

The Virtual Access GW1000M Series Router

Rugged Compact 4G/LTE & WiFi Router for Automotive & Site-based Applications



Applications:

- In-vehicle WiFi services
- M2M and site-based connectivity
- Fixed line backup over cellular data network
- Digital signage

Router Features:

- 2.4GHz WiFi
- Dual Ethernet
- Built-in GPS receiver option
- Dual SIM
- Rugged aluminium enclosure

Overview

The Virtual Access GW1000M Series router is a compact and rugged 4G/LTE router with WiFi, designed with a metal housing for use in vehicles and a wide range of site-based applications.

The GW1000M Series router enables 4G/LTE or 3G HSPA+ connectivity in a wide range of applications including telemetry, remote monitoring and WiFi services in buses, taxis and fleet vehicles. The product is equally at home in site locations offering primary WAN, 4G/LTE failover to fixed line connections. Its small size is ideal for M2M applications such as remote monitoring and control.

The product line offers a new entry point for 4G/LTE data applications and supports the following radio access technologies: LTE, HSPA+, HSPA, UMTS, EDGE, GPRS and GSM.

Dual Ethernet Ports

The GW1000M Series router offers two 10/100Mbps Ethernet interfaces. They can be configured as a single interface with Ethernet switching between them or as separate router interfaces.

Dual SIM

Dual SIM architecture ensures that a backup 3G or LTE network can take over should the primary network fail. The router detects a network problem and fails over to a standby SIM/APN.

Ignition Sense

In automotive applications, the ignition sense input can detect when the vehicle's ignition has been enabled. This allows the GW1000M to remain powered on after the vehicle has stopped. The time delay between ignition off and power down is configurable.

WiFi

The GW1000M Series router has two external SMA female connectors for integrated WiFi support. It is capable of supporting both Access Point mode and Station mode concurrently if required.

Voltage Sensor

An additional input wire is provided that can be used to detect a voltage and the device can use this to make behaviour changes. For example, this can be used to enable the WiFi only when a taxi meter is running.

GPS Receiver

The GW1000M Series router includes a GPS receiver that can be used for vehicle positioning. The vehicle's coordinates, direction and speed can be reported to a central application tracking server periodically.

SMS Management

The GW1000M Series router also supports SMS, so if the packet switched side of the network is down, you can send commands to the router to perform diagnostics or even a reload.

Active Power Conditioning

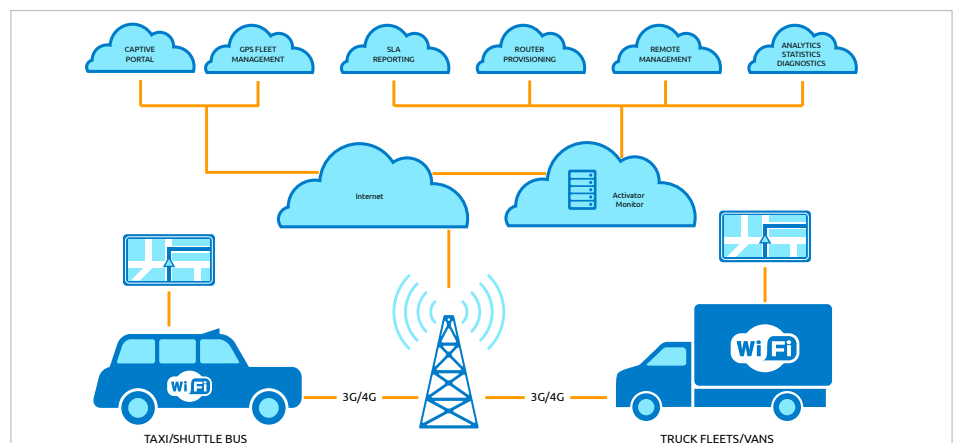
Vehicle battery voltages often experience transients and there can be substantial voltage dip during engine start up. The GW1000M Series router incorporates an active power conditioner, which is designed to accommodate the voltage dips, surges and transients commonly found in vehicles.

Mounting Bracket

A bracket is included that enables simple mounting. The bracket can be clipped onto a DIN rail for industrial applications.

Centralised Management and Monitoring

The GW1000M Series router benefits from Activator, Virtual Access' centralised configuration management and monitoring system. Activator simplifies and automates deployment, management and support tasks in managed network environments.



Software Features

Management

- Automatic configuration using Activator server
- HTTP/HTTPS
- Command Line Interface via Telnet or SSH
- TFTP client download/upload
- SNMP agent
- SMS management support

Fault Investigation and Reporting

- Event logging
- Syslog support
- Packet tracing

Routing Features

- IPv4 and IPv6
- DHCP server/client
- DynDNS
- NAT
- NAT Traversal
- NTP Client
- VLAN support
- Packet filtering
- Firewall
- Port forwarding
- BGPv4, OSPF
- RIP (v1 and v2)
- IPSec/L2TP/GRE
- DMVPN
- SNMP v1/v2/v3
- TLS 1.2
- 802.1x authentication
- IEC 104
- QoS
- VRRP

IPSec VPN Options

- IKE version 2
- X.509 certificates
- Elliptic Curve Cryptography (ECC)
- SHA2_512 support
- AES_CBC (256), 3DES and DES
- PFS
- SCEP
- DH_8192

Hardware Features

LAN Interface Options

- Dual 10/100Mbps base-T Ethernet port
- Auto detects full- or half-duplex operation
- Auto detects a regular or crossover cable for easy connection to a switch or hub

WAN Interfaces

- Wireless WAN with 3G and LTE options
- Ethernet ports can optionally be configured for WAN use

WiFi Option

- 2.4GHz 802.11bgn
- Concurrent Access Point and Station mode
- Dual SMA sockets

SIM

- 2 x SIM card socket with optional slot cover

Antennas

- 2 x LTE SMA female antenna connectors
- MIMO support in LTE versions

- 1 x GPS SMA female antenna connector with 3v3 Active power feed
- 2 x SMA female WiFi antenna sockets

LEDs

- Power indicator
- Ethernet activity
- Active SIM
- WiFi

Approvals and Certificates

- EN 60950 safety approval
- EN 55022 and EN 55024 EMC
- EN 300 328 V1.9.1

Power

- 12V DC 0.5A
- Power lead is supplied with 4 connectors for +12V, ignition +12V, 0V and Voltage sense
- Optional 9-36V DC isolated DC input
- Optional 18-72V isolated DC input
- Optional AC adapter available (100-240V)

Physical and Environment

- Unit size: 114W 114D 38H mm
- Unit size with mounting bracket: 120W 120D 42H mm
- Unit weight: 380g
- Mounting bracket included

Operating temperature

- Operating temperatures vary, refer to RF Band table

GW1000M Front and Back Detail



GW1000M FRONT

GW1000M BACK

GW1000M-DC BACK

GW1000M Series Models

Model	Input Voltage	WiFi	Ethernet Ports	3G	LTE	GPS
GW1032M	9-18V	✓	2	✓	-	•
GW1042M	9-18V	✓	2	✓	✓	•
GW1032M-DC24	18-72V isolated	•	2	✓	-	•
GW1042M-DC24	18-72V isolated	•	2	✓	✓	•

• = Optional

Order codes: Add RF band reference to standard model number. Add -X for No WiFi option. For example, GW1042M-X-RFR

GW1000M RF Band Options

RF Band Options								
RF Band	Region	2G Bands	3G Bands	LTE Bands	LTE Category	GPS	Operating Temp	Order Code
A	Europe China	850/900/1800 1900	900/2100	-	-	-	-40°C to 70°C	-RFA
B	Europe Asia	850/900/1800 1900	850/900/1900/2100	-	-	✓	-40°C to 70°C	-RFB
C	Europe Asia	850/900/1800 1900	850/900/1900/2100	B1/B2/B3/B5/B7/B8/B20	-	✓	-30°C to 70°C	-RFC
D	Worldwide	-	-	B3/B7/B20/B31	-	✓	-20°C to 60°C	-RFD
E	Europe	900/1800	900/2100	B1/B3/B7/B8/B20/B38/B40	3	✓	-30°C to 70°C	-RFE
F	Worldwide	-	CDMA TX 452.500 ~ 457.475 RX 462.000 ~ 467.475	-	-	-	-20°C to 60°C	-RFF
G	Worldwide	850/900/1800 1900	850/900/2100	B1/B3/B5/B7/B20	-	✓	-40°C to 70°C	-RFG
J	Worldwide	450	-	-	-	-	-40°C to 70°C	-RFJ
L	Europe APAC	900/1800	900/2100	-	-	-	-40°C to 70°C	-RFL
M	North America	-	850/1900	B2/B4/B5/B17	-	✓	-30°C to 70°C	-RFM
N	Worldwide	-	850/900/1700/1800 1900/2100	B1/B2/B3/B4/B5/B7/B12/B13 B20/B25/B26/B29/B30/B41	-	✓	-40°C to 70°C	-RFN
P	Australia New Zealand Latin America Taiwan	850/900/1800 1900	850/900/1900/2100	B1/B2/B3/B4/B5/B7/B8 B28/B40	4	-	-40°C to 70°C	-RFP
Q	Mexico/USA Canada	-	850/1900	B1/B2/B4/B5/B12/B13	4	✓	-40°C to 70°C	-RFQ
Q1	Mexico/USA Canada	-	850/1900	B1/B2/B4/B5/B12/B13	1	✓	-40°C to 70°C	-RFQ1
R	EMEA/Korea Thailand Indonesia	900/1800	850/900/2100	B1/B3/B5/B7/B8/B20/B38 B40/B41	4	✓	-40°C to 70°C	-RFR
R1	EMEA/Korea Thailand	900/1800	850/900/2100	B1/B3/B5/B7/B8/B20	1	-	-40°C to 70°C	-RFR1
S	Europe	900/1800	850/900/2100	B1/B3/B5/B7/B8/B20/B38 B40/B41	4	✓	-40°C to 70°C	-RFS
T	Asia/Pacific	900/1800	800/850/900/1700/2100	B1/B3/B5/B7/B8/B18/B19/ B21/B28/B38/B39/B40/	6	✓	-40°C to 70°C	-RFT
U	EMEA/North America/Latin America/APAC/ Japan/Australia	-	800/850/900/ 2100/1900/1800/1700	B1/B2/B3/B5/B7/B8/B18/ B19/B21/B25/B26/B38/B39/ B40/B41/B66	6	-	-40°C to 70°C	-RFU
X	Australia	-	850/2100	B1/B3/B5/B7/B28	4	✓	-40°C to 70°C	-RFX
X1	Australia	-	850/2100	B1/B3/B5/B7/B28	1	-	-40°C to 70°C	-RFX1