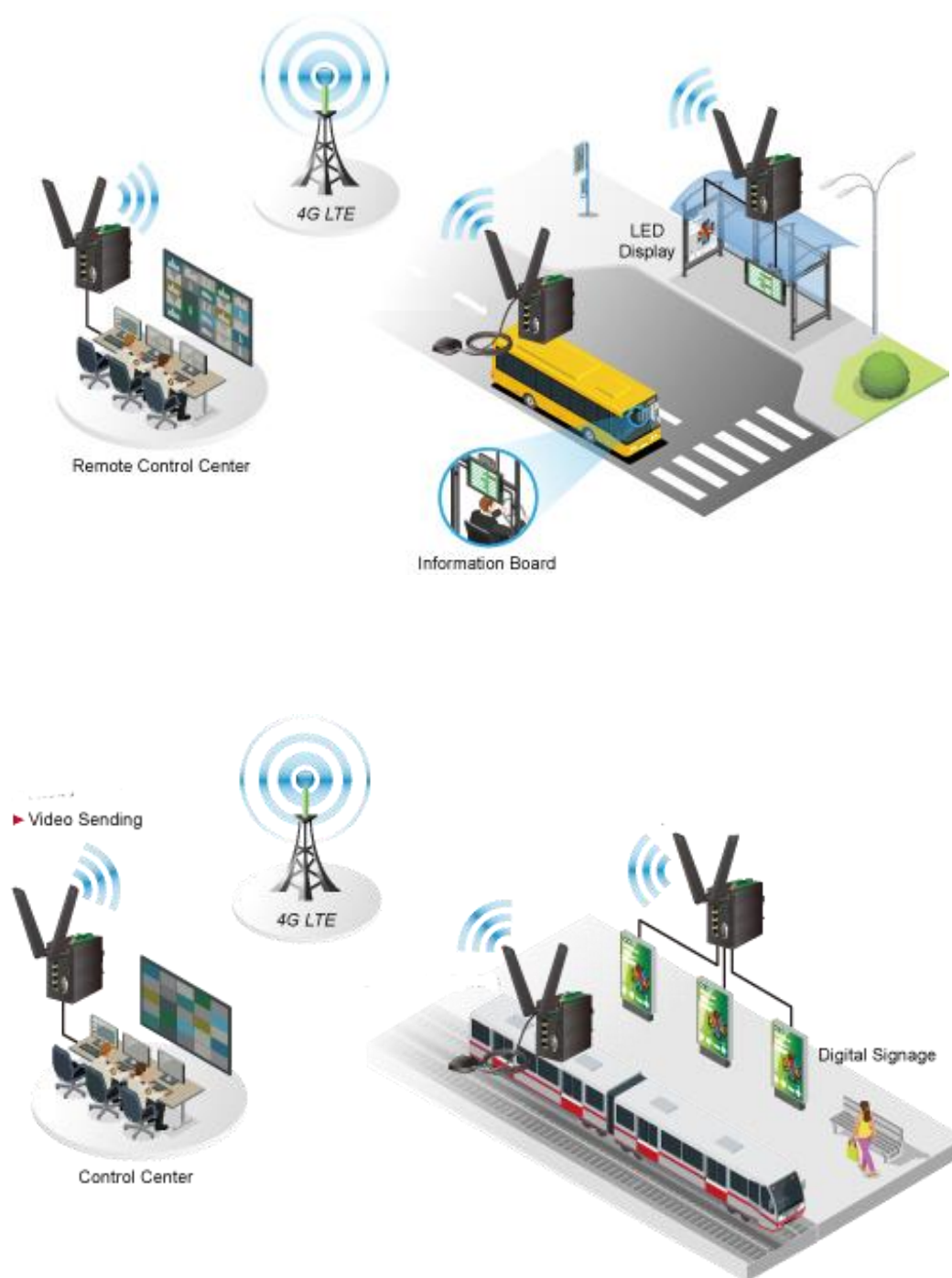
Specifications

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 for GPS -2m

DI &DO Interfaces	■ 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	System:
	  SYS (**Green**)
	Ethernet Interfaces (Port1-3 and WAN Port):
	  LNK/ACT (**Green**)
	  100 (**Orange**)
	  10 (off)
	LTE SIM and Signal :
	  VPN (**Green**)
	  SIM1 and SIM2 (**Green**)
	  Cellular signal: High and low (**Green**)

Dimensions (W x D x H)	60 x 106 x 110 mm
Weight	457g
Power Requirements – DC	10~32V DC, 1A
Power Consumption	7 watts/24 BTU
Multi Band Supports	
EU Model	■ 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	■ FDD LTE B2/B4/B12 (1900/AWS1700/700) ■ WCDMA B2/B4/B5 (1900/AWS1700/850)
Advanced Functions	

VPN	Tunnel Number
	  ■ OpenVPN: 10
	  ■ IPSec 12:
	IPSec:
	Encryption Algorithm: 3DES/AES128/AES196/AES256
	Integrity Algorithm: MD5/SHA1/SHA256

WAN Connection Types	DHCP Client Static IP PPPoE Client
Secure Network	IP filter URL filter MAC filter

Other	Supports demilitarized zone (DMZ) Supports Modbus TCP (only functions with COM3 RS485) Supports Port Forwarding Supports Dynamic DNS
Management	
Basic Management Interfaces	Console; Telnet; Web browser; SNMP v1, v2c, TR069
Secure Management Interfaces	SSHv2, SNMPv3
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)