Arctic Railway Gateway uses GSM-R networks to enable data connectivity to telemetry devices, station and train control.

GSM-R, Global System for Mobile Communication - Railway or GSM-Railway is an international wireless communications standard for railway communication and applications.

Arctic Railway Gateway is a field proven for reliable and secure data communication. Serial or Ethernet devices can be linked wirelessly via GSM-R/GPRS.

**Arctic Railway Gateway** is designed for industrial applications. Reliability of connection and the device itself is essential. This is provided by internal and communication monitoring. In case of any malfunction communication is re-established automatically.

Being able to work with either private or public operator APNs makes the Arctic GSM-R Gateway especially suitable for connecting remote devices and equipment to the Internet and corporate networks.

End-to-end data security is achieved either by utilizing private APN services provided by a mobile operator or by using Viola M2M Gateway which provides VPN connection between the Viola M2M Gateway and Arctic devices. Arctic Railway Gateway has also an internal firewall for network interfaces.

In addition to an Ethernet interface there are RS232 and RS-232/422/485 (with switch selectable biasing and termination) serial ports available for connecting single or multiple serial devices to Arctic Railway Gateway. Data from serial devices can be forwarded also to Ethernet port if needed.
**Key Features**

- Industrial gateway for GSM-R networks
- Firewall and VPN for secure communication
- Mobile operator independent static IP addresses with Viola M2M Gateway
- 10/100 Base-T Ethernet
- 1 RS-232/422/485 serial port
- 1 RS-232 device or console serial

**Software**

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

**Tunneling (VPN)**
- SSH server and client

**Management**
- WWW, SSH, Telnet and console
- FTP, TFTP and HTTP software update

**Routing**
- Static routing, proxy ARP, port forwarding
- IP masquerading/NAT, firewall

**Serial Device Connectivity**

**Hardware**

**Processor Environment**
- 32 bit RISC processor
- 8 MB FLASH memory
- 32 MB SDRAM memory

**Power**
- 6 – 26 VDC nominal input voltage
- 1 – 5 W power consumption

**Resettable (Automatic) fuse**

**ESD protection**

**Temperature sensor**

**Real time clock**

**Environment**
- Temperature ranges:
  - –20 to +70 °C
  - –30 to +85 °C (storage)
- Humidity 5 to 85 % RH

**Approvals CE**

**Application Examples**

- Connect Ethernet devices to GSM-R networks
- Connect serial devices to GSM-R networks
- Provide Internet access to mobile vehicles

**Configuration and Management**

The Arctic Railway Gateway is configured using a www browser. A conventional console interface is also provided. The software of Arctic Railway Gateway can be updated over the network.

**Dimensions**

**Interfaces**

**GSM-R frequencies:**
- 876 MHz — 880 MHz uplink
- 921 MHz — 925 MHz downlink

**Quad-band GSM-R / EGSM 900 / GSM 1800 / GSM 1900**

**GSM Phase 2 / Phase 2+**

**Output power:**
- Class 4 (2 W) at GSM-R / EGSM900
- Class 1 (1 W) at GSM1800 / GSM 1900

**Mobile station class B**

**Coding scheme CS 1- 4**

**CSD data transmission**

**USSD**

**Internet services:** TCP, UDP, HTTP, FTP, SMTP, POP3

**Serial Ports**

**Serial 1 / Console**
- RS-232 DTE
- Male DB-9 connector
- Full serial and modem signals Speed 300 – 460 800 bps
- Data bits – 7 or 8, stop bits - 1 or 2
- Parity - None, Even, Odd
- Flow control – None, RTS/CTS
- Protection – 15 kV ESD and short circuit

**Serial 2**
- RS-232 DTE, RS-422, RS-485 (selectable)
- Male DB-9 connector
- Full serial and modem signals
- Biasing and termination selectable
- Speed 300 – 460 800 bps
- Data bits - 7 or 8
- Stop bits - 1 or 2
- Parity - None, Even, Odd
- Flow control – None, RTS/CTS
- Protection – 15 kV ESD and short circuit

**Ordering Information**

**Product Code** 2300 Arctic Railway Gateway

**Options**

- Product Code 3410 Magnetic antenna with 2.5 m cable (FME connector)
- 3420 Rooflex antenna with 2.5 m cable (FME connector)
- 3220 Arctic accessory kit
- 3002 DIN rail mounting clip
- 3010 Power supply (230 VAC / 12 VDC)

**Ordering Address**

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