



# OnCell G3111/G3151-HSPA Series Quick Installation Guide First Edition, September 2013

## 1. Overview

The OnCell G3111/G3151-HSPA are cellular IP gateways that can conveniently and transparently connect your devices to a 3G cellular network, allowing you to connect to your existing Ethernet and serial devices with only basic configuration. With the integrated GuaranLink feature, you can be confident that your device will always stay connected and recover from any unexpected interference. With Moxa's industrial design, higher EMS level are tested to ensure the highest reliability for any harsh environment. The G3111/G3151-HSPA cellular IP gateways are the most compact, simple, and robust industrial 3G solution.

## 2. Package Checklist

Before Installing the OnCell G3111/G3151-HSPA series, verify that the package contains the following items:

### Standard Accessories

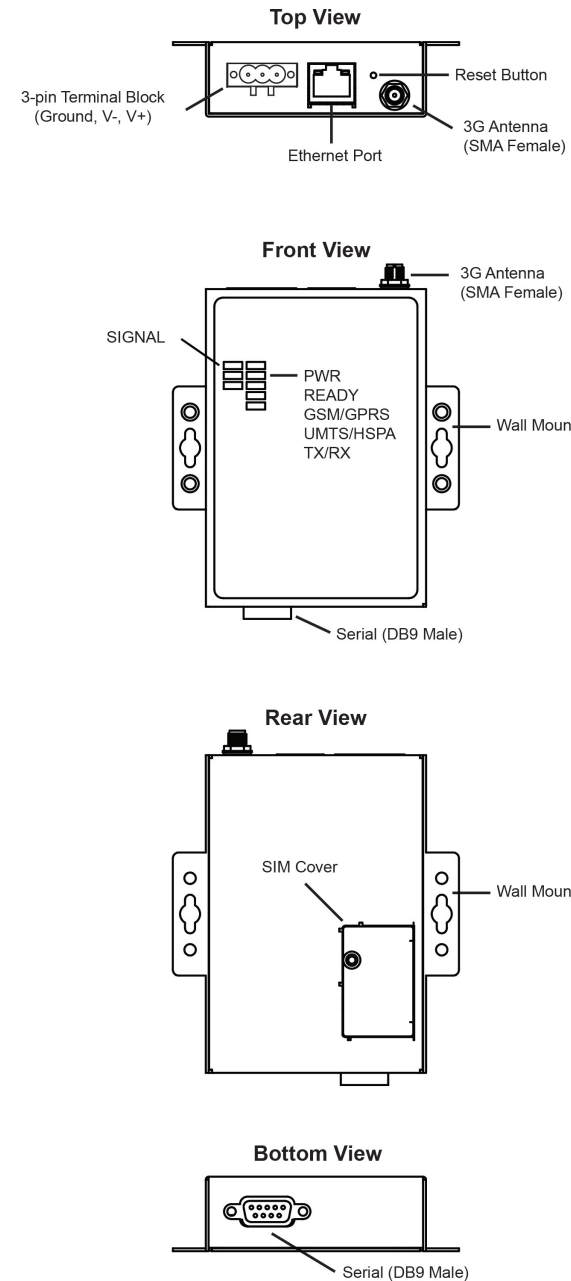
- Document & Software CD
- Omni 1.5 dBi Rubber SMA Antenna (model name: ANT-WCDMA-ASM-1.5)
- DIN-Rail Kit
- 3-pin Terminal Block
- Rubber Stand
- Product Warranty Statement
- Quick Installation Guide

### Optional Accessories

- Five-band GSM/GPRS/EDGE/UMTS/HSPA antennas for OnCell G3111/G3151-HSPA series (impedance = 50 ohms):  
**ANT-WCDMA-AHSM-04-2.5m:** Omni 4dBi(peak)/11cm, magnetic SMA five-band antenna (impedance = 50 ohms), 2.5 m  
**ANT-WCDMA-ANF-00:** Omni 0dBi(peak)/42cm, N-type female five-band antenna (impedance = 50 ohms)

**Note:** Please notify your sales representative if any of the above items are missing or damaged.

## 3. Hardware Introduction



**Reset Button**—Press and hold the Reset button for 5 sec to load *factory defaults*: Use a pointed object, such as a straightened paper clip or toothpick, to press the reset button. This will cause the Ready LED to blink on and off. The factory defaults will be loaded once the Ready LED stops blinking (after about 5 seconds). At this point, you should release the reset button (the default IP is 192.168.127.254).

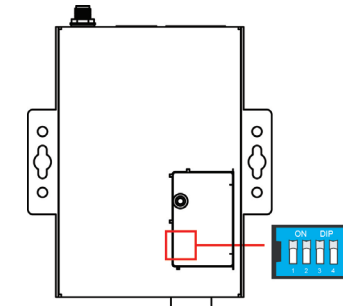
### LED Indicators

The LED indicators on the front panel of the OnCell G3111/G3151-HSPA are described in the following table.

Type	Color	LED Function
PWR	Green	Activation of DC Power.
	Off	Power is off, or power error condition exists.
READY	Green	Steady on: Software Ready. Blinking slowly (1 sec): The OnCell has been located by the OnCell Search Utility.
	Red (Over Green)	Steady on: Booting up, or IP fault. Blinking rapidly (0.5 sec): IP conflict. Blinking slowly (1 sec): Cannot get an IP address from the DHCP server.
	Off	Booting up or there is no error condition.
GSM/GPRS	Green	GSM is connected.
	Amber	GPRS is connected.
	Off	GSM/GPRS is disconnected.
UMTS/HSPA	Green	UMTS is connected.
	Amber	HSPA is connected.
	Off	UMTS/HSPA is disconnected.
TX/RX	Green	The serial port is transmitting data
	Amber	The serial port is receiving data.
	Off	No data is being transmitted or received through the serial port.
Signal (3 LEDs)	Green	Number of LEDs indicates cellular connection signal level (at least 2 LEDs must illuminate for data transmission)

### Adjustable pull high/low resistor for RS-485 Port (OnCell G3151-HSPA Only)

DIP switches on the bottom of the OnCell G3151-HSPA are used to set the pull high/low resistor value for each serial port.



SW	1	2	3	4
	Pull High	Pull Low	Terminator	---
ON	1 kΩ	1 kΩ	120 Ω	---
OFF	150 kΩ	150 kΩ	---	---

**Note:** When using RS-232 mode, ALL resistors need to be set to OFF.

## 4. Hardware Installation Procedure

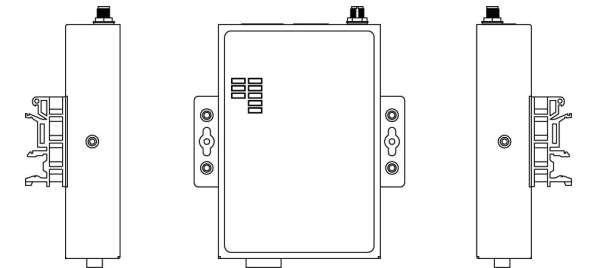
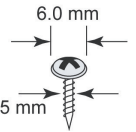
**STEP 1:** Open the SIM cover, and insert the SIM card in the SIM card slot.

**STEP 2:** Wire the terminal block with 12-48 VDC power (see section 6) and connect the power.

**STEP 3:** To configure the OnCell, use an Ethernet cable to connect the OnCell directly to your computer's Ethernet interface.

### DIN-Rail Mounting

The OnCell G3111/G3151-HSPA series have built-in "ears" for attaching the IP gateway to a wall or the inside of a cabinet. We suggest using two screws per ear to attach the IP gateway to a wall or the inside of a cabinet. The heads of the screws should be less than 6.0 mm in diameter, and the shafts should be less than 3.5 mm in diameter, as shown in the figure at the right.

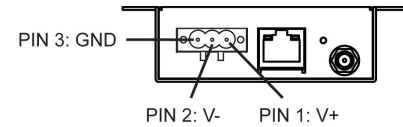


## 5. Software Installation Information

The Document & Software CD contains the User's Manual, OnCell Search Utility, and OnCell Driver Manager. Insert the CD and follow the on-screen instructions. Please refer to the User's Manual for additional details on using the OnCell Search Utility and Driver Manager.

## 6. Pin Assignments and Cable Wiring

### Power Input and Relay Output Pinouts

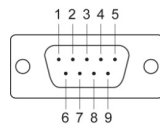


PIN	Name	Function
1	V+	DC Power Input (Positive)
2	V-	DC Power Input (Negative)
3	GND	GND

### DB9 Male Port Pinouts

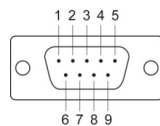
Note that the OnCell G3111-HSPA only support RS-232. The RS-422/485 pin assignments only apply to the OnCell G3151-HSPA.

#### DB9 Male OnCell G3111-HSPA (RS-232)



Pin	RS-232
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	---

#### DB9 Male OnCell G3151-HSPA (RS-232/422/485)



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	---	---	---

## 7. Specifications

### Cellular Interface

Standards	GSM/GPRS/EDGE/UMTS/HSPA
Band Options:	Five-band UMTS/HSPA 850/800, 900, 1900 and 2100 MHz Quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz
HSPA Data Rate	HSDPA Cat. 10 / HSUPA Cat.6 DL: max. 14.4 Mbps, UL: max. 5.76 Mbps

EDGE Data Rate	EDGE Class 12 DL: max. 237 kbps, UL: max. 237 kbps
GPRS Data Rate	GPRS Class 12 DL: max. 85.6 kbps, UL: max. 85.6 kbps
SIM Interface	Number of SIMs: 1 SIM Control: 3 V
Antenna Interface	Number of Antenna Ports: 1 Connector: SMA (Female)

### LAN Interface

Number of Ports	1
Ethernet	10/100 Mbps, RJ45 connector, Auto MDI/MDIX

### Serial Interface

Number of Ports	1
Serial Standards	G3111-HSPA: 1 RS-232 port, DB9 male G3151-HSPA: 1 RS-232/422/485 port, DB9 male

Serial Signals	RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND RS-422: Tx+, Tx-, Rx+, Rx-, GND RS-485-4w: Tx+, Tx-, Rx+, Rx-, GND RS-485-2w: Data+, Data-, GND Operation Modes: TCP Server, TCP Client, UDP, RFC2217
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### Serial Operation Modes

Operation Modes (Moxa Proprietary): Real COM, Reverse Real COM, SMS Tunnel Mode  
Windows Real COM Drivers: Windows 2000/XP/2003/Vista/7/Server 2008, Windows XP/2003/Vista/7/Server 2008 x64  
Fixed TTY Drivers: SCO Unix, SCO OpenServer 5, SCO OpenServer 6, UnixWare 7, SVR4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD 5, FreeBSD 6

Serial Communication Parameters	Data Bits: 5, 6, 7, 8 Stop Bits: 1, 1.5, 2 (when parity = None) Parity: None, Even, Odd, Space, Mark Flow Control: RTS/CTS, XON/XOFF Baudrate: 50 bps to 921.6 Kbps
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### Software Specification

Network Protocols	ICMP, TCP/IP, UDP, DHCP, Telnet, DNS, SNMP, HTTP, HTTPS, SMTP, SNT, ARP
Router/Firewall	NAT, Port Forwarding
Authentication	Local user-name and password
Security	Accessible IP list
Configuration and Management Options	SNMP MIB-II, SNMP Private MIB, SNMPv1/v2c/v3, Web/Telnet/Serial Console
Others	DDNS, Auto IP Report

### Software Specification (Moxa Proprietary)

GuaranLink feature	Reliable and persistent cellular connectivity
OnCell Central Management support	Private cellular IP communication and central device management
OnCell Search Utility	Device configuration and management

### Physical Characteristics

Housing	Aluminum, providing IP30 protection
Weight	165±5 g
Dimensions	111 x 77 x 26 mm (4.37 x 3.03 x 1.02 in)

### Environmental Limits

Operating Temperature	-30 to 55°C (-22 to 131°F)
Storage Temperature	-40 to 75°C (-40 to 167°F)
Ambient Relative Humidity	5 to 95% (30°C, non-condensing)

### Power Requirements

Input Voltage	12 to 48 VDC
Connector	3-pin removable terminal block
Power Consumption	12 to 48 VDC, 350 mA (Idle), 900 mA (max.)
Reverse Polarity Protection	Present

### Standards and Certifications

Safety	UL 60950-1
EMC	EN 55022 Class A, EN 55024, FCC Part 15 Subpart B Class A
Radio	EN 301 489-1, EN 301 489-7, EN 301 511/4

### Warranty

Warranty Period	5 years
Details	See <a href="http://www.moxa.com/support/warranty.aspx">www.moxa.com/support/warranty.aspx</a>

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