

OnCell G3100 Series Quick Installation Guide

Edition 4.1, August 2016

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



© 2016 Moxa Inc. All rights reserved.

P/N: 1802031000016



Overview

There are currently six models in the OnCell G3100 series of IP-gateways: the OnCell G3110, OnCell G3150, OnCell G3110-HSPA, and OnCell G3150-HSPA. The main difference between the models is the serial interface type and cellular connection speed. The OnCell G3100 industrial RS-232, RS-232/422/485 GSM/GPRS/EDGE, or UMTS or HSPA IP gateways are some of the most affordable, secure, and versatile products available in the cellular networking market today. These gateways also provide remote access and TCP/IP support, and can be configured over a network.

Package Checklist

Moxa's OnCell G3110 Series 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 dBi rubber SMA antenna (OnCell G3100 model name: ANT-CQB-ASM-01; OnCell G3100-HSPA model name: ANT-WCDMA-ASM-1.5)
- Din-rail kit
- 5-pin terminal block (screw type)
- 10-pin terminal block (screw type)
- Quick installation guide (printed)
- Warranty card

Optional Accessories

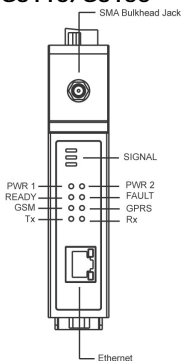
- Power Adaptor: 1.2 A (or above) @ 12V
- DC power supply
- Power jack to terminal block cable
- Quad-band GSM/GPRS/EDGE antennas for OnCell G3110/G3150 series (impedance = 50 ohms):
 - **ANT-CQB-AHSM-00-3m**: Omni 0dBi/10cm, magnetic SMA antenna, 3 m
 - **ANT-CQB-AHSM-03-3m**: Omni 3dBi/25cm, magnetic SMA antenna, 3 m
 - **ANT-CQB-AHSM-05-3m**: Omni 5dBi/37cm, magnetic SMA antenna, 3 m

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

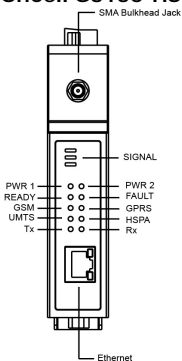
Hardware Introduction

Front Views

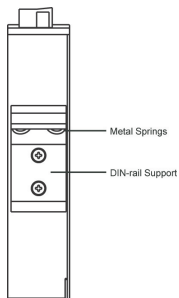
**OnCell
G3110/G3150**



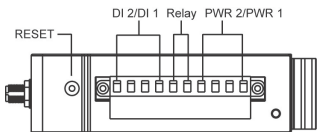
**OnCell G3110-HSPA/
OnCell G3150-HSPA**



Rear View

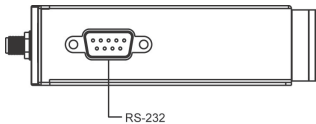


Top View

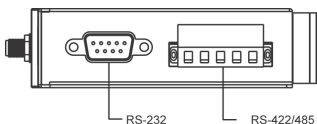


Bottom Views

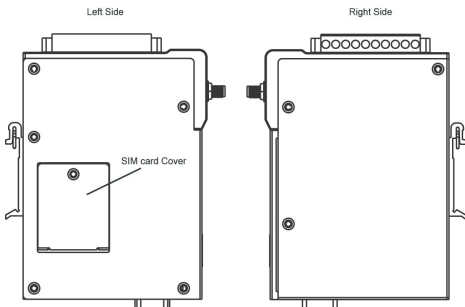
OnCell G3110/G3110-HSPA



OnCell G3150/G3150-HSPA



Side Views



Reset Button

Press the Rest button continuously for 5 second 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 G3100 are described in the following table.

LED Name	LED Color	LED Function
Power	Green	DC Power is active
	Off	Power is off, or power error condition exists.
Data	Green	Serial Tx
	Amber	Serial Rx
	Off	Ethernet cable is disconnected.
GSM	Amber	GSM is connected.
	Off	GSM is disconnected.
GRPS	Amber	GPRS is connected.
	Off	GPRS is disconnected.
UMTS	Amber	UMTS is connected. (OnCell G3100-HSPA only)
	Off	UMTS is disconnected. (OnCell G3100-HSPA only)
HSPA	Amber	HSPA is connected (OnCell G3100-HSPA only)
	Off	HSPA is disconnected (OnCell G3100 HSPA only)
Ready	Green	Steady on: Software Ready. Blinking slowly (1 second): The OnCell has been located by the OnCell Search Utility.
	Off	Power is off, or is booting up.
Fault	Red	Steady on: Booting up, or IP fault. Blinking slowly (1 second): Cannot get an IP address from the DHCP server
	Off	Power is off, or there is no error condition.
Signal (3 LEDs)	Green	Number of lit LEDs indicates signal level (at least 2 LEDs must illuminated for data transmission)

Digital Input and Output

Six terminals on the terminal block are reserved for the I/O ports, with 2 terminals used for each input, and 2 terminals used for each output.

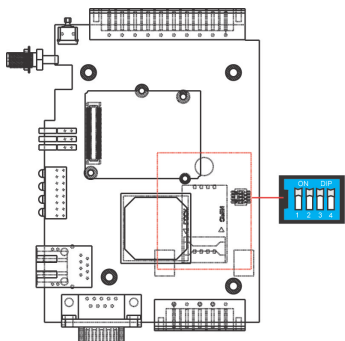
Digital Input—Digital ON and OFF determine which power input is used:

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

Digital Output—The default for the relay output (DOUT) is open, indicating a normal condition. If the relay output (DOUT) is shorted, it indicates an exception.

Adjustable pull high/low resistor for RS-485 Port

DIP switches on the bottom of the OnCell G3100 are used to set the pull high/low resistor value for each serial port.



SW	1	2	3
		Pull High	Pull Low
ON	1 K Ω	1 K Ω	120 Ω
OFF	150 K Ω	150 K Ω	–

Hardware Installation Procedure

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

STEP 2: Connect the 12-48 VDC power adaptor to the OnCell G3100 and then plug the power adaptor into a DC outlet.

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

STEP 4: Connect the OnCell G3100's serial Ethernet port to a serial or Ethernet device.

Software Installation Information

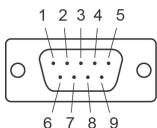
The User's Manual, OnCell Search Utility, and OnCell Driver Manager can be downloaded from the Moxa website at www.moxa.com. Please refer to the User's Manual for additional details on using OnCell Search and Driver Manager.

Pin Assignments and Cable Wiring

DB9 Male Port Pinouts

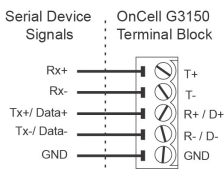
Note that the OnCell G3110 only supports RS-232. The RS-422/485 pin assignments only apply to the OnCell G3150.

DB9 Male



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

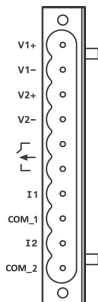
4W/2W RS-485/RS-422 (Terminal Block) Pinouts



Pin	RS-422/485 4-wire	RS-485 2-wire
1	TxD+ (B)	-
2	TxD- (A)	-
3	RxD+ (B)	Data+ (B)
4	RxD- (A)	Data- (A)
5	GND	GND

Power Input and Relay Output Pinouts

Pin	Name	Function
1	V1+	DC Power input 1
2	V1-	
3	V2+	DC Power input 2
4	V2-	
5		Relay Output
6		
7	I1	Digital Input
8	COM_1	Digital Input GND
9	I2	Digital Input
10	COM_2	Digital Input GND



Specifications

LAN Interface	
Ethernet	10/100 Mbps, RJ45 connector
Protection	Built-in 1.5 KV magnetic isolation
Cellular Interface (for OnCell G3110 & G3150)	
Standard Compliance	GSM/GPRS/EDGE
Band Selection	Quad-band 850/900 MHz, and 1800/1900 MHz
Tx Power	1 watt GSM 1800/1900, 2 watt EGSM 850/900
GPRS Multi-slot class	Class 12
GPRS Terminal Device	Class B
GPRS Coding Schemes	CS1 to CS4
SIM Control	3V

Cellular Interface (for OnCell G3110-HSPA & G3150-HSPA)	
Data Rate	UMTS (DL: 384 Kbps, UL: 384 Kbps) HSPA (DL: 14.4 Mbps, UL: 5.67 Mbps)
Standard Compliance	GSM/GPRS/EDGE/UMTS/HSPA
Band Selection	Five band 800/850/AWS/1900/2100 MHz Quad-band 850/900/1800/1900 MHz
Tx Power	1 watt GSM1800, 2 watt GSM900, 0.25 watt UMTS/HSPA 0.5 watt EDGE900, 0.4 watt EDGE1800
GPRS Multi-slot class	Class 12
GPRS Terminal Device	Class B
GPRS Coding Schemes	CS1 to CS4
SIM Control	3V
Serial Interface	
No. of Ports	1
Serial Standards OnCell G3100: OnCell G3150:	RS-232 (DB9 male connector) RS-232 (DB9 male connector), RS-422/485 (5-pin terminal block connector)
Serial Communication Parameters	
Parity	None, Even, Odd, Space, Mark
Data Bits	5, 6, 7, 8
Stop Bit(s)	1, 1.5, 2 (when parity = None)
Flow Control	RTS/CTS, XON/XOFF
Speed	50 bps to 921.6 Kbps
I/O Interface	
Alarm Contact	1 relay output with current carrying capacity of 1 A @ 24 VDC
Digital Input	2 inputs electrically isolated from the electronics On: +13 to +30 V for state "1" Off: +3 to -30V for state "0"
Power Requirements	
Input Voltage	12 to 48 VDC
Data Link	400 mA (idle) to 900 mA (peak) @ 12 V
Environmental Limits	
Operating temperature Standard: Wide Temperature:	-30 to 55°C (-22 to 131°F), 5 to 95% RH -30 to 70°C (-22 to 158°F), 5 to 95% RH
Storage temperature	-40 to 75°C (-40 to 167°F)
Regulatory Approvals	
EMC	CE Class A , FCC Class A, UL
Warranty	
Warranty Period	5 years