

## GW7300 Series Ruggedised Router



Substation hardened DSL/4G for:

- Distribution automation
- SCADA
- Smart grid
- Smart metering
- Water and gas utilities
- Transport and rail
- Protocol Gateway IEC 101, IEC 61850, IEC 104, Modbus, DNP3

### Overview

The Virtual Access GW7300 industrial M2M router is designed for use in outdoor equipment and cabinets at roadsides, substations and remote telemetry locations. Applications include SCADA, Telemetry, security, emergency services and other critical infrastructure. The GW7300 can be automatically provisioned over an IP network with a minimum of effort using the Virtual Access Activator auto provisioning server. This means that the units can be deployed without requiring any configuration by installers.

The GW7300 is a weather proofed, ruggedised router suitable for high isolation scenarios such as electrical transformation centres, substations and outdoor cabinets. It is DIN Rail or wall mountable.

The GW7300 offers 8 Ethernet ports and supports GPRS, 3G, LTE, RS232, RS485 and optionally ADSL. It offers secure WAN connectivity for internet and private networking environments over 3G broadband paths. It is available in DC or AC power variants

### Environmentally Hardened

The GW7300 router is designed to meet the IP33 standard for ingress protection and EN standards for harsh environments such as electric power, rail and roads.

#### Ingress protection

To protect against rain and dust, the box is completely sealed other than the bottom connectors.

#### External vibration

The device is designed to withstand environments such as roadsides where there is a high level of vibration.

The GW7300 is tested to random vibration, drop, topple and bump standards to ensure the device will continue to operate under conditions that would not be tolerated by commercial grade communications products. It has an optional conformal coating that protects against condensation.

#### EMC immunity, Safety, ESD and Electrical Isolation

Environments such as substations and transport can contain high levels of radiated emissions from switchgear, tracks and other power sources. In addition there are tight safety regulations to prevent injury or equipment damage. These require far higher levels of isolation than commercial grade communications equipment. The device is designed to meet the high EMC, safety, ESD and isolation standards mandated by these applications.

### Dual SIM

The GW7300 router incorporates the latest wireless technology. 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 if necessary, ensuring customers' SLAs are upheld. The GW7300 3G or LTE functions also include support for inbound and outbound SMS, so for instance, if all other WAN services are unavailable, commands can be sent to the router to perform diagnostics or even reset function.

### Automatic Failover

Optional automatic failover from fixed to wireless circuits ensures business connectivity through network or last mile circuit outages, whilst email alerting and auto-failback confirm primary circuit restoration.

### Eight Port 10/100 Mbps Ethernet Switch

The eight port 10/100 Mbps managed switch enables multiple devices to be connected in remote environments with the ability to segment into individually filtered subnets or DMZs. Tagged VLAN (802.1q) segmentation offers further versatility for diverse network applications.

### Advanced Security & Routing Features

GW7300 routers deliver business grade security services including:

- IPSec (3DES and AES)
- L2TP
- Stateful firewall

### Wide Power Input and Extended Temperature

Certain deployment scenarios require wide variations in power input and temperature. The GW7300 router offers either AC or DC power inputs as well as low power consumption and an extended temperature range of -40°C to +70°C.

## 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

### Optional ADSL

- G.992.1 & G.992.2 Annex A and B
- G.992.2 G.lite
- G.992.5 ADSL2+ Annex A and M

### Quality of Service

- QoS support of classification and marking
- Full DiffServ support

### Fault Investigation and Reporting

- Event logging
- Packet tracing
- Syslog support

### Service Features

- Configurable host traffic monitoring applet
- DHCP server/client/DHCP relay
- DNS proxy
- Port forwarding
- Packet filtering and firewalling
- Performance Monitor

### 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

- IKE version 2
- X.509 certificates
- Elliptic Curve Cryptography (ECC)
- SHA2\_512 support
- AES\_CBC (256), 3DES and DES
- PFS
- SCEP
- DH\_8192

### SCADA Protocol Conversion

- Protocol conversion including the following:
  - IEC 60870-5-104
  - IEC 60870-5-101
  - IEC 61850
  - Modbus RTU
  - Modbus TCP
  - Modbus RTU to TCP automatic conversion
  - DNP3
  - Serial to Ethernet

### RTU Functionality

- Control of I/O from SCADA master
- Protocol conversion
- Monitoring of comms. interface status from SCADA master
- Basic PLC functions

### Terminal Server

- Serial (RS232, RS485) to TCP/IP or UDP/IP conversion

### X.25 Support

- X.25 over TCP/IP (XOT)
- X.25 over X.25 (XMP)
- X.3, X.28, X.29 PAD

## Hardware Features

### LAN Interfaces

- Eight 10/100 Mbps base-T Ethernet ports
- 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 or LTE options
- Ethernet ports can optionally be configured for WAN use

### ADSL Interface (optional)

- RJ11 socket

### VLAN Support

- Tag-based 802.1Q VLAN or port-based VLAN on 8 ports

### Serial Interface

- RS232
- RS232 or RS485 option (factory set)

### SIM

- 2 SIM slots

### Antenna

- 2 x right angle antennas
- Advanced receiver diversity type 3i

### Approvals and CE Certificates

- EN 60950 safety approval
- EN 55022 and EN 55024 EMC

### Power Options

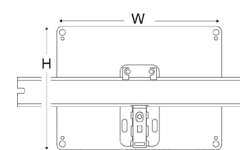
- 100V-240V AC
- 9-36V DC
- 36-72V DC

### Operating Temperature

- Operating temperatures vary, refer to table below.

### Physical and Environment

- Unit size: H165 x W200 x D80(mm)



- Optional conformal PCB coating

### GW7300 Series Models

	Ethernet	ADSL2+	3G	LTE	CDMA450	RS232	RS485/ RS232*	Internal PSU	Industrial Option
GW7304	8					1	1	✓	✓
GW7304-3G	8		✓			1	1	✓	✓
GW7304-LTE	8			✓		1	1	✓	✓
GW7304-CDMA450	8				✓	1	1	✓	✓
GW7314	8	1				1	1	✓	✓
GW7314-3G	8	1	✓			1	1	✓	✓
GW7314-LTE	8	1		✓		1	1	✓	✓
GW7314-CDMA450	8	1			✓	1	1	✓	✓

\*Factory set as RS232 or RS485

### RF Band Options

RF Band	Region	2G Bands	3G Bands	LTE Bands	LTE Category	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 75°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	-	850/900/1700/1900 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	-	850/900	B1/B2/B4/B5/B12/B13	4	-40°C to 70°C	-RFQ
Q1	Mexico/USA Canada	-	850/900	B1/B2/B4/B5/B12/B13	1	-40°C to 70°	-RFQ1
R	EMEA/Korea Thailand Indonesia	900/1800	850/900/2100	B1/B2/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°	-RFR1
S	Europe	900/1800	850/900/2100	B1/B2/B3/B5/B7/B8 B20/B38/B40/B41	1	-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	-	800/850/900/1700 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