

OnCell G3150A-LTE Series

Rugged LTE serial/Ethernet-to-cellular gateway



- > Dual cellular operator backup with dual-SIM GuaranLink for reliable cellular connectivity
- > Rugged hardware design well suited for hazardous locations (ATEX Zone 2/IECEX)
- > VPN secure connection capability with IPsec, GRE, and OpenVPN protocols
- > Industrial design with dual-power inputs and built-in DI/DO support
- > Power isolation design for better device protection against harmful electrical interference



Introduction

The OnCell G3150A-LTE is a reliable, secure, LTE gateway with state-of-the-art global LTE coverage. This LTE cellular gateway provides a more reliable connection to your serial connection and Ethernet network for cellular applications.

To enhance industrial reliability, the OnCell G3150A-LTE features isolated power inputs, which together with high-level EMS and wide-temperature support give the OnCell G3150A-LTE the highest level of device stability for any rugged environment. In addition, with dual-SIM GuaranLink and dual power inputs, the OnCell G3150A-LTE supports network redundancy to ensure uninterrupted connectivity.

The OnCell G3150A-LTE also comes with a 3-in-1 serial port for serial over LTE cellular network communication. Use the OnCell G3150A-LTE to collect data and exchange data with serial devices.

High-Speed Remote Gateway with VPN and Network Security

- Multi-band support
- Secure and reliable VPN support with NAT/ OpenVPN / GRE/ IPsec functionality
- Cybersecurity features based on IEC 62443

Industrial Isolation and Redundancy Design

- Dual power inputs for power redundancy
- Dual-SIM support for cellular connection redundancy
- Power isolation for power source insulation protection
- 4-tier GuaranLink for reliable cellular connectivity
- -30 to 70°C wide operating temperature support

Specifications

Cellular Interface

Standards: GSM/GPRS/EDGE/UMTS/HSPA/LTE

Band Options:

EU Band:

- B1 (2100 MHz) / B3 (1800 MHz) / B7 (2600 MHz) / B8 (900 MHz) / B20 (800 MHz)
- UMTS/HSPA 2100/1900/850/800/900 MHz

US Band:

- B2 (1900 MHz) / B4 (AWS) / B5 (850 MHz) / B13 (700 MHz) / B17 (700 MHz) / B25 (1900 MHz)
- UMTS/HSPA 2100/1900/AWS/850/900 MHz
- Universal quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz

LTE Data Rate:

- 20 MHz bandwidth: 100 Mbps DL, 50 Mbps UL
- 10 MHz bandwidth: 50 Mbps DL, 25 Mbps UL

HSPA Data Rate: 42 Mbps DL, 5.76 Mbps UL (Category 24, 6)

EDGE Data Rate: 237 kbps DL, 237 kbps UL (Class 10, 12)

GPRS Data Rate: 85.6 kbps DL, 42.8 kbps UL

LAN Interface

Number of Ports: 1

Speed: 10/100 Mbps, auto MDI/MDIX

Connector: 8-pin RJ45

Interface

Cellular Antenna Connectors: 2, SMA (female), MIMO for LTE, antenna diversity for WCDMA

GNSS: 1 SMA (female), GPS (1575.42 MHz), GLONASS (1602 MHz)

Console Port: RS-232 (RJ45)

LED Indicators: PWR1, PWR2, READY, FAULT, CELLULAR SIGNAL, SIM1, SIM2, 2G, 3G, 4G, GPS, TX/RX

Ground Screw: M5

Reset Button: Power Reset/Factory Default Reset

I/O Interface

Alarm Contact: 1 relay output with current carrying capacity of 1 A @ 24 VDC

Digital Inputs: 2 electrically isolated inputs

- +13 to +30 V for state "1"
- +3 to -30 V for state "0"

Software

Network Protocols: ICMP, DDNS, TCP/IP, UDP, DHCP, Telnet, DNS, SNMP, HTTP, HTTPS, SMTP, NTP (SNTP client), ARP

Routing/Firewall: NAT, VPN tunneling, port forwarding, IP/MAC/Port filtering, Access IP lists

VPN:

- IPsec VPN:
 - > Encryption: DES, 3DES, AES, MD5, SHA-1, DH2, DH5
 - > Authentication: PSK/X.509/RSA
 - > GRE over IPsec
- OpenVPN:
 - > OpenVPN (Server / Client)
 - > Tunnel mode (routing) and TAP mode (bridge)
 - > Encryption: Blowfish CBC, DES CBC, DES-EDE3 CBC, AES-128/192/256 CBC

• NAT-T, PFS, DPD

• Throughput:

- > 20 Mbps max.*
- > Concurrent VPN Tunnels: Max. of 5 (Responder/Initiator)

*The maximum throughput is determined using specific testing equipment; the actual throughput depends on the cellular connection environment and conditions.

Applications: Real COM, Reverse Real COM, TCP Server, TCP Client, UDP, RFC2217

Management Options: Remote SMS Control, SNMPv1/v2c/v3, Web / Telnet / Serial Console, alarm via Email, SMS, SNMP trap

GPS: NMEA

Software Specifications (Moxa Proprietary)

GuaranLink: Dual-SIM, 4-tier heartbeat for reliable and persistent cellular connectivity

OnCell Central Manager: A powerful tool that makes two sites configured with Private IP addresses to access each other over a public network. Capable large scale centralized device management up to 2000pcs device connection and 200 lines for data transfer. Provide Pie charts present device status and information in a clear and readable format and easy to manage, group, monitor, configure, and upgrade the firmware of all your devices from OnCell Central Manager

Wireless Search Utility: Simple device configuration and management

SIM Interface

Number of SIMs: 2, full-sized (1FF)

Serial Interface

Number of Ports: 1

Serial Standards: RS-232/422/485, software selectable

Connector: DB9 male

Serial Communication Parameters

Data Bits: 5, 6, 7, 8

Stop Bits: 1, 1.5, 2 (when parity = None)

Parity: None, Even, Odd, Space, Mark

Baudrate: 75 bps to 921.6 kbps

Serial Signals

RS-232: TxD, RxD, RTS, CTS, DTR, DSR, GND

RS-422: Tx+, Tx-, Rx+, Rx-, GND

RS-485-4w: Tx+, Tx-, Rx+, Rx-, GND

RS-485-2w: Data+, Data-, GND

Physical Characteristics

Housing: Metal, providing IP30 protection

Weight: 492 g (1.08 lb)

Dimensions: 126 x 30 x 107.5 mm (4.96 x 1.18 x 4.23 in)

Environmental Limits

Operating Temperature:

Standard Models: 0 to 55°C (32 to 131°F)

Wide Temp. Models: -30 to 70°C (-22 to 158°F)

Storage Temperature: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

Power Requirements

Number of Power Inputs: 2 (terminal block), redundant dual inputs

Input Voltage: 12 to 48 VDC

Input Current: 0.7 A @ 12 VDC; 0.2 A @ 48 VDC

Reverse Polarity Protection: Present

Standards and Certifications

Safety: UL 60950-1

Hazardous Location: ATEX Zone 2, IECEx (available in April)

EMC: EN 61000-6-2/6-4

EMI: CISPR 22, FCC Part 15B Class A

ESD:

IEC 61000-4-2 ESD, Level 4: Contact: 8 kV; Air: 15 kV

IEC 61000-4-3 RS, Level 3: 80 MHz to 1 GHz: 10 V/m

IEC 61000-4-4 EFT, Level 3: Power: 2 kV; Signal: 1 kV

IEC 61000-4-5 Surge, Level 3: Power: 2 kV; Signal: 1 kV

IEC 61000-4-6 CS, Level 3: 10 V; 150 kHz to 80 MHz

IEC 61000-4-8, Level 4: 30 A/m

Freefall: IEC 60068-2-32

Vibration: IEC 60068-2-6

Shock: IEC 60068-2-27

Radio:

- FCC ID N7NMC7355

- EN 301 489-1, EN 301 489-7, EN 301 511/4

MTBF (mean time between failures)

Time: > 528,596 hrs

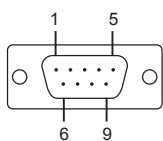
Standard: Telcordia SR332

Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

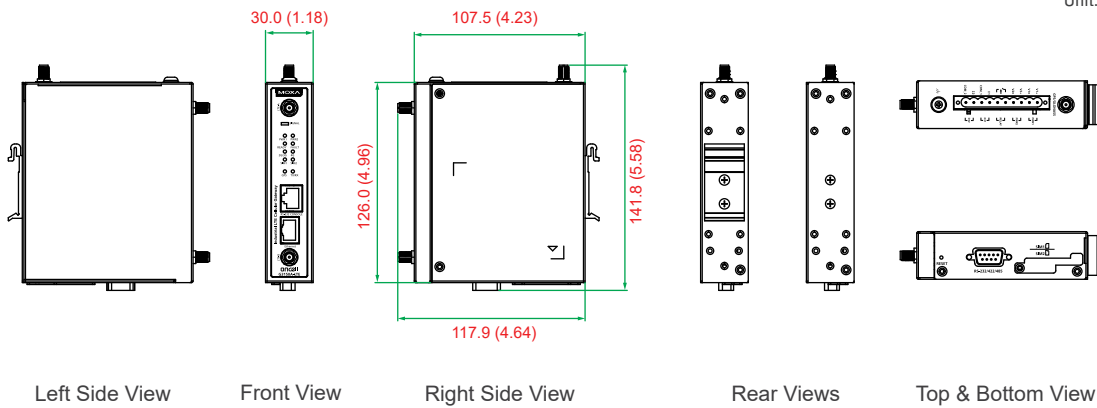
DB9 male connector



| PIN | RS-232 | RS-422/485-4w | RS-485-2w |
|-----|--------|---------------|-----------|
| 1 | DCD | TxD-(A) | - |
| 2 | RxD | TxD+(B) | - |
| 3 | TxD | RxD+(B) | Data+(B) |
| 4 | DTR | RxD-(A) | Data-(A) |
| 5 | GND | GND | GND |
| 6 | DSR | - | - |
| 7 | RTS | - | - |
| 8 | CTS | - | - |
| 9 | - | - | - |

Dimensions

Unit: mm (inch)



Ordering Information

Available Models

OnCell G3150A-LTE-US: Industrial LTE cellular gateway, B2/B4/B5/B13/B17/B25, 0 to 55°C operating temperature

OnCell G3150A-LTE-US-T: Industrial LTE cellular gateway, B2/B4/B5/B13/B17/B25, -30 to 70°C operating temperature

OnCell G3150A-LTE-EU: Industrial LTE cellular gateway, B1/B3/B7/B8/B20, 0 to 55°C operating temperature

OnCell G3150A-LTE-EU-T: Industrial LTE cellular gateway, B1/B3/B7/B8/B20, -30 to 70°C operating temperature

Note: Please visit Moxa's website for a complete list of optional wireless accessories and antennas available for Moxa's wireless products.

Optional Accessories (can be purchased separately)

A-CRF-SMSF-R3-100: 1 m cellular RF cable with SMA connector and magnetic base

ANT-LTEUS-ASM-01: 2 x UMTS/LTE cellular antennas (US model)

ANT-LTE-ASM-02: 2 x UMTS/LTE cellular antennas (EU model)

WK-36-02: Wall-mounting kit

Package Checklist

- OnCell G3150A-LTE
- 2 x UMTS/LTE cellular antennas
- DIN-rail kit
- Quick installation guide (printed)
- Warranty card



| Model Name | A-CRF-SMSF-R3-100 | ANT-LTEUS-ASM-01 | ANT-LTE-ASM-02 | ANT-GPS-OSM-05-3M | WK-36-02 |
|-------------|---------------------------------------|------------------------------|------------------------------|-----------------------|--|
| Description | Magnetic Mount Antenna Base: SMA, 1 m | US LTE Antenna, 1 dBi, 2 pcs | EU LTE Antenna, 2 dBi, 2 pcs | GPS Antenna, SMA, 1 m | OnCell G3150A-LTE wall-mounting kit, 2 pcs |