

OPTION

# CloudGate



## Smart wireless M2M SOLUTIONS

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

# CloudGate models



4G LTE WW



3G (Gobi)



Non-cellular

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 included	
	Max. connectivity speeds	100Mbps down, 50Mbps up (Cat3) Theoretical LTE data rates		
WWAN Modem 3G	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>	Not included
	Max. connectivity speeds	• DC-HSPA+: 42 Mbps (Cat 24) down 5.76 (Cat 6) up	• HSPA+: 14.4 Mbps (Cat 10) down 5.76 (Cat 6) up • EV-DO RevA mode: 3.1 Mbps FL/1.8 Mbps RL	Not included
	Rx Diversity	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>	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	Not included
SIM	USIM/SIM connection – Class B and Class C	✓	✓	Not included
CPU		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
Power control	Timed Wakeup	✓	Not included	Not included
Power	DC Power in, 9-33 V DC	✓	✓	✓
	Connector type Micro-Fit, Dual row, 4 circuits	✓	✓	✓
Case	Dimension (115 x 105 x 45mm)	✓	✓	✓
	Weight	304g	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
	Storage temperature	-40°C to +70°C	-40°C to +85°C	-40°C to +85°C
	Humidity operational.: 5% - 95%	5% - 95%	5% - 95%	5% - 95%
Certifications		CE, FCC, IC, PTCRB, EMEA AT&T, T-Mobile, Verizon, Bell Mobility, Telus	FCC, IC, PTCRB, IFETEL AT&T, T-Mobile, Sprint, Verizon, Bell Mobility, Telus, Aeris, Telcel, US Cellular	CE, IC, FCC
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
Product Code		CG 0114-11987	CG 0192-11897	CG 0102-11955

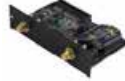
# Expansion Cards

## Wireless



### WiFi card

- 802.11 a/b/g/n
- Simultaneous access point and client mode
- Failover to Wireless LAN client for WAN connectivity
- Dual SSID
- 30 user card available with Access Point Only mode



### XBee card

- XBee or XBee Pro compliant



### Bluetooth card

- Bluetooth LE or Classic compliant

## Ethernet



### 4-port Ethernet card

- 4 port 10/100 Base-T,  $\mu$ SD card or
- 4 port 10/100 Base-T,  $\mu$ SD 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)



### 1-port Ethernet card

- 1 port 10/100 Base-T,  $\mu$ SD card

## Development



### Developer card 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

### Low cost serial card

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

### Industrial serial card

- 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 card with USB Host

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

## Specialty

### Telematics card

- 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

### nanoWiPOM card

- Mini PLC Capability
- 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)

### Breadboard card for hardware developer

- Ideal for prototyping your own expansion card
- Fits in the front expansion slot of the CloudGate
- 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
- Adapter boards are available online to integrate fine-pitch components (see [www.breadboard-adapters.com](http://www.breadboard-adapters.com))

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)



### WWAN Antenna

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



### 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>)

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



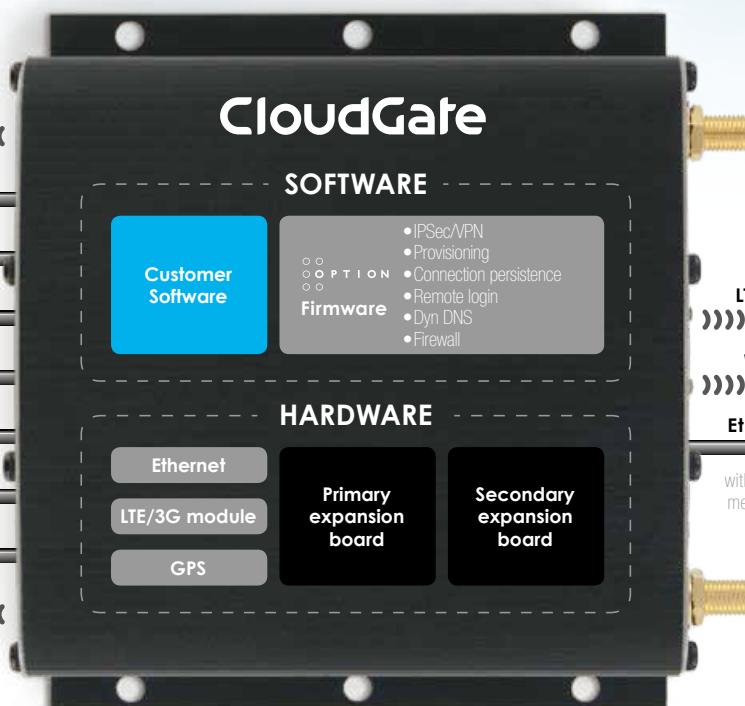
- CONFIGURE ONE**  
of your devices for a specific site.
- CONFIGURE SOME**  
of your devices for a particular application or customer.
- CONFIGURE ALL**  
of your devices to the same settings.

Option CloudGate, smart wireless M2M solutions. 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. 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. Cloudgate, smart wireless M2M solutions.

## CUSTOMER DEVICE



Wi-Fi  
Ethernet  
RS232  
RS485  
USB  
Digital I/O  
Analog I/O  
Other  
Other



## THIRD-PARTY APPLICATIONS



CloudGate  
UNIVERSE

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DataSheet\_v1.1

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

