

OnCell G3111/G3151-HSPA Series Quick Installation Guide

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Technical Support Contact Information www.moxa.com/support

Moxa Americas:

Toll-free: 1-888-669-2872

Tel: 1-714-528-6777

Fax: 1-714-528-6778

Moxa China (Shanghai office):

Toll-free: 800-820-5036

Tel: +86-21-5258-9955

Fax: +86-21-5258-5505

Moxa Europe:

Tel: +49-89-3 70 03 99-0

Fax: +49-89-3 70 03 99-99

Moxa Asia-Pacific:

Tel: +886-2-8919-1230

Fax: +886-2-8919-1231

Moxa India:

Tel: +91-80-4172-9088

Fax: +91-80-4132-1045



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P/N: 1802031011012



Overview

The OnCell G3111/G3151-HSPAs 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.

Package Checklist

Moxa's OnCell G3111/3151-HSPA is shipped with the following items. If any of these items is missing or damaged, please contact your customer service representative for assistance.

Standard Accessories

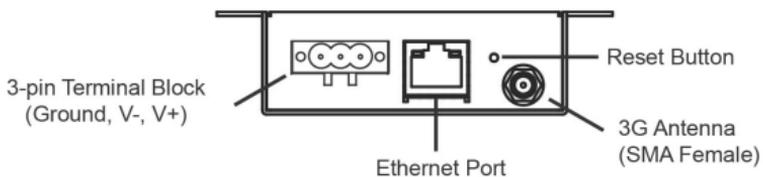
- Omni 1.5 dBi Rubber SMA antenna (Model name: ANT-WCDMA-ASM-1.5)
- DIN-rail kit
- 3-pin terminal block
- Rubber stand
- Quick installation guide (printed)
- Warranty card

Optional Accessories

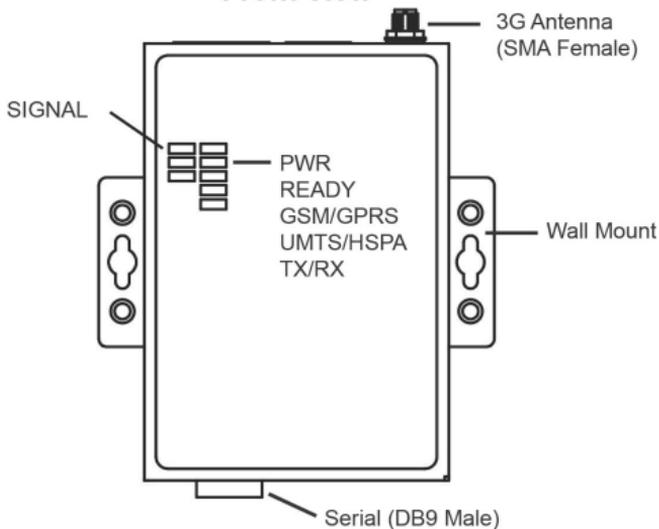
- Five-band GSM/GPRS/EDGE/UMTS/HSPA antennas for OnCell G3111/G3151-HSPA series (Impedance = 50 ohms):
 - ANT-WCDMA-AHSM-04-2.5m:** Omni 4 dBi (peak)/11 cm, magnetic SMA five-band antenna (Impedance = 50 ohms), 2.5 m
 - ANT-WCDMA-ANF-00:** Omni 0 dBi (peak)/42 cm, N-type female five-band antenna (Impedance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

Hardware Introduction

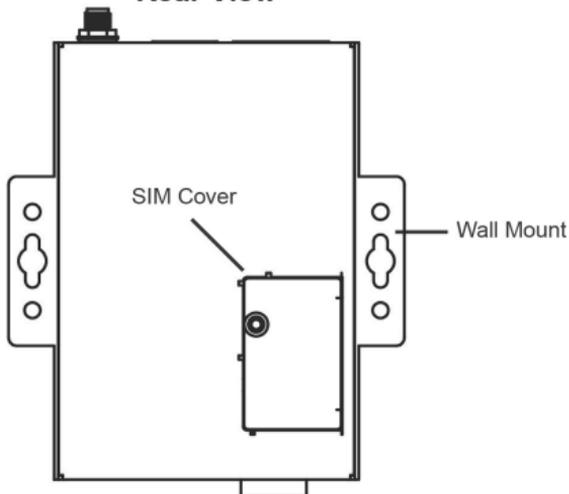
Top View



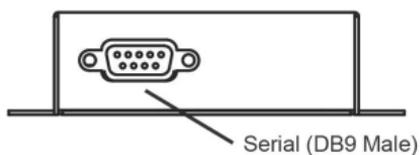
Front View



Rear View



Bottom View



Reset Button—Press and hold the Reset button for 5 seconds 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

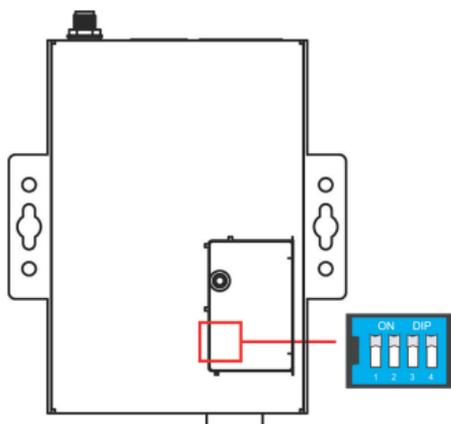
The LED indicators on the front panel of the OnCell G3111/G3151-HSPA are described in the following table:

Type	Color	LED Function
PWR	Green	Activation of DC Power.
	Off	Power is off, or power error condition exists.
READY	Green	Steady on: System startup is complete and the system is in operation.
		Blinking slowly at 1-second intervals: The device has been located by the OnCell Search Utility.
	Red	Steady on: System is booting up, or IP address error. Blinking rapidly at 0.5-second intervals: IP address conflict. Blinking slowly at 1-second intervals: Cannot get an IP address from the DHCP server.
	Off	Device is booting up or no error condition exists.
GSM/GPRS	Green	GSM is connected.
	Amber	GPRS is connected.
	Off	GSM/GPRS disconnected.
UMTS/HSPA	Green	UMTS is connected.
	Amber	HSPA is connected.
	Off	UMTS/HSPA 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 be illuminated 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 k Ω	1 k Ω	120 Ω	–
OFF	150 k Ω	150 k Ω	–	–

NOTE When using RS-232 mode, ALL resistors need to be set to OFF.

Hardware Installation Procedure

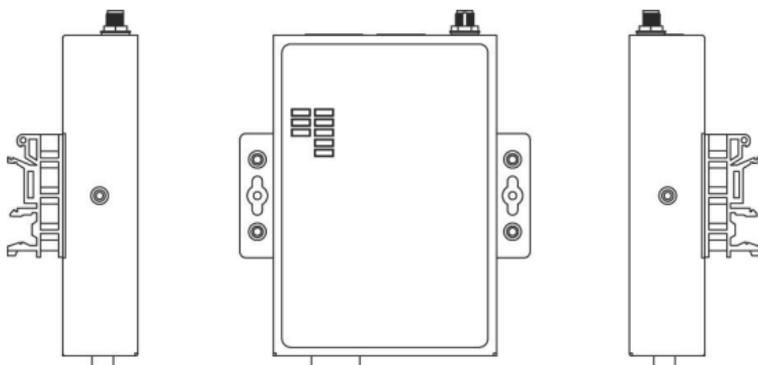
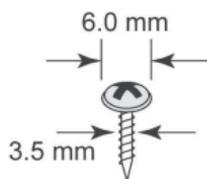
STEP 1: Open the SIM cover, and insert the SIM card in the SIM card slot.

STEP 2: Wire the terminal block with 12-48 VDC power 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 are provided with built-in mounting 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.

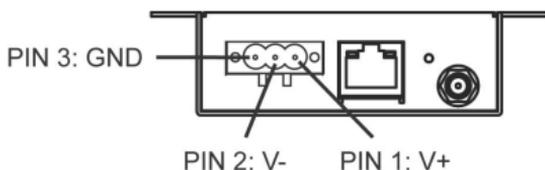


Software Installation Information

The OnCell Search Utility and OnCell Driver Manager can be downloaded from the official product page. For details on using the OnCell Search Utility and Driver Manager, refer to the *OnCell G3111/G3151-HSPA Series User's Manual*.

Pin Assignments and Cable Wiring

Power Input and Relay Output Pinouts

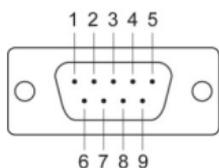


PIN	Name	Function
1	V+	DC Power Input (Positive)
2	V-	DC Power Input (Negative)
3		GND

DB9 Male Port Pinouts

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

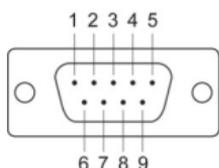
DB9 Male



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-232/422/482)

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	-	-	-

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	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 full-sized (1FF) 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
Serial Operation Modes	Operation Modes: TCP Server, TCP Client, UDP, RFC2217 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/Windows 8/Windows 10 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

Software Specification	
Network Protocols	ICMP, TCP/IP, UDP, DHCP, Telnet, DNS, SNMP, HTTP, HTTPS, SMTP, SNTP, ARP, SSH
Router/Firewall	NAT, Port Forwarding, WAN IP filtering
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, Remote SMS Control, Caller ID
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 55032 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 www.moxa.com/support/warranty.aspx