

# CloudGate



## Smart wireless M2M SOLUTIONS

- Transportation & Logistics
- Industrial & Remote Asset Monitoring
- Smart Cities & Environmental Monitoring
- Healthcare

# CloudGate models



LTE WW

3G Americas

3G EMEA

3G JP/APAC

Ethernet

WWAN Modem	Supported frequency bands	700/800/850/900/1800/1900/2100/2600/AWS (B 1-5, 7, 8, 13, 17, 18, 19, 20)	Not applicable				
	LTE	Max. connectivity speeds	100Mbps down, 50Mbps up (Cat3) Theoretical LTE data rates	Not applicable			
WWAN Modem	3G/2G	Supported frequency bands	<ul style="list-style-type: none"> <li>UMTS/HSDPA/HSUPA/HSPA+: 850/900/1900/2100 MHz and AWS band (1700/2100 MHz) (B 1, 2, 4, 5, 8)</li> <li>GSM/GPRS/EDGE: 850/900/1800/1900 MHz</li> </ul>	<ul style="list-style-type: none"> <li>UMTS/HSDPA/HSUPA/HSPA+: 800-850/900/ 1900/2100 MHz and AWS band (1700/2100 MHz) (B1, 2, 4, 5, 6, 8)</li> <li>CDMA 1xRTT/EV-DO rev0/ EV-DO revA: 800/1900 (BC0, BC1)</li> <li>GSM/GPRS/EDGE: 850/900/1800/1900 MHz</li> </ul>	<ul style="list-style-type: none"> <li>UMTS/HSDPA/HSUPA/HSPA+: 800-850/900/ 1900/2100 MHz and AWS band (1700/2100 MHz) (B1, 2, 4, 5, 6, 8)</li> <li>GSM/GPRS/EDGE: 850/900/1800/1900 MHz</li> </ul>	<ul style="list-style-type: none"> <li>UMTS/HSDPA/HSUPA/HSPA+: 800-850/900/ 1900/2100 MHz (B1, 2, 5, 6, 8)</li> <li>GSM/GPRS/EDGE: 850/900/1800/1900 MHz</li> </ul>	Not included
		Max. connectivity speeds	<ul style="list-style-type: none"> <li>DC-HSPA+: 42 Mbps (Cat 24) down</li> <li>5.76 (Cat 6) up</li> </ul>	<ul style="list-style-type: none"> <li>HSPA+: 14.4 Mbps (Cat 10) down</li> <li>5.76 (Cat 6) up</li> <li>EV-DO RevA mode: 3.1 Mbps FL/1.8 Mbps RL</li> </ul>	<ul style="list-style-type: none"> <li>HSPA+: 14.4 Mbps (Cat 10) down</li> <li>5.76 (Cat 6) up</li> </ul>	<ul style="list-style-type: none"> <li>HSPA+: 14.4 Mbps (Cat 10) down</li> <li>5.76 (Cat 6) up</li> </ul>	Not included
	Rx Diversity	Simultaneous Equalization and Rx Diversity on all bands	Simultaneous Equalization and Rx Diversity on all bands	Simultaneous Equalization and Rx Diversity on all bands	Simultaneous Equalization and Rx Diversity on all bands	Not included	
WWAN Antenna	Antenna connector	<ul style="list-style-type: none"> <li>1 x SMA: WWAN Main</li> <li>1 x SMA: WWAN Div/GPS</li> </ul>	<ul style="list-style-type: none"> <li>1 x SMA: WWAN Main</li> <li>1 x SMA: WWAN Div/GPS</li> </ul>	<ul style="list-style-type: none"> <li>1 x SMA: WWAN Main</li> <li>1 x SMA: WWAN Div/GPS</li> </ul>	<ul style="list-style-type: none"> <li>1 x SMA: WWAN Main</li> <li>1 x SMA: WWAN Div/GPS</li> </ul>	Not included	
GPS		High sensitivity A-GPS /A-GLONASS receiver (SUPL 1.0 & SUPL 2.0)	Standalone GPS, Assisted GPS, gps OneXTRA™ Wideband GPS processing (20MHz) for improved measurement accuracy	Standalone GPS, Assisted GPS, gps OneXTRA™ Wideband GPS processing (20MHz) for improved measurement accuracy	Standalone GPS, Assisted GPS Wideband GPS processing (20MHz) for improved measurement accuracy	Not included	
SIM	USIM/SIM connection – Class B and Class C	✓	✓	✓	✓	Not applicable	
CPU		ARM926EJ-S @ 450MHz Memory avail. for customer apps Up to 130MB developer image size 20MB R/W flash shared with system 85MB free RAM 4MB Configuration data	ARM926EJ-S @ 450MHz Memory avail. for customer apps 30MB R/O flash for executables 20MB R/W flash shared with system 40MB free RAM 4MB Configuration data	ARM926EJ-S @ 450MHz Memory avail. for customer apps 30MB R/O flash for executables 20MB R/W flash shared with system 40MB free RAM 4MB Configuration data	ARM926EJ-S @ 450MHz Memory avail. for customer apps 30MB R/O flash for executables 20MB R/W flash shared with system 40MB free RAM 4MB Configuration data	ARM926EJ-S @ 450MHz Memory avail. for customer apps 30MB R/O flash for executables 20MB R/W flash shared with system 40MB free RAM 4MB Configuration data	
Ethernet (IEEE 802.3)	10/100Mb/s RJ45 Connector	✓	✓	✓	✓	✓	
microSD card reader		✓	Not included	Not included	Not included	Not included	
Power control	Timed Wakeup	✓	Not included	Not included	Not included	Not included	
Power	DC Power in, 9-33 V DC	✓	✓	✓	✓	✓	
	Connector type Micro-Fit, Dual row, 4 circuits	✓	✓	✓	✓	✓	
Case	Dimension (115x105x45mm)	✓	✓	✓	✓	✓	
	Weight	304g	294g	294g	294g	282g	
	Mounting - Bulkhead - 4x M4 holes - DINrail - with adapter	✓	✓	✓	✓	✓	
Environ-mentals	Operating temperature	-30°C to +70°C	-30°C to +70°C	-30°C to +70°C	-30°C to +70°C	-30°C to +70°C	
	Storage temperature	-40°C to +70°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	
	Humidity operational.: 5% - 95%	5% - 95%	5% - 95%	5% - 95%	5% - 95%	5% - 95%	
Certifications		CE, FCC, IC, PTCRB, E-mark, EN50155, AT&T, T-Mobile, Verizon, Latam	FCC, IC, PTCRB, IFETEL AT&T, T-Mobile, Sprint, Verizon, Bell Mobility, Telus, Aeris, Telcel, Entel, US Cellular, Latam	CE, E-mark, RCM	JATE, Telec Softbank, NTT docomo	CE, FCC, IC	
Std. compliance	ROHS, Reach	✓	✓	✓	✓	✓	
CloudGate Universe	Device can be configured OTA using CloudGate Universe	✓	✓	✓	✓	✓	
Expansion cards	2 x expansion slots for adding cards: WLAN expansion card, Low cost serial card, Industrial serial card, Ethernet switch, Telematics card	✓	✓	✓	✓	✓	
Developers	Support CloudGate development kit: Developer board, Breadboard, SDK, HDK	✓	✓	✓	✓	✓	
In the box	All other accessories (i.e. power cable, antennas etc.) sold seperately	CloudGate + Quickstart Guide	CloudGate + Quickstart Guide	CloudGate + Quickstart Guide	CloudGate + Quickstart Guide	CloudGate + Quickstart Guide	
Product Code		CG 0114-11987	CG 0192-11897	CG 0112-11938	CG 0122-11978	CG 0102-11955	

# Expansion Cards

## Wireless cards



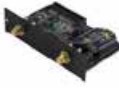
### WLAN CG 2101-11921

- 802.11 a/b/g/n
- Simultaneous client and access point mode (10 users)
- Failover to Wireless LAN client for WAN connectivity
- Dual SSID



### WLAN access point CG 2102-11994

- 802.11 a/b/g/n
- Access point, up to 32 simultaneous users



### XBee/Bluetooth 1008826

- XBee or XBee Pro compliant
- Bluetooth LE option available

## Ethernet cards



### 4-port Ethernet

- 4 port 10/100 Base-T, µSD card CG 1104-11936
- or
- 4 port 10/100 Base-T, µSD card with 2 ports Class 4 PoE or 4 ports up to Class 3 Power Over Ethernet (PoE) to allow you to power external devices. (requires special power supply) CG 1103-11936 with PoE



### 1-port Ethernet CG 1109-11991

- 1 port 10/100 Base-T, µSD card

## Development cards



### Developer CG 1105-11937 for software developer

- Extended format card with headers for all interfaces
- Includes headers for access to USB, USB on the go, RS-232, I2C, SPI/SD and GPIO lines.
- On board temperature sensor, relay, SD card slot and RS232 serial port

## Serial cards

### Low cost serial CG 1101-11919

- One RS-232 serial port. 921.6 Kbaud maximum speed

### Industrial serial CG 1102-11920

- One RS-232 serial port. 921.6 Kbaud maximum speed
- One 2KV isolated RS-485 serial port. 921.6 Kbaud maximum speed. Full duplex or half duplex, 2 wire or 4 wire. Switchable termination.

### Dual serial 1008828

- Two RS-232 serial ports, 921.6 Kbaud max. speed
- One USB type A Host port

## Specialty cards

### Telematics CG 1106-11957,

CG 5106-11983 with I/O expander, CG 5106-11984 with CAN I/O expander

- Adds flexible I/O and connectivity for industrial telematics applications to CloudGate
- Built in 3 axis accelerometer for movement detection and other applications
- Additional SIM card slot for backup or roaming SIM
- Built in microcontroller offloads all I/O from CloudGate
- Breakout card available for developers

### nanoWiPOM 1008825

- Two RS-232 ports, and one RS-485 port as MODBUS master or slave
- Two Analog Inputs, selectable as 4-20mA, 0-5V or 0-10V
- Four Digital Inputs, Two Digital Outputs (High current)

### KNX CG 1110-12012 (CG 5112-12023 with RS485 expander)

- KNX Twisted Pair TP1 interface and 80mA DPSU
- On board Real Time Clock and µSD socket
- USB connector and I/O expander for additional interfacing (2nd KNX TP1 or RS485)
- Built-in microcontroller offloads all I/O from CloudGate

### Breadboard CG 1108-11980 for hardware developer

- Ideal for prototyping your own expansion card
- Supports 3 types of connections:
  - All signals on the back connector can be tapped off on breadboard area near this connector
  - 2.54mm pitch components can be soldered on main breadboard area
  - 3.5mm pitch connectors can be soldered on front two rows to provide a more reliable and longterm connection

SDK  
+  
HDK

# Accessories



### Power Supply

- Standard 9-33VDC power supply
- Output voltage 12V DC
- Max output current 1A
- Number of pins: 4
- Molex Micro-Fit 3.0 connector (MX-43025-0400)
- Can also be delivered as a DC power cable with Micro-Fit connector (3m)

### 3G WWAN Antenna

- 800-2200MHz for 3G (GSM or CDMA)
- SMA male connector
- Rotatable hinge design
- 3" length
- Recommended: Taoglas TG.09.0113

### 4G WWAN/GPS Antenna

- 698-2690 MHz for 2G/3G/4G/GPS
- SMA male connector
- Hinged design
- 7" Length
- Recommended: Taoglas TG.10.0113

### WLAN Antenna

- 2.4 and 5 GHz for WiFi
- RP-SMA male connector
- Hinged design
- 6" Length
- Recommended: Taoglas GW.59.3153

### Torx T6 Screwdriver

- A Torx T6 screwdriver is needed when installing/removing an expansion card or SIM card

External antenna options also available

# CloudGate UNIVERSE (http://cloudgate.option.com)



**CONFIGURE ONE** of your devices for a specific site.  
**CONFIGURE SOME** of your devices for a particular application or customer.  
**CONFIGURE ALL** of your devices to the same settings.

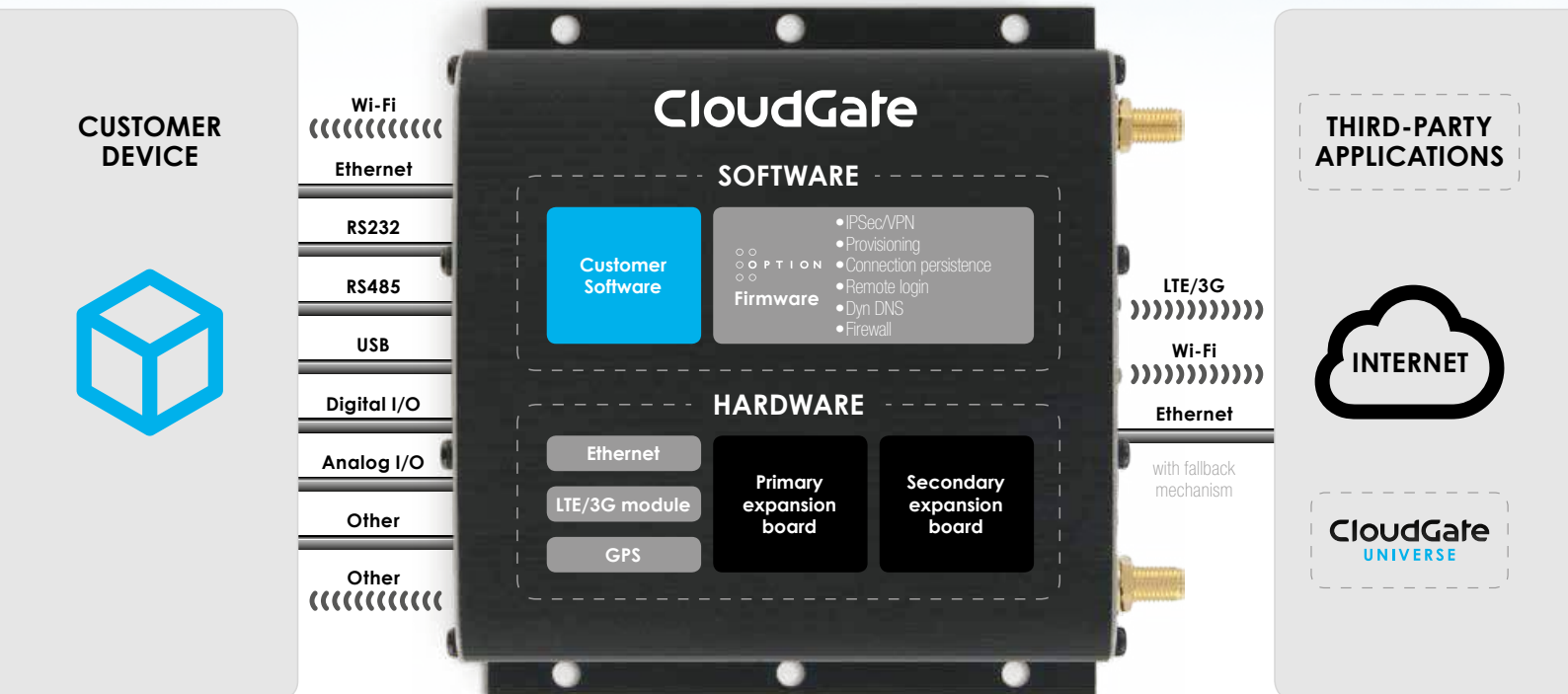
- Device and Radio Settings:
  - Auto Recovery Settings
  - APNs
  - Connection Monitoring Settings
  - Username/password, etc.
- Drivers for expansion modules
- Applications



- Visually configurable device agent for design and deployment of smart M2M Solutions
- Easy-to-use graphical, "drag and drop & visual wiring" configuration environment for CloudGate Gateway devices
  - Configuration with minimal programming
  - Application development in only

- minutes
  - Rapid application prototyping, testing and deployment
  - Supports a wide variety of sensors, aka "node sets"
  - Reduced risk/lower cost
  - Shorter sales cycles
  - Drives innovation by enabling "risk taking"

CloudGate is the carrier-approved M2M solution platform that delivers device connectivity, security and processing power for global M2M applications. Quick and cost-effective to implement, each device comes with CloudGate Universe, Option's cloud-based configuration and deployment platform, as well as the CloudGate SDK for rapid application development and the CloudGate HDK for prototyping custom expansion cards and LuvitRed, a visually configurable device agent with an easy-to-use graphical, "drag and drop & visual wiring" configuration environment for CloudGate Gateway devices. A pre-built library of software applications and a selection of modular hardware extensions means that CloudGate solutions deliver ease of deployment and maximum flexibility. Only Option delivers a complete M2M ecosystem.



As part of the continual product improvement process, OPTION reserves the right to alter the specifications of this product.  
 © 2014 OPTION. Option and the Option logo are registered trademarks of OPTION. All third-party trademarks are the property of the respective owners.  
 Option nv - Gaston Geenslaan 14 - 3001 Leuven Belgium - T +32 16 317 411 - F +32 16 207 164 - www.option.com



dataSheet\_v1.3

1. Select a CloudGate model with expansion cards and/or accessories to suit your needs



2. Configure CloudGate Universe, the provisioning server



3. ...and start to CONNECT THINGS to the Cloud

