CloudGate

Smart IOT Gateway

• Transports & Logistics
• Industrial & Remote Asset Monitoring
• Smart Cities & Environmental Monitoring
<table>
<thead>
<tr>
<th>CloudGate Models</th>
<th>LTE WW</th>
<th>CG LTE US rev 3</th>
<th>3G EMEA rev 3</th>
<th>Ethernet 2.0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WWAN Modem</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LTE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supported frequency bands</td>
<td>700/800/850/900/1800/2100/2600 AWs</td>
<td>LTE FDD: 700/850/1900/AWS (B8/B4/B8/B17)</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Max. connectivity speeds</td>
<td>50Mbps Down</td>
<td>500Mbps Down</td>
<td></td>
<td>Not applicable</td>
</tr>
<tr>
<td>WWAN Modem</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supported frequency bands</td>
<td>• UMTS: HSDPA/HSUPA/HS+PA: 850/900/1900/2100 MHz and AWS band (1700/1900 MHz)</td>
<td>• UMTS: HSDPA/HSUPA/HS+PA: 900/2100 MHz</td>
<td>Not included</td>
<td></td>
</tr>
<tr>
<td>Max. connectivity speeds</td>
<td>50Mbps Down</td>
<td>500Mbps Down</td>
<td></td>
<td>Not included</td>
</tr>
<tr>
<td>3G/2G</td>
<td></td>
<td></td>
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<tr>
<td>Supported frequency bands</td>
<td>• DC-HSPA: 42 Mbps (Cat 24) down</td>
<td>• DC-HSPA: 42 Mbps (Cat 24) down</td>
<td>• HSPA+: 14.4 Mbps (Cat 10) down</td>
<td>Not included</td>
</tr>
<tr>
<td>Rx Diversity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antenna connector</td>
<td>• 1 x SMA: WWAN Main</td>
<td>• 1 x SMA: WWAN MIMO</td>
<td>• 1 x SMA: WWAN Main</td>
<td>Not included</td>
</tr>
<tr>
<td>GPS</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>High sensitivity A-GPS/A-GLOMANN receiver (SPL 1.0 &amp; SPL 2.0)</td>
<td>• Standalone GPS, Assisted GPS, GPS OneTouch™</td>
<td>• Standalone GPS, Assisted GPS, GPS OneTouch™</td>
<td>Not included</td>
<td></td>
</tr>
<tr>
<td>Active antenna support</td>
<td>• Wideband GPS processing (20MHz) for improved measurement accuracy</td>
<td>• Wideband GPS processing (20MHz) for improved measurement accuracy</td>
<td>Not included</td>
<td></td>
</tr>
<tr>
<td>DIM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>USIM/SIM connection – Class B and Class C</td>
<td>Yes</td>
<td>Yes</td>
<td>No applicable</td>
<td></td>
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<tr>
<td><strong>CPU</strong></td>
<td></td>
<td></td>
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<tr>
<td>ARM926EJ-S @ 450 MHz Memory available for customer apps 512MB Flash (available: 20MB for data, 30MB for application, 372MB extra data partition)</td>
<td>ARM926EJ-S @ 450 MHz Memory available for customer apps 512MB Flash (available: 20MB for data, 30MB for application, 372MB extra data partition)</td>
<td>ARM926EJ-S @ 450 MHz Memory available for customer apps 512MB Flash (available: 20MB for data, 30MB for application, 372MB extra data partition)</td>
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<tr>
<td><strong>SIM</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>USIM/SIM connection – Class B and Class C</td>
<td>Yes</td>
<td>Yes</td>
<td>No applicable</td>
<td></td>
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<tr>
<td><strong>Power</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC Power in, 9-33 V DC</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Connector type Micro-Fit, Dual row, 4 circuits</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Case</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Dimension (115x105x45mm)</td>
<td>Yes</td>
<td>Yes</td>
<td>No applicable</td>
<td></td>
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<tr>
<td>Weight 30g</td>
<td>294g</td>
<td>294g</td>
<td>282g</td>
<td></td>
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<tr>
<td><strong>Environmental</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-30°C to +70°C</td>
<td>-30°C to +70°C</td>
<td>-30°C to +70°C</td>
<td>-30°C to +70°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-40°C to +70°C</td>
<td>-40°C to +70°C</td>
<td>-40°C to +70°C</td>
<td>-40°C to +70°C</td>
</tr>
<tr>
<td>Humidity operational: 5% - 95%</td>
<td>5% - 95%</td>
<td>5% - 95%</td>
<td>5% - 95%</td>
<td>5% - 95%</td>
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<tr>
<td><strong>Certifications</strong></td>
<td></td>
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<tr>
<td>CE, FCC, IC, PTPRB, E-mark, ENS1055, AT&amp;T, T-Mobile, Verizon, China, Australia, Singapore</td>
<td>FCC, IC, AT&amp;T, T-Mobile, Verizon, CE, TEMA, RCM</td>
<td>CE, FCC, IC</td>
<td>CE, FCC, IC</td>
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<tr>
<td><strong>Std. compliance</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>ROHS, Reach</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td><strong>CloudGate Universe</strong></td>
<td></td>
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<tr>
<td>Device can be configured OTA using CloudGate Universe</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td><strong>Expansion cards</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2 x expansion slots for adding cards</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td><strong>For developers</strong></td>
<td></td>
<td></td>
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<tr>
<td>Support CloudGate development kit, Developer board, Breadboard, SDK, SDK</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>In the box</strong></td>
<td></td>
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<tr>
<td>Accessories are available (i.e. Power cable, antenna’s etc.)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Product Code</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CG0114-12019</td>
<td>CG0199-12102</td>
<td>C0118-12043</td>
<td>C102-11972</td>
<td></td>
</tr>
</tbody>
</table>

**Accessories**
- 3G/LTE antenna (Granditek)
- WiFi antenna (Tanberg)
- External antenna LTE/GPS A/WiFi AP 1533 b-0.4m
- External antenna LTE/GPS A/WiFi AP 1533 b-1.5m
- External antenna LTE/GPS A/WiFi AP 1533 b-3m
- 3G/LTE antenna (Granditek)
- WiFi antenna (Granditek)
- DC power cable with micro-fit connector 3m (3-wires)
- AC power supply 12V/1.5A class 6 and cable with micro-fit connector 1.5m (interchangeable blades)
- US interchangeable plug for power supply
- EU interchangeable plug for power supply
- UK interchangeable plug for power supply
- AU interchangeable plug for power supply
- Telematics ID break-out board and cable
- Telematics card connector (9pin2)
- Preassembled cables for Telematics cards (9pin2)
- EU interchangeable plug for power supply
- US interchangeable plug for power supply
- UK interchangeable plug for power supply
- AU interchangeable plug for power supply
- Telematics ID break-out board and cable
- Telematics card connector (9pin2)
- Preassembled cables for Telematics cards (9pin2)
EXPANSION CARDS

• BiPOM - 4-port USB card
• BiPOM - 2-RS232 & USB card
• AiriCOM - Industrial grade IO card

STANDARD SERIAL CARD

• 4-port 10/100 Base-T, µSD card holder
• One 2KV isolated RS-485 serial port
• One RS-232 serial port 921,6 Kbaud maximum speed
• On board temperature sensor, relay, SD card slot and RS232 serial port.

STANDARD CARDS

• BLE Bluetooth Low Energy CARD
• Nordic Semiconductor nRF52 chipset
• Multiprotocol radio allows other protocol stacks as well
• OTA-DFU (Over-The-Air Device Firmware Update) capable
• Connect (i)locations to your CloudGate for RTLS applications

• BREADBOARD CARD for HW developer
• 3.5 mm pitch connectors can be tapped off
• All signals on the back connector can be soldered on main breadboard area
• Can be soldered on front rows to provide a more reliable and long-term connection

• LoRoWAN CARD
• CG2118-12078 (868 MHz)
• CG2119-12001 (915 MHz)
• CG2121-12089 (433 MHz)
• Available for 433 MHz, 868 MHz and 915 MHz LoRa devices
• Connects LoRa sensors/actuators to private & public LoRa networks
• Optionally combined with WLAN connectivity

• MONNIT® CARD
• CG2111-12049 (868 MHz)
• CG2112-12049 (900 MHz)
• CG2113-12049 (868 MHz)
• For 433 MHz, 868 MHz and 900 MHz Monnit devices
• Connects LoRa sensors/actuators to private & public LoRa networks
• Optionally combined with WLAN connectivity
• Connects up to 10 Monnit sensors

• WLAN CARD Client & Access point CG2101-11921
• 802.11 a/b/g/n
• Access point up to 10 simultaneous users
• Supports 5 simultaneous users

• DEVELOPER CARD for SW developer CG1105-11937
• Extended format card for 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.

• TELEMATICS CARD - extended IO & CAN CG1108-11984
• Adds flexible IO and RS232/RS485/USB/CAN connectivity for industrial and telematics applications to CloudGate
• Built-in 3-axis accelerometer for movement detection and other applications
• Additional SIM card slot for back-up running SIM
• Built-in microcontroller offloads all IO from CloudGate
• Breakout card (CG1201-12018) available for developers

• Internet expansion card CG1104-11936
• 4-port 10/100 Base-T, µSD card holder

Partners Card

• AVICOM - Industrial grade IO card
• ATIM – LoRa card
• BIPOM - Nano-WPOn card
• BIPOM - 2-3232 & USB card
• BIPOM - 4-port USB card
• BIPOM - SIFlex card
• BIPOM - Multiwireless card
• BIPOM - Monnit card
• BoilerConnect - GPIO card
• Boxen – IORF card
• Giga Concept - RFID card
• Paksense - Temperature sensing card
• USBRobotics - Modemulator card
• 5A - MicroSD holder card

CloudGate Applications

With CloudGate Universe Option supports its partners by providing the easiest and most cost-effective deployment mechanism for their software solutions. A provisioning system dedicated to delivering Option and third party software and product configuration to CloudGate gateways. CloudGate Universe is part of the CloudGate solution with no registration cost or yearly fees and no competition with system integrator or software developer services and products. Configure just one, some or all your devices for a particular site, application or customer and configure all your devices to the same device setting.

CloudGate Universe is part of the CloudGate for RTLS applications and third party software and product configuration to CloudGate gateways. CloudGate Universe is part of the CloudGate solution with no registration cost or yearly fees and no competition with system integrator or software developer services and products. Configure just one, some or all your devices for a particular site, application or customer and configure all your devices to the same device setting.

With CloudGate Universe Option supports its partners by providing the easiest and most cost-effective deployment mechanism for their software solutions. A provisioning system dedicated to delivering Option and third party software and product configuration to CloudGate gateways.

PARTNER CARDS

• CloudGate Universe
• CloudGate Universe
• CloudGate Universe

Solutions

• CloudGate Universe
• CloudGate Universe
• CloudGate Universe

Applications

• CloudGate Universe
• CloudGate Universe
• CloudGate Universe

Award-winning visually configurable CloudGate application for design and deployment of smart IoT solutions delivering true IoE edge computing. Key features:
• Drag & drop and visual wiring configuration environment for Cloudgate devices
• Drag & drop and visual wiring configuration with minimal programming
• Rapid application development in only minutes
• Supports a wide variety of sensors aka „node sets“
• Reduces risk/lowers development cost
• Shorter sales cycles
• Drives innovation by enabling “risktaking”

Benefits:
• CloudGate gateway can create VPN tunnels upon request without the need for a permanent VPN tunnel thus reducing the data traffic associated with secure remote access
• VPN tunnel leverages built-in VPN clients of major OS suppliers and device manufacturers making life cycle management easier, robust & cost effective
• Self provisioning and support for bulk device provisioning via webbased UI
• Fully qualified domain names used to obtain access to the device
• Multi-tier support - device access based on permissions

www.cloudgateuniverse.com
Option Wireless Technology’s CloudGate is the carrier-approved IoT solution platform that delivers device connectivity, security, and processing power for global IoT applications. It includes the world wide carrier-approved intelligent CloudGate gateway that comes with CloudGate Universe, Option’s cloud-based configuration and deployment platform, as well as the CloudGate SDK for rapid application development, the CloudGate HDK for prototyping custom expansion cards and award-winning LuvitRed, a visually configurable device agent with easy-to-use graphical, “drag and drop &visual wiring” configuration. LuvitRed overcomes complexities of the vast variety of protocols used in different IoT verticals and delivers true IoT Edge Computing capabilities on CloudGate in an easy way. A pre-built library of software applications and modular hardware extensions ensure ease of deployment and maximum flexibility. Only Option delivers a complete M2M ecosystem.