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.

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: D9 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

<table>
<thead>
<tr>
<th>DIN</th>
<th>RS-232</th>
<th>RS-422/485-4w</th>
<th>RS-485-2w</th>
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<tr>
<td>1</td>
<td>DCD</td>
<td>TxD(A)</td>
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<tr>
<td>2</td>
<td>RxD</td>
<td>TxD(B)</td>
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<tr>
<td>3</td>
<td>TxD</td>
<td>RxD(B)</td>
<td>Data(A)</td>
</tr>
<tr>
<td>4</td>
<td>DTR</td>
<td>RxD(A)</td>
<td>Data(A)</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
<td>GND</td>
<td>GND</td>
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<tr>
<td>6</td>
<td>DSR</td>
<td>–</td>
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<tr>
<td>7</td>
<td>RTS</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>8</td>
<td>CTS</td>
<td>–</td>
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<tr>
<td>9</td>
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</table>

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
EMS:
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
### 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-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)
- **ANT-GPS-OSM-05-3M**: GPS Antenna, SMA, 1 m
- **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

#### Dimensions

[Unit: mm (inch)]

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Left Side View</th>
<th>Front View</th>
<th>Right Side View</th>
<th>Rear Views</th>
<th>Top &amp; Bottom View</th>
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</thead>
<tbody>
<tr>
<td>Length</td>
<td>30.0 (1.18)</td>
<td>107.5 (4.23)</td>
<td>117.9 (4.64)</td>
<td>130.0 (4.06)</td>
<td>141.8 (5.58)</td>
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<tr>
<td>Width</td>
<td>126.0 (4.96)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td></td>
<td></td>
<td>117.9 (4.64)</td>
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