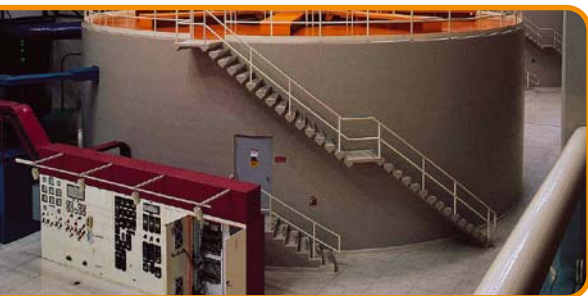**GPRS • EDGE • HSPA**

GWR-I
INDUSTRIAL CELLULAR ROUTER SERIES

GWR-I router series represents a group of industrial graded routers specially designed for expansion of existing industrial networks, remote telemetry and data acquisition in harsh environments. Low transmission delay and very high data rates offered by existing cellular networks completely eliminate the need for very complex installation of wired infrastructure in industrial environments. Easy to install, reliable and high performance router models from GWR-I series introduce a completely new dimension into industrial networking area.

The complete series inherited the basic concept of GWR cellular router series – RELIABILITY COMES FIRST. Therefore all router models have dual SIM card support. The form factor of the router is adjusted to industrial environments and DIN rail mounting kit is part of standard equipment for GWR-I series.

Many useful features make GWR-I cellular routers a perfect solution for wide variety of industrial applications:

- Dual SIM card support increases the reliability of the router and provides a solution for those applications where failure of one mobile network must not result in system downtime. Automatic failover feature will detect the failure of primary connection and automatically switch to alternative connection. When the connectivity over primary connection is restored GWR router will perform switchover to primary connection.

- The whole set of advanced WAN settings allow a user to specify desired parameters in order to meet the requirements of specific cellular network. GWR routers proved themselves to be reliable and high performance devices in so many countries around the world. All advanced parameters included represent the result of detailed analysis of large number of different cellular networks. In few simple steps it is possible to optimize the performance of the router on almost any cellular network.

- VPN (GRE, IPsec and OpenVPN) tunnel support provides powerful options for network expansion and secure data transfer over the cellular network.

- With Serial-to-IP feature it is possible to connect, control and perform data acquisition from almost any device with serial RS232 port. In addition to this feature, GWR router series implements ModbusRTU-to-ModbusTCP functionality designed to support expansion of Modbus SCADA networks over the cellular networks.

- Easy to use web interface, extended CLI (Command Line Interface), detailed log, SMS control feature, partial and full configuration Export/Import and remote management and monitoring software provide wide range of management functionalities. All those features and tools empower a user with full control over GWR routers.

TYPICAL APPLICATION

Data collection and system supervision
- Extra-high voltage equipment monitoring
- Running water, gas pipe line supervision
- Centralized heating system supervision
- Environment protection data collection
- Flood control data collection
- Alert system supervision
- Weather station data collection
- Power Grid
- Oilfield
- Light Supervision
- Solar PV Power Solutions

Financial and department store
- Connection of ATM machines to central site
- POS
- Vending machine
- Bank office supervision

Security
- Traffic control
- Video Surveillance Solutions

Technical specifications

Interfaces and connectors

- 1x embedded interface HSPA/UMTS/EDGE/GPRS (depending on the router model)
- Dual SIM slots
- SMA female connectors (50 Ω) for external antenna (one or two, depending on the router model)
- 1x Ethernet interface 10/100 Base-T (LAN), 1.5KV isolation
- 1 x RS-232C / RS485 / RS422 – RJ45 (+/- 15KV ESD protection)
- 1 x RS-232C / RS485 / RS422 – DB9 (+/- 15KV ESD protection)
- 1 x digital input (0/48VDC;1.5KV isolation)
- 1 x digital output (700mA@60VDC; 1.5KV isolation)
- 1x USB Host 2.0 interface

RF characteristics

RF characteristics depend on the GWR-I router model. Below is a list of available router models from GWR-I series and corresponding RF characteristics:

GWR-I202 model – GPRS

GPRS Tri-band: 900/1800/1900
GPRS multi-slot class 10, mobile station class B
GPRS DL: 85.6Kbps, UL: 42.8Kbps

GWR-I252 model – GPRS/EDGE

GSM/GPRS/EDGE Quad band: GSM 850/900/1800/1900 MHz
GPRS/EDGE multi-slot class 12, mobile station class B
EDGE DL: 236.8Kbps, UL: 236.8Kbps
GPRS DL: 85.6Kbps, UL: 85.6Kbps

GWR-I352 model – GPRS/EDGE/UMTS/HSPA

UMTS/HSDPA/HSUPA Quad band: 850/900/1900/2100 MHz
GSM/GPRS/EDGE Quad band: 850/900/1800/1900 MHz
GPRS/EDGE multi-slot class 12, mobile station class B
HSDPA DL: 7.2Mbps, HSUPA UL: 5.76Mbps
UMTS DL: 384Kbps, UL: 384Kbps
EDGE DL: 236.8Kbps, UL: 236.8Kbps
GPRS DL: 85.6Kbps, UL: 85.6Kbps

Status LED

- Ethernet activity/network traffic
- Power on
- GSM link activity
- Signal quality
- Reset

Power requirements

9 - 48VDC

Environmental

- Operating temperature: -25° C to 70° C (-13° F to 158° F)
- Storage temperature: -40° C to +75° C (-40° F to +167° F)
- Relative humidity: 5% to 95% (non-condensing)

Housing

- Robust metal housing
- DIN rail mounting kit

Dimensions and weight

- Width: 50mm
- Length: 104mm
- Height: 135mm
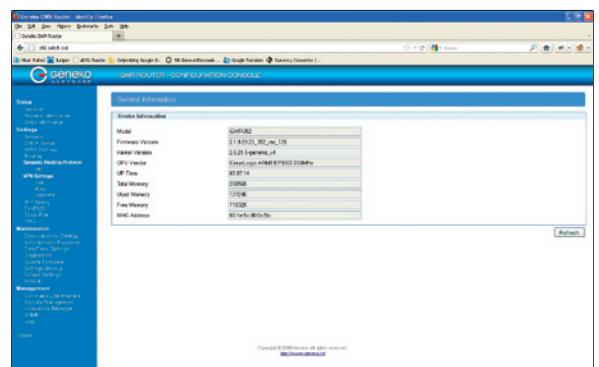- Weight: 500g

Protocols and Features

Network

- DHCP server
- RIP
- Port forwarding
- DMZ support
- SNMPv1,2c
- DynDNS
- NTP
- Firewall (NAT, PAT, IP filtering)
- Serial-to-IP
- ModbusRTU-to-ModbusTCP

VPN

- GRE
- GRE Keepalive
- IPsec pass-through
- IPsec
- Data integrity
    - HMAC-MD5, SHA-1
    - Authentication and key management
- IKE, manual keys
- IKE features
    - Perfect Forward Secrecy
    - Auth-Method PSK
    - Identify IP address
    - DPD for constant connection
    - Automatic NAT-T behind NAT
    - Initiator and responder
- IPSec tunnel failover
- OpenVPN

Management

- Web application (HTTP based)
- Command Line Interface on serial console, telnet and SSH
- GWR connection wizard
- Remote management and monitoring software
- Detailed system log
- Default reset
- Firmware upload
- Partial or full configuration Export/Import