# VIOLA systems

## Arctic LTE Gateway

Provides wireless monitoring and control of field devices via LTE.

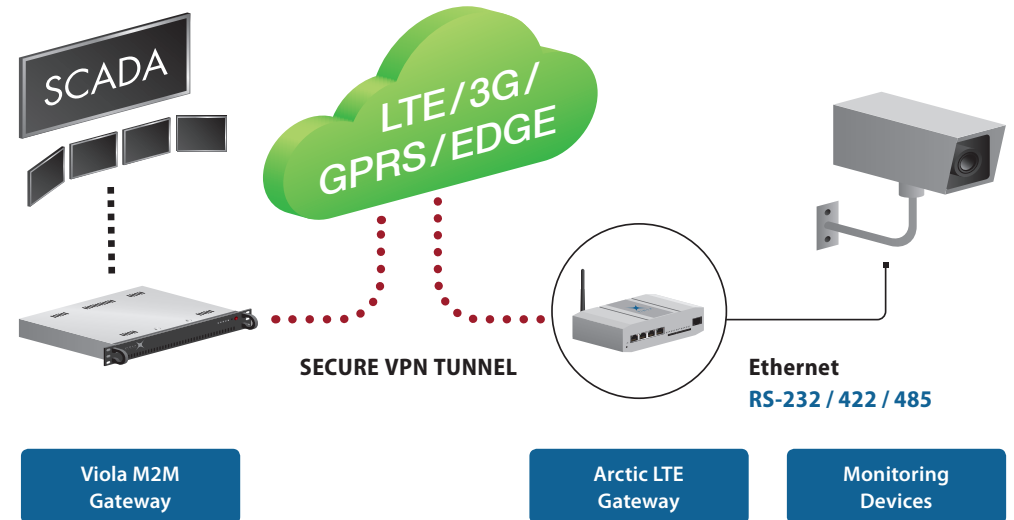## High Speed Remote Communication Using LTE (4G)



Arctic LTE Gateway is an industrial grade wireless gateway utilizing high speed LTE networks with wide range of frequency bands support. This makes it ideal solution for applications in which high data bandwidth is required (like video surveillance) or multiple device are using the same wireless communication channel. Later one is possible with Arctic LTE Gateway's internal switch with three LAN and one WAN ports as well as two serial ports. The second serial port can be also used in RS-422/485 mode.

Dual SIM support can be used for multiple mobile operator connections for additional system reliability. Reliability aspect is taken into consideration in the design of Arctic LTE Gateway which means implementation of automatic wireless connection monitoring and re-establishment together with sophisticated self-diagnostic features.

Mobile operator independent static IP addressing and VPN connections can be created with Viola M2M Gateway. Multiple encryption protocols as IPsec, Open VPN and SSH are supported for data security and system integration for central monitoring systems. For security reasons there is also internal firewall in Arctic LTE Gateway.

Because of the internal switch of Arctic LTE Gateway with combination of LAN, WAN and wireless interfaces it is possible to have automatic backup routing in case the structure of application specific network enables this. ■

Arctic LTE Gateway supports LTE technology in the fourth generation (4G) mobile networks providing data speeds up to 100 Mbps on the downlink and up to 50 Mbps on the uplink. When this is combined with the possibility for multiple field devices connectivity by serial and Ethernet ports, Arctic LTE Gateway is the ideal solution for monitoring and controlling of field devices when high data bandwidth is required.

In industrial applications reliability of communication device and wireless connection are essential. By having automatic connection monitoring and self-diagnostic features Arctic LTE Gateway  guarantees faultless operation of the communication solution.  High communication security level is achieved by data encryption protocols and internal firewall.

Arctic LTE Gateway supports the newest wireless technology for fulfilling requirements of current and future applications.



SCADA

LTE/3G/ GPRS/EDGE

SECURE VPN TUNNEL

Ethernet

RS-232 / 422 / 485

| Viola M2M Gateway | | Arctic LTE Gateway | Monitoring Devices |

## KEY FEATURES

- Dual SIM card possibility
- Support for LTE in 4G network and HSPA+ in 3G network
- Support for several encryption protocols for secure communication
- 3-port internal LAN switch
- Backup routing
- Mobile operator independent static IP addressing with Viola M2M Gateway
- Also serial devices can be connected (RS-232/485)
- LEDs for status monitoring
- Robust aluminum casing

## APPLICATION EXAMPLES

- Distribution automation
  - Connecting RTUs and IEDs with low latency demands
  - Transformer monitoring
- Substations
  - Connecting multiple remote devices demanding high data bandwidth
  - Backup routing for fiber optics and satellite communication
- Video surveillance
  - Live video streaming for high security critical assets
- Water and waste water treatment
- Oil and gas pipeline monitoring
- Weather monitoring stations
- Security applications
- Intelligent building control
- Smart traffic management system

## SOFTWARE

**Network protocols**

- PPP, IP, ICMP, UDP, TCP, ARP, DNS, DHCP, FTP, TFTP, HTTP, POP3, SMTP

**Tunneling (VPN)**

- SSH server and client
- OpenVPN
- IPsec

**Management**

- WEB, SSH, Telnet and console
- FTP, TFTP and HTTP software update

**Routing related**

- Static routing, Proxy ARP, Port Forward
- IP Masquerading/NAT, Firewall

## CONFIGURATION & MANAGEMENT

There are several possibilities to configure Arctic LTE Gateway:

- Graphical user interface to be used with an internet browser
- Conventional console interface (Telnet or via serial console)

## HARDWARE

**Processor Environment**

- 32 bit RISC processor
- 32 MB FLASH memory
- 64 MB SDRAM memory

**Power**

- 12 – 36 VDC

**Other**

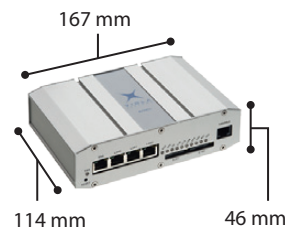- Temperature sensor
- Real time clock

**Environment**

Temperature ranges:
–25 to +70 °C
–40 to +85 °C (storage)
Humidity 5 to 85 % RH

**Approvals**

CE

## DIMENSIONS



167 mm

114 mm          46 mm

## SERIAL PORTS

**Serial 1**

- RS-232 DTE, Male DB-9 connector
- Speed: 300 – 460 800 bit/s
- Data bits - 7 or 8
- Stop bits - 1 or 2
- Parity - none/even/odd
- Flow control - RTS/CTS

**Serial 2**

- Male DB9 connector DTE
- RS-232/422/485
- Speed: 300 – 460 800 bit/s,
- Data bits - 7 or 8
- Stop bits - 1 or 2
- Parity - none/even/odd
- Flow control - RTS/CTS

**Console**

- RS-232 (RJ45)
- Speed: 115200 bit/s
- 8 data bits, 1 stop bit, no parity

## NETWORK INTERFACES

**Ethernet**

- 1 x WAN
- 3 x LAN
- 3-port internal LAN switch
- 10/100 Base-T Shielded RJ45
- Ethernet (IEEE 802.3)
- 1.5 kV isolation transformer

**LTE (4G)/3G/EDGE/GPRS**

- LTE, HSUPA, HSDPA, EDGE, GPRS, GSM
  - LTE 800/900/1800/ 2100/2600 MHz
  - WCDMA 900/2100 MHz
  - EGDE/GPRS 900/1800/1900 MHz

- FME external antenna connector (50Ω) (Stub antenna included)

## ORDERING INFORMATION

| Code | Product |
| --- | --- |
| 2625 | Arctic LTE Gateway |

### OPTIONS

| Code | Product |
| --- | --- |
| 3000 | DIN rail mounting kit |
| 3020 | Power supply (230 VAC / 12 VDC) |
| 3221 | Arctic accessory kit |

**Ordering address:**

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