Connect Your Remote IEC-101 Devices to the IEC-104 Control System with the Arctic IEC-104 Gateway

The IEC 60870 protocol family is a vendor-independent communication standard for the electricity industry. With Arctic IEC-104 Gateway conventional IEC-101 devices can be attached to a modern TCP/IP based IEC-104 control system. This is possible because of the protocol conversion from IEC-101 to IEC-104 (and vice versa) made by Arctic IEC-104 Gateway.

Ethernet, GPRS and EDGE network interfaces provide a seamless communication solution for most of the applications. Secure (Firewall, VPN) and two-way GPRS/EDGE communication (static IP addresses) is provided with Viola M2M Gateway or with mobile operator private APN service. Finally a complete solution for upgrading the communication system to take advantage of the efficient and low-cost IEC-104 approach!
**KEY FEATURES**
- Ethernet and wireless network (GPRS/EDGE) interfaces
- Secure communication with internal VPN and firewall
- Mobile operator independent static IP addressing with Viola M2M Gateway
- Self diagnostics for communication and for the device itself
- Packet compression for slow-speed links
- IEC 60870-5-101 to IEC 60870-5-104 communication gateway
- Local IEC-101 polling of Class 1 and Class 2 events
- One RS-232 and one RS-232/422/485 port (Both can be used in IEC-101 or transparent mode)
- DIN rail mounting option

**APPLICATION EXAMPLES**
- Integrate existing devices to a modern control system with a field proven product
- Use the IEC-104 event-based communication instead of polling
- Feeder automation
- Substation automation
- Utility automation
- Reclosers
- Protection relays

**SOFTWARE**

- **Network protocols**
  - PPP, IP, ICMP, UDP, TCP, ARP, DNS, DHCP, FTP, TFTP, HTTP, POP3, SMTP
  - Tunneling (VPN)
    - SSH server and client service
  - Management
    - WEB, SSH, Telnet and console
    - FTP, TFTP and HTTP software update
- **Routing related**
  - Static routing, Proxy ARP, Port Forward
  - IP Masquerading/NAT, Firewall

**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
- **Environment**
  - Temperature sensor
  - Real time clock
- **Approvals**
  - CE

**DIMENSIONS**

- Processor Environment: 175 mm x 108 mm x 45 mm

**CONFIGURATION & MANAGEMENT**

- There are several possibilities to configure Arctic IEC-104 Gateway:
  - Graphical user interface to be used with an internet browser
  - Conventional console interface (Telnet or via serial console)

**SERIAL PORTS**

- **Serial 1 / Console / IEC-101**
  - RS-232 DTE, Male DB-9 connector
  - Full serial and modern signals
  - Speed 300 – 460 800 bps
  - Data bits – 7 or 8
  - Stop bits - 1 or 2
  - Parity - None, Even, Odd
  - RTS/CTS
  - Protection – 15 kV ESD and short circuit
  - Cooling
  - 19200 bps, 8 data bits, 1 stop bit, no parity (8N1)

**NETWORK INTERFACES**

- **Ethernet**
  - 10/100 Base-T.
  - Shielded RJ-45
  - 1,5 kV isolation transformer
  - Ethernet IEEE 802-3, 802-2
- **GPRS (2205)**
  - Quad band GSM850/900/1800/1900
  - GPRS multi-slot class 12
  - Max. 85.6 kbps GPRS downlink and uplink speed
  - Coding schemes CS1-4
  - **GPRS/EDGE (2208)**
    - Quadraband
    - EDGE class 10:
      - Max. 236.8 kbps (downlink)
    - Mobile station class B
    - Modulation and coding scheme MCS 1-9
    - GPRS class 12
    - Multislot up + down 4 + 4, total max. 5
    - Mobile station class B
    - PBCCH support
    - Coding schemes CS1-4
    - **CSD (GSM data) (2205/2208)**
      - Up to 14.4 kbps
      - V.110
      - Non-transparent mode
      - USSD support
      - FTP, TFTP and HTTP
      - PPP, IP, ICMP, UDP, TCP, ARP, DNS, DHCP, FTP, TFTP, HTTP, POP3, SMTP

**ORDERING INFORMATION**

- **Code**
- **Product**
- **2204**
  - Arctic IEC-104 Gateway (Ethernet only)
- **2205**
  - Arctic IEC-104 Gateway (GPRS)
- **2208**
  - Arctic IEC-104 Gateway (EDGE)

**OPTIONS**

- **Code**
- **Product**
- **3002**
  - DIN rail mounting kit
- **3220**
  - Arctic accessory kit
- **3410**
  - Magflex antenna with 2.5 m cable
- **3420**
  - Roofflex antenna with 2.5 m cable
- **3422**
  - Roofflex (puck) antenna with 2.5 m cable

**ORDERING ADDRESS**

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