OPTION

RG2i Groupe 2AR

CloudGate

4.0 NEXT GENERATION

option.com

IoT gateways designed with Option CloudGate signature features

- Ruggedized design
- Industrial grade temperature ranges
- Timed wake-up & ignition sensing
- Passive & active GPS antenna support
- SIM connection

INTRODUCING mini & micro

All CloudGate 4.0 next generation IoT gateways feature world-wide connectivity & optional Li-ion battery.

OPTION		CloudGate Industrial grade, highly customizable cellular connectivity	CloudGate mini Industrial grade cellular connectivity with advanced IO	CloudGate micro Industrial grade, cost-effective cellular connectivity
		CloudGate LTE WW REV4	**CloudGate mini**	**CloudGate micro**
WWAN Modem LTE	Supported frequency bands	• LTE FDD: B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B26, B28 • TDD: 38/39/40/41	• LTE FDD: B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B26, B28 • TDD: 38/39/40/41	• LTE FDD: B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B26, B28 • TDD: 38/39/40/41
	Max. connectivity speeds	• LTE DL 150 Mbps, UL50 Mbps	• LTE DL 150 Mbps, UL50 Mbps	• LTE DL 150 Mbps, UL50 Mbps
WWAN Modem 3G/2G	Supported frequency bands	• GSM/GPRS/EDGE: 850/900/1800/1900 MHz (B2, B3, B5, B8) • UMTS/HSDPA/HSUPA/HSPA+: 800-850/ 900/AWS (1700/2100)/1800/1900/2100 MHz (B1, B2, B4, B5, B6, B8, B19)	• UMTS/HSDPA/HSUPA/HSPA+: 800-850/ 900/AWS (1700/2100)/1800/1900/2100 MHz (B1, B2, B4, B5, B6, B8, B19)	• UMTS/HSDPA/HSUPA/HSPA+: 800-850/ 900/AWS (1700/2100)/1800/1900/2100 MHz (B1, B2, B4, B5, B6, B8, B19)
	Max. connectivity speeds	• DC-HSPA+ DL 42 Mbps, UL 5,76 Mbps	• DC-HSPA+ DL 42 Mbps, UL 5,76 Mbps	• DC-HSPA+ DL 42 Mbps, UL 5,76 Mbps
	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
WWAN Antenna	Antenna connector	• 1 × SMA: WWAN Main • 1 × SMA: WWAN Div/GPS	• 1 × SMA: WWAN Main • 1 × SMA: WWAN Mimo/Div/GPS	• 1 × SMA: WWAN Main • 1 × SMA: WWAN Mimo/Div/GPS
GPS		• Standalone GPS, Assisted GPS, GPS OneXTRA™ • Wideband GPS processing (20MHz) for improved measurement accuracy • Passive/active GPS antenna support	• Standalone GPS, Assisted GPS, GPS OneXTRA™ • Wideband GPS processing (20MHz) for improved measurement accuracy • Passive/active GPS antenna support	• Standalone GPS, Assisted GPS, GPS OneXTRA™ • Wideband GPS processing (20MHz) for improved measurement accuracy • Passive/active GPS antenna support
SIM	USIM/SIM connection – Class B and Class C	✓	✓	✓
CPU		i.MX280 (ARM926EJ-S @ 450 MHz) Memory available for customer apps 512 MB Flash (20 MB for data, 30 MB for application, 372 MB extra data partition)	i.MX280 (ARM926EJ-S @ 450 MHz) Memory available for customer apps 256 MB Flash (20 MB for data, 30 MB for application, 0 MB extra data partition)	i.MX280 (ARM926EJ-S @ 450 MHz) Memory available for customer apps 256 MB Flash (20 MB for data, 30 MB for application, 0 MB extra data partition)
Ethernet (IEEE 802.3)	10/100Mb/s RJ45 Connector	✓	✓	✓
microSD card holder		on main PCB	on main PCB	on main PCB
Power control	Timed Wakeup	✓	✓	✓
	Ignition Sensing	✓	✓	✓
Battery	Optional	Li-Ion battery: optional last gasp function (up to 1h with limited functionality) Battery backup RTC (7 days)	Li-Ion battery: optional last gasp function (up to 1h with limited functionality)	Li-Ion battery: optional last gasp function (up to 1h with limited functionality)
Power input		• DC input voltage: 9-33 V DC • Connector: Micro-Fit 3.0TM, Dual row, 4-position	• DC input voltage: 9-33 V DC • Connector: Micro-Fit 3.0TM, Dual row, 4-position	• DC input voltage: 9-33 V DC • Connector: Micro-Fit 3.0TM, Dual row, 4-position
USB		✓ with optional expansion card	✗	✗
Rear Expansion card		✓ with optional expansion card	✓ with optional WAN or LoRa expansion card	✗
Front Expansion card		✓ with optional expansion card	✗ fixed functionality: I2C, 3 x GPIO, RS485 or RS232 and CAN bus port (up to 1 Mbps)	✗
Aluminium Case	Dimension (115 × 105 × 45mm)	115 × 106 × 45 mm 4.52 × 4.17 × 1.77 in	115 × 106 × 45 mm 4.52 × 4.17 × 1.77 in	115 × 106 × 45 mm 4.52 × 4.17 × 1.77 in
	Weight	285 g / 10.05 oz	285 g / 10.05 oz	285 g / 10.05 oz
	Mounting, Bulkhead, 4x M4 holes, DINrail with adapter	✓	✓	✓
	System status LED	✓	✓	✓
Environ-mentals	Operating temperature	-30°C to +70°C / -22°F to to 158°F	-30°C to +70°C/ -22°F to to 158°F	-30°C to +70°C / -22°F to to 158°F
	Storage temperature	-40°C to +85°C / -40°F to to 185°F	-40°C to +85°C / -40°F to to 185°F	-40°C to +85°C / -40°F to to 185°F
	Mounting, Bulkhead, 4x M4 holes, DIN rail with adapter	5% - 95%	5% - 95%	5% - 95%
Certifications		CE, FCC, PTCRB, ISED, AT&T, VZW, US Cellular	CE, FCC, PTCRB, ISED, AT&T, VZW, US Cellular	CE, FCC, PTCRB, ISED, AT&T, VZW, US Cellular
Std. compliance	ROHS, Reach, WEEE	✓	✓	✓
CloudGate Universe	Device can be configured OTA using CloudGate Universe	✓	✓	✓
For developers	CloudGate development kit: developer board, breadboard, SDK, HDK	✓	✓	✓
In the box	Accessories are available (i.e. Power cable, antenna's etc...)	CloudGate Gateway	CloudGate Gateway	CloudGate Gateway
Product Code		CG0124	CM1123	CM0125

OPTION

CloudGate

Smart IOT Gateway

- Transports & Logistics
- Industrial & Remote Asset Monitoring
- Smart Cities & Environmental Monitoring

CloudGate MODELS

LTE WW

CG LTE US rev 3

3G EMEA rev 3

Ethernet 2.0

		LTE WW	CG LTE US rev 3	3G EMEA rev 3	Ethernet 2.0
WWAN Modem LTE	Supported frequency bands	700/800/850/900/1800/1900/2100/2600/AWS (B 1-5, 7, 8, 13, 17, 18, 19, 20)	LTE FDD: 700/850/1900/AWS (B2/B4/B5/B13/B17)	Not applicable	
	Max. connectivity speeds	100Mbps down, 50Mbps up (Cat3) Theoretical LTE data rates	100Mbps Down, 50Mbps Up (Cat3)		
WWAN Modem 3G/2G	Supported frequency bands	• UMTS/HSDPA/HSUPA/HSPA+: 850/900/1900/2100 MHz and AWS band (1700/2100 MHz) (B 1, 2, 4, 5, 8) • GSM/GPRS/EDGE: 850/900/1800/1900 MHz	• UMTS/HSDPA/HSUPA/HSPA+: 850/1900/AWS (B2/B4/B5) • GSM/GPRS/EDGE: 850/900/1800/1900 Mhz	• UMTS/HSDPA/HSUPA/HSPA+: 900-2100 MHz (B1, 8) • GSM/GPRS/EDGE: 900/1900 MHz	Not included
	Max. connectivity speeds	• DC-HSPA+: 42 Mbps (Cat 24) down 5.76 (Cat 6) up	• DC-HSDPA: 42Mbps (Cat24) down, 5.76Mbps (Cat6) Up	• HSPA+: 14.4 Mbps (Cat 10) down 5.76 (Cat 6) up	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	Not included
WWAN Antenna	Antenna connector	• 1 x SMA: WWAN Main • 1 x SMA: WWAN Div/GPS	• 1 x SMA: WWAN Main • 1 x SMA: WWAN Mimo/Div/GPS	• 1 x SMA: WWAN Main • 1 x SMA: WWAN Div/GPS	Not included
GPS		• High sensitivity A-GPS /A-GLONASS receiver (SUPL 1.0 & SUPL 2.0) • Active GPS antenna support	• Standalone GPS, Assisted GPS, GPS OneXTRA™ • Wideband GPS processing (20MHz) for improved measurement accuracy • Passive/active GPS antenna support	• Standalone GPS, Assisted GPS, GPS OneXTRA™ • Wideband GPS processing (20MHz) for improved measurement accuracy • Passive/active GPS antenna support	Not included
SIM	USIM/SIM connection – Class B and Class C	✓	✓	✓	Not applicable
CPU		ARM926EJ-S @ 450 MHz Memory available for customer apps 512MB Flash (available : 20MB for data, 30MB for application, 372MB extra data partition) 128MB RAM (available : 85 MB)	ARM926EJ-S @ 450 MHz Memory available for customer apps 512MB Flash (available : 20MB for data, 30MB for application, 372MB extra data partition) 128MB RAM (available : 85 MB)	ARM926EJ-S @ 450 MHz Memory available for customer apps 512MB Flash (available : 20MB for data, 30MB for application, 372MB extra data partition) 128MB RAM (available : 85 MB)	ARM926EJ-S @ 450 MHz Memory available for customer apps 512MB Flash (available : 20MB for data, 30MB for application, 384MB extra data partition) 128MB RAM (available : 85 MB)
Ethernet (IEEE 802.3)	10/100Mb/s RJ45 Connector	✓	✓	✓	✓
microSD card holder		✓	Not included	Not included	Optional
Power control	Timed Wakeup	✓	• Timed wake-up possible with RTC and Cortex M0 in sleep mode • Remote modem wake-up	• Timed wake-up possible with RTC and Cortex M0 in sleep mode • Remote modem wake-up	• Timed wake-up possible with RTC and Cortex M0 in sleep mode
	Ignition Sensing	✓	✓	✓	✓
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	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
	Storage temperature	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C
	Humidity operational.: 5% - 95%	5% - 95%	5% - 95%	5% - 95%	5% - 95%
Certifications		CE, FCC, IC, PTCRB, E-mark, EN50155, AT&T, T-Mobile, Verizon, Latam, Australia, Singapore	FCC, IC, AT&T, T-Mobile, Verizon	CE, TRA, E-mark, RCM	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	✓	✓	✓	✓
For developers	Support CloudGate development kit: Developer board, Breadboard, SDK, HDK	✓	✓	✓	✓
In the box	Accessories are available (i.e. Power cable, antenna's etc.)	CloudGate Gateway	CloudGate Gateway	CloudGate Gateway	CloudGate Gateway
Product Code		CG0114-12019	CG0199-12102	CG118-12043	C102-11972

CloudGate ACCESSORIES

1008855 3g/LTE antenna (Grandtek)
1008379 WiFi antenna (Taoglass)
1009568 External antenna LTE/GPS A/WiFi AP 1533-b 0,4m
1009607 External antenna LTE/GPS A/WiFi AP 1533-b 1,5m
1009608 External antenna LTE/GPS A/WiFi AP 1533-b 3m
1008098 868/900 MHz antenna (Pulse)
1008607 DC power cable with microfit connector 3m (3-wire)
1009120 AC power supply 12V/1.5A class 6 and cable with microfit connector 1.5m (interchangeable blades)
1008890 US interchangeable plug for power supply
1008889 EU interchangeable plug for power supply
1008891 UK interchangeable plug for power supply
1009077 AU interchangeable plug for power supply
CG7101-12018 Telematics IO break-out board and cable
1008837 Telematics card IO connector (9x2)
1008836 Precrimped cables for Telematiccs card IO connector (300mm, 20 AWG)

CloudGate EXPANSION CARDS

STANDARD CARDS

Front slot

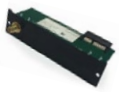
STANDARD SERIAL CARD CG1101-11919
- One RS-232 serial port 921,6 Kbaud maximum speed

INDUSTRIAL SERIAL CARD CG1102-11920
- 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.

ETHERNET EXPANSION CARD CG1104-11936
- 4-port 10/100 Base-T, µSD card holder

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 CG5106-11984
- Adds flexible IO and RS232/ RS485/USB/CAN connectivity for industrial and telematics applications to CloudGate
- Built-in 3 axis accelometer for movement detection and other applications
- Additional SIM card slot for back-up roaming SIM
- Built-in microcontroller offloads all IO from CloudGate
- Breakout card (CG7101-12018) available for developers



BLE Bluetooth Low Energy CARD CG1119-12096
- Bluetooth 4.2 LE
- Nordic Semiconductor nRF52 chipset
- Multiprotocol radio allows other protocol stacks as well
- OTA-DFU (Over-The-Air Device Firmware Update) capable
- Connect (i)Beacons to your CloudGate for RTLS applications

BREADBOARD CARD for HW developer CG1108-11980
- 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
  - 2.54 mm pitch components can be soldered on main breadboard area
  - 3.5 mm pitch connectors can be soldered on two front rows to provide a more reliable and longterm connection

Back slot

LoRaWAN CARD CG2118-12078 (868 MHz) CG2119-12091 (915 MHz) CG2121-12098 (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

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

MONNIT® CARD CG2111-12049 (868 MHz) CG2112-12050 (900 MHz) CG2113-12054 (433 MHz)
- Available for 433 MHz, 868 MHz and 900 MHz Monnit devices
- Connects up to 100 Monnit sensors

NON-STANDARD

Front slot

CG1109-11991	Ethernet card - 1 port
CG1103-11935	Ethernet card - 4 port with PoE
CG1106-11957	Telematics card
CG5106-11983	Telematics card with extended IO
CG5106-12052	Telematics card with extended IO (4-port current loop)
CG5106-12039	Telematics card with extended IO and CAN (4-port current loop)
CG1110-12012	KNX card
CG5221-12023	KNX bus with RS485 expander and P1
CG1121-12080	Xbee card
CG1118-12064	Smartcity card
CG1120-12079	M-bus slave - wM-bus card

Back slot

CG2102-11994	WXLAN access point card
CG2103-12047	Monnit® card with WLAN (868 MHz)
CG2104-12048	Monnit® card with WLAN (900 MHz)
CG2105-12053	Monnit® card with WLAN (433 MHz)
CG2117-12065	Xbee card
CG2120-12090	Smart Metering card

PARTNER CARDS

5A AiriCOM ATIM BiPOM FOXON Giga-concept PAKSENSE USRobotics

Front slot

- AiriCOM - Industrial grade IO card
- ATIM - LoRa card
- BiPOM - nano-WiPom card
- BiPOM -2-RS232 & USB card
- BiPOM - 4-port USB card
- BiPOM - SiFlex card
- BiPOM - Multiwireless card
- BiPOM - Monnit card
- BoilerConnect - GPIO card
- Foxon – IQRF card
- Giga Concept - RFID card
- Paksense - Temperature sensing card
- USRobotics - Modemulator card

Back slot

- 5A - MicroSD holder card

CloudGate APPLICATIONS

LuvitRED

Award-winning visually configurable CloudGate application for design and deployment of smart IoT solutions delivering true IoT edge computing.
Key features:
- 'Drag & drop and visual wiring' configuartion environment for Cloudgate devices
- 'Drag and 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'

SRAS

SECURE REMOTE ACCESS SERVICE

Provides Secure Remote Access from your laptop/smartphone to your CloudGate gateways and the devices attached to it. VPN tunnel is set-up from the CloudGate gateway to the SRAS server and from your computer to the SRAS server, creating a secure end-to-end connection
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

CloudGate UNIVERSE

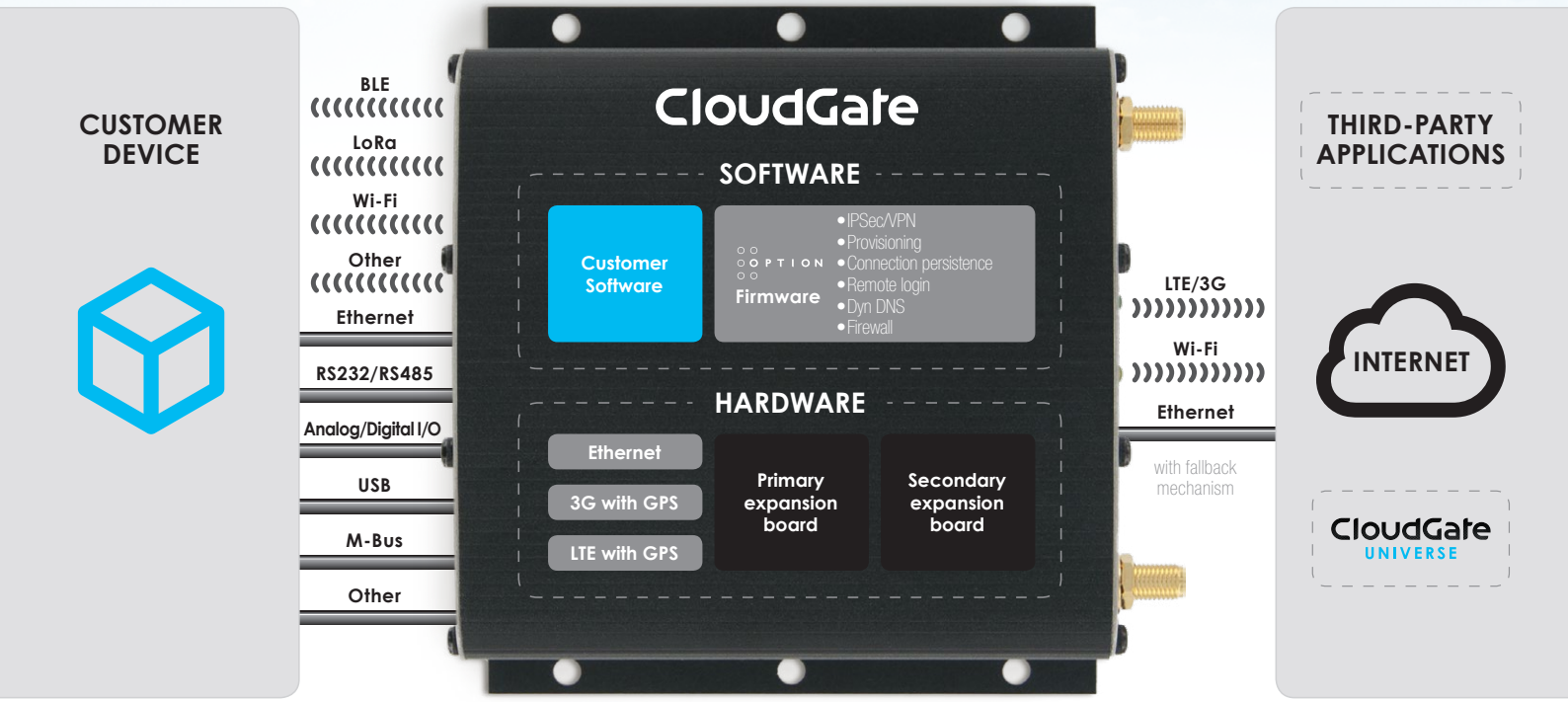
With CloudGate Universe Option supports its partners by providing the easiest and most cost effective deployment mechanism for their software solutions. A provisioning system dedicated to delivering Option and third party software and product configuration to CloudGate gateways.
CloudGate Universe is part of the CloudGate solution with no registraton 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.

www.cloudgateuniverse.com

OPTION CloudGate

Smart IOT Gateway

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.



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DataSheet_v1.5.4t

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

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