

# OnCell G2100 Series

## Industrial quad-band GSM/GPRS modem



- > Quad-band GSM/GPRS 850/900/1800/1900 MHz
- > Separate RS-232 and RS-422/485 serial interfaces (G2150I only)
- > 2.5 KV RMS isolation for 1 minute for all serial signals (G2150I only)
- > Extended operating temperature from -30 to 75°C (G2110-T only)
- > Vertical IP30 housing with SIM card protection
- > LED indicators for GSM/GPRS, data transmission, and signal level
- > DIN-Rail and wall mounting
- > SMS Tunnel Mode provided

The certification logos shown here apply to some or all of the products in this section. Please see the **Specifications** section or Moxa's website for details.



13

WLAN & Cellular Solutions > OnCell G2100 Series

### Overview

The OnCell G2100 Series of industrial quad-band GSM/GPRS modems are designed to transmit data and short messages (SMS) over GSM/GPRS mobile networks. The modems can be used to increase the efficiency of maintenance and communication, but do not require detailed training. In addition, the modems can be mounted on a DIN-rail or wall. The OnCell G2100 modems accept a 12 to 48 VDC power input, making them suitable for use with a variety of field power sources. The serial ports feature 15 KV ESD line protection to

protect the product from harmful electrical discharge, and separate RS-232 and RS-422/485 interfaces are built into the OnCell G2150I, each with 2.5 KV RMS isolation protection for one minute. The two serial interfaces on the OnCell G2150I make it ideal for attaching all kinds of devices, such as stand-alone controllers, PC COM ports, and multi-dropped electric meters. In addition, the OnCell G2110-T has an extended operating temperature (-40 to 75°C) design that makes it suitable for heavy industrial use.

### Specifications

#### Cellular Interface

**Standards:** GSM and GPRS  
**Band Options:** Quad-band 850/900/1800/1900 MHz  
**GPRS Multi-slot Class:** Class 10  
**GPRS Terminal Device Class:** Class B  
**GPRS Coding Schemes:** CS1 to CS4  
**CSD Data Transmission Rate:** Up to 14,400 bps  
**SMS:** Point-to-point Text/PDU, Mobile Originated (MO) and Mobile Terminated (MT Cell Broadcast in accordance with GSM 07.05)  
**Tx Power:** 1 watt GSM1800/1900, 2 watts EGSM 900/GSM 850  
**SIM Control:** 3 V

#### Serial Interface

**Serial Standards:**  
 G2110: RS-232 (DB9 female connector)  
 G2150I: RS-232 (DB9 female connector), RS-422/485 (5-pin terminal block connector)

**Number of Ports:** 1

**ESD Protection:** 15 KV (G2110 only)

**Optical Isolation:** 2.5 KV (G2150I only)

#### Serial Communication Parameters

**Data Bits:** 7, 8

**Stop Bits:** 1, 2

**Parity:** None, Even, Odd, Space, Mark

**Flow Control:** RTS/CTS

**Baudrate:** 300 bps to 115.2 Kbps

#### Serial Signals

**RS-232:** Tx+, Rx+, RTS, CTS, DTR, DSR, DCD, RI, 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:** ABS + PC, IP30 protected

**Weight:** 150 ± 5 g

**Dimensions:** 27 x 123 x 79 mm (1.06 x 4.84 x 3.11 in)

#### Environmental Limits

**Operating Temperature:**

G2110/2150I: 0 to 55°C (32 to 131°F)

G2110-T: -30 to 75°C (-22 to 167°F)

**Operating Humidity:** 5 to 95% RH

**Storage Temperature:** -40 to 75°C (-40 to 167°F)

#### Power Requirements

**Input Voltage:** 12 to 48 VDC

**Power Consumption:**

Idle: 50 mA @ 12 V

Data Link: 300 to 900 mA (peak) @ 12 V

#### Regulatory Approvals

**EMC:** CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B Class A

**RF:** FCC Part 22H, FCC Part 24E, EN301 489-1, EN301 489-7, EN301 511

**Reliability**

**MTBF:**

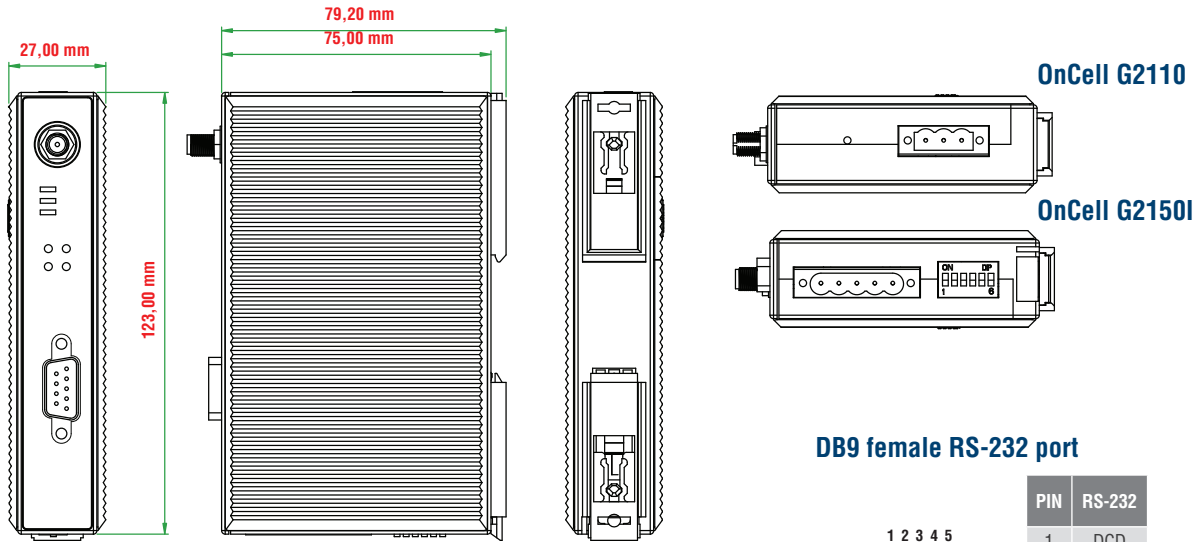
G2110/G2110-T: 925627 hours  
G2150I: 864965 hours

**Warranty**

**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

**Dimensions**



**Ordering Information**

**Available Models**

- OnCell G2110:** 1-port RS-232 to GSM/GPRS modem
- OnCell G2110-T:** 1-port RS-232 to GSM/GPRS modem, wide temperature (-30 to 75°C)
- OnCell G2150I:** 1-port RS-232/422/485 to GSM/GPRS modem, with 2.5 KV optical isolation

**Optional Accessories** (can be purchased separately)

**Power Adaptor:** 1.2 A (or above) @ 12 V  
**DC Power Supply:** See Appendix A

**Quad-band Antennas (impedance = 50 ohms):**

- ANT-CQB-0-0-3m:** Omni 0dBi/10cm, magnetic SMA antenna, 3 m
- ANT-CQB-0-3-3m:** Omni 3dBi/25cm, magnetic SMA antenna, 3 m
- ANT-CQB-0-5-3m:** Omni 5dBi/37cm, magnetic SMA antenna, 3 m
- ANT-CQB-0-1:** Omni 1dBi rubber SMA antenna

**Package Checklist**

- OnCell G2100 modem
- ANT-CQB-0-0-3m: Omni 0dBi/10cm, magnetic SMA antenna, 3 m
- Power jack to terminal block cable
- 3-Pin Terminal Block (screw type)
- Document and Software CD
- Quick Installation Guide (printed)
- Warranty Card