

OnCell G3100 Series

Industrial quad-band GSM/GPRS/EDGE IP modem



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.

- > Universal quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz
- > Choice of operation modes, including TCP Server, TCP Client, UDP, Real COM, and RFC2217
- > Secure modes for TCP Server, TCP Client, and Real COM
- > Versatile GSM/GPRS/EDGE connection modes
- > Redundant DC power input
- > LED indicators for status and signal level
- > 2 digital inputs and 1 relay output
- > Choice of configuration methods, including web console, serial console, and Telnet
- > DIN-Rail



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Overview

The OnCell G3100 industrial RS-232 or RS-232/422/485 GSM/GPRS/EDGE IP modems are designed to transmit data and short messages (SMS) over GSM/GPRS/EDGE cellular networks. The Real COM operation mode automatically generates a virtual COM port to match serial ports supported by the OnCell G3100, allowing you to communicate with remote serial devices. The OnCell G3100's CPU comes pre-installed with the TCP/IP protocol suite to transmit data back and forth between the serial device and cellular TCP/IP network. It also comes with a built-in relay output that can be configured to

indicate the priority of events when notifying or warning engineers in the field, and the two digital inputs allow you to connect basic I/O devices, such as sensors, to the cellular network. The G3100 can be mounted on a DIN-rail, and the 12 to 48 VDC power input has 2 KV EFT/Surge protection to allow the use of different types of field power source. The serial ports are also protected by 15 KV ESD line protection to keep your system safe from unexpected electrical discharges.

Specifications

Hardware

CPU: MOXA ART CPU, 192 MHz

RAM: 8 MB

Flash ROM: 4 MB

LAN Interface

Ethernet: 10/100 Mbps, RJ45 connector, Auto MDI/MDIX

Magnetic Isolation Protection: 1.5 KV built-in

Cellular Interface

Standards: GSM/GPRS/EDGE

Band Options: Quad-band 850/900 and 1800/1900 MHz

GPRS Multi-slot Class: Class 12

GPRS Terminal Device Class: Class B

GPRS Coding Schemes: CS1 to CS4

Tx Power: 1 watt GSM 1800/1900, 2 watts EGSM 850/900

SIM Control: 3 V

Serial Interface

Serial Standards:

G3110: RS-232 (DB9 male connector)

G3150: RS-232 (DB9 male connector), RS-422/485 (5-pin terminal block connector)

Number of Ports: 1

ESD Protection: 15 KV

Power EFT/Surge Protection: 2 KV

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

Serial Signals

RS-232: Tx+, Rx+, 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

I/O Interface

Alarm Contact: 1 relay output with current carrying capacity of 1A @ 24 VDC

Digital Input: 2 inputs electrically isolated from the electronics

Software

Network Protocols: ICMP, TCP/IP, UDP, DHCP, Telnet, DNS, SNMP, HTTP, HTTPS, SMTP, SNTP, ARP

Operation Modes: RealCOM, Secure RealCOM, TCP Server, Secure TCP Server, TCP Client, Secure TCP Client, UDP, RFC2217, Ethernet Modem, SMS Tunnel

Configuration and Management Options: SNMP MIB-II, v3, DDNS, IP Report, Web/Telnet/Serial Console, Serial Logging

Authentication: Local user-name and password

Security: Accessible IP list

Utilities: Provided for Windows 98, ME, NT, 2000, XP, 2003, XP x64, 2003 x64, Vista x64

Windows Drivers: Windows 98, ME, NT, 2000, XP, 2003, XP x64, 2003 x64, Vista 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

Real TTY Drivers: Linux kernels 2.2.x, 2.4.x, 2.6.x

Physical Characteristics

Housing: Aluminum, providing IP30 protection

Environmental Limits

Operating Temperature: -30 to 55°C (-22 to 131°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

Data Link: 585 to 1185 mA (peak) @ 12 V

Regulatory Approvals

Safety:

UL: UL60950

TÜV: EN60950

EMC:

CE: EN55022 Class A / EN55024

FCC: FCC part 15 subpart B, Class A

EN61000-4-2 (ESD) Level 4

EN61000-4-3 (RS) Level 3

EN61000-4-4 (EFT) Level 4

EN61000-4-5 (Surge) Level 3

EN61000-4-8 Level 3

EN61000-4-12 Level 3

RF:

FCC Part22H

FCC PART24E

EN301 489-1

EN301 489-7

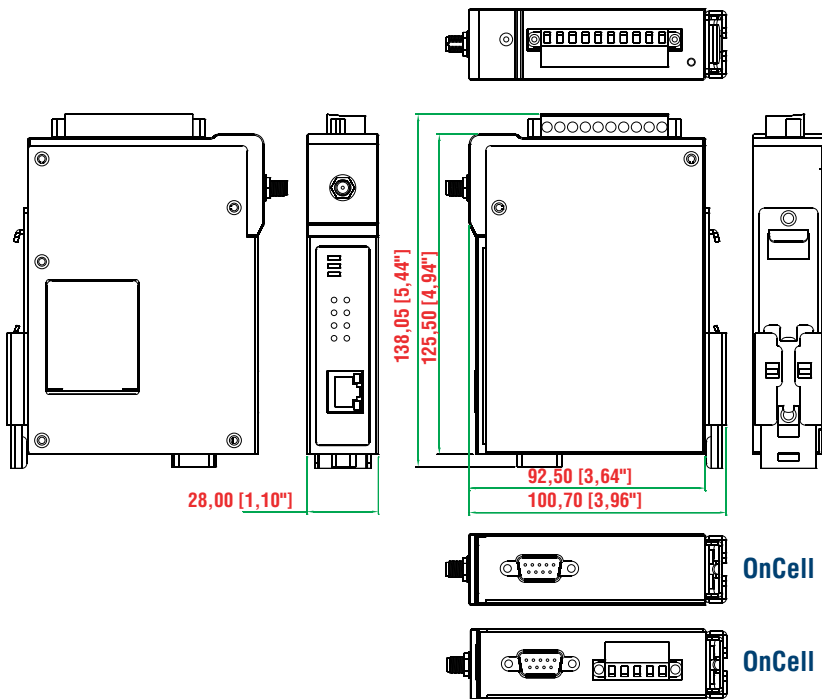
EN301 511

Warranty

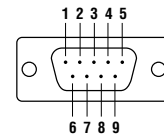
Warranty Period: 5 years

Details: See www.moxa.com/warranty

Dimensions (unit: mm) & Pin Assignment



DB9 male connector



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	-	-	-

OnCell G3110

OnCell G3150

: Ordering Information

Available Models

OnCell G3110: 1-port RS-232 to GSM/GPRS/EDGE IP modem

OnCell G3150: 1-port RS-232/422/485 to GSM/GPRS/EDGE IP modem

Optional Accessories (can be purchased separately)

Power Adaptor: 1.2 A (or above) @ 12 V

DC Power Supply: See Appendix A

Power Jack to Terminal Block Cable: 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

Package Checklist

- OnCell G3100 IP modem
- Rubber SMA antenna
- DIN-Rail Kit
- 5-Pin Terminal Block (screw type)
- 10-Pin Terminal Block (screw type)
- Document and Software CD
- Quick Installation Guide (printed)
- Warranty Card