

GWR-I INDUSTRIAL CELLULAR ROUTER SERIES

GPRS/EDGE/HSPA+/LTE/ADSL



GWR-I high speed industrial cellular router series represents a group of industrial graded routers especially designed for expansion of existing industrial networks, remote telemetry and data acquisition in harsh environments. Low transmission delay and very high data rates (up to 100 Mbps) 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.

New GWR-I Industrial Cellular Router Series enables users extend router functionalities by developing their own software applications so the device can perform operations with no need for using PC application. That means router can independently communicate directly with the connected machine. GWR-I router comes with versatile connectivity options such as 3G/4G, ADSL2+, up to 5 Ethernet ports, RS-232 and RS-485 ports, 3 digital inputs and 3 digital outputs. The device is equipped with LCD display which makes possible to monitor router's status and detect a possible problem without need to access it via PC. New colour-coded display can show present/active SIM card, signal strength, cellular network standard, interfaces in use, error alert and more.

Complete series is based on reliable and high performance hardware platform using ARM Cortex-A8 microprocessor. 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. With a robust all-metal case and top quality components inside, durability of the product is guaranteed.

This industrial router series also supports additional ADSL2+ option. You can choose the most appropriate one for you, between numerous models of these routers: with 1 or 4 Ethernet ports and ADSL2+ port or 2 or 5 Ethernet ports (without ADSL2+). Additionally, device can be fully customized on request with hardware and software enhancements for fitting users' specific needs or extended using customer applications.

Many useful features make GWR-I industrial cellular routers a perfect solution for wide variety of mobile broadband 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.

- 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 have proved to be reliable and high performance devices in so many countries around the world.
- 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 RS-485 or RS-232 port. In addition to this feature, GWR-I router series implements ModbusRTU-to-ModbusTCP functionality designed to support expansion of Modbus SCADA networks over the cellular networks.
- Galvanic isolation on all ports (except USB OTG serial port) enables the routers to be used in projects where a high degree of reliability is required.
- Easy to use web interface, extended CLI (Command Line Interface), Chroot environment exposed to the customer, detailed log, SMS control feature, SMS of GPIO input, 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-I routers.
- Chroot environment enables users to create their own applications adding new functionality. Supports for Bash (shell) scripts, compiled C/C++ executables, LUA, Python, Perl.



TYPICAL APPLICATION

Financial and department store

- Connection of ATM machines to central site
- POS terminals
- Vending machines
- Bank office supervision

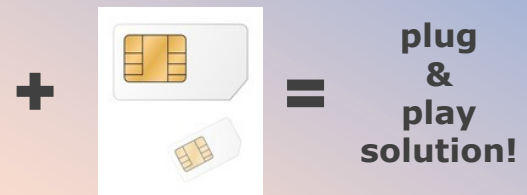
Security

- Traffic control
- Video surveillance solutions

Data collection and system supervision

- Extra-high voltage equipment monitoring
- Running water, gas pipeline supervision
- Centralized heating system supervision
- Environment protection data collection
- Flood control data collection
- Alert system supervision
- Weather station data collection
- Power grid, light supervision
- Oilfield, solar PV power solutions

M2M-SIM



DE - EU - World

Technical specifications

Interfaces and connectors

- 1 x embedded interface GPRS/EDGE/UMTS/HSPA+/LTE (depending on the router model)
- Dual SIM slots: mini-SIM (2FF), Push-Push
- GSM: 2 x SMA female connectors (50 Ω) for external antennas
- 1, 2, 4 or 5 Ethernet ports depending on the model, 10/100 Base-T (LAN), RJ-45 connector
- 1 x ADSL2+ interface (available on ADSL models), RJ-11 6P2C connector
- 1 x galvanic isolated serial port RS-485/RS-422, 4 wire, Phoenix connector
- 1 x galvanic isolated serial port RS-232 – DSUB9 connector
- 1 x USB OTG interface, ESD, over-current protection, mini USB AB connector
- 3 x digital inputs, photo diode with 4.7 kΩ resistor for current limiting, Phoenix connector
- 3 x digital outputs, open-drain, 500 mA resettable PTC fuse, Phoenix connector

RF characteristics – GPRS/EDGE/UMTS/HSPA+/LTE

LTE

800/900/1800/2100/2600 MHz (Sierra Wireless module)
800/850/900/1800/1900/2100/2600 MHz (Huawei module)

UMTS/HSPA+/DC-HSPA+

900/2100 MHz (Sierra Wireless module)
850/900/1900/2100 MHz (Huawei module)

UMTS/HSPA+

850/900/1900/2100 MHz (Huawei module)

GSM/GPRS/EDGE

900/1800/1900 MHz (Sierra Wireless module)
850/900/1800/1900 MHz (Huawei module)

GSM/GPRS

850/900/1800/1900 MHz, GPRS multi-slot class 10 (Sierra Wireless module)

Transfer rate

LTE - DL: 100Mbps, UL: 50Mbps

HSPA+ - DL: 21.1Mbps, UL: 5.76Mbps (Sierra Wireless module);

DL: 42 or 14.4 Mbps, UL: 5.76Mbps (Huawei modules, depending on the model)

EDGE - DL: 236.8Kbps, UL: 236.8Kbps

GPRS - DL: 80Kbps, UL: 40Kbps

Important note: All DL/UL speeds are given as speeds defined by standards. Actual speeds may vary and are not guaranteed.

LCD navigation

- LCD information available: Present/active SIM, signal strength/quality, GSM technology, interfaces, power-on, boot status, error
- LCD view port (W x H): 24 mm x 27 mm, LCD viewing angle: 6 o'clock

Housing

- Plastic coated 0.8 mm steel sheet, black
- DIN rail mounting kit



Isolated Power Supply

- Input 18 - 36 VDC, average consumption: 180 mA @ 24 VDC
- Galvanic isolation, redundant (two inputs), reverse polarity protection, over-current protection (2A resettable PTC fuse), transient protection, EMI filter
- Galvanic isolation on all ports (except USB OTG serial port) enables the device to be used in projects where a high degree of reliability is required.

Environmental

- Operating temperature: -20°C to +70°C
- Storage temperature: -40°C to +85°C
- Relative humidity: 5% to 95% (non-condensing)
- IP rating: IP30

Dimensions and weight

- Dimensions (L x W x H): 102 mm x 48 mm x 135 mm
- Weight: up to 400 g depending on the model

Protocols and features

Network

- DHCP server, DHCP client, RIP, VRRP, Port forwarding, DMZ support, SNMPv1,2c, DynDNS, NTP, Firewall (NAT, PAT, IP filtering, MAC filtering), Serial-to-IP, ModbusRTU-to-ModbusTCP, Radius, PPPoE client, static routes with metric

VPN

- GRE, GRE Keepalive, IPsec tunnel client/server with main and aggressive mode, certificate management for tunnels (CA certificate, private certificate, private key), preshared key files, 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, PPTP, L2TPv3

Management

- Web application (HTTP based), Command Line Interface on serial console, telnet and SSH, Chroot environment for user applications, GWR connection wizard, Remote management and monitoring software, SMS control, Detailed system log, Default reset, Firmware upload, Partial or full configuration Export/Import, Radius Authentication, Display settings, Timed actions

M2M SIM-Cards on request

M2M SIMs for DE, EU, World
highly secure data communication via private APNs, fixed IP
online SIM-Management platform

ORDERING INFORMATION

MODEL	HSPA+	LTE	ADSL2+	RS-232	RS-485	Eth ports	Digital I/O
GWRI-362-2-X	●	—	—	●	●	2	3/3
GWRI-462-2-X	●	●	—	●	●	2	3/3
GWRI-362-5-X	●	—	—	●	●	5	3/3
GWRI-462-5-X	●	●	—	●	●	5	3/3
GWRI-A362-X	●	—	●	●	●	1	3/3
GWRI-A462-X	●	●	●	●	●	1	3/3
GWRI-A362-4-X	●	—	●	●	●	4	3/3
GWRI-A462-4-X	●	●	●	●	●	4	3/3

-X at the end of model code denotes GSM module. Following manufacturers are available: • S – Sierra Wireless, • C – Cinterion (Gemalto) • H – Huawei



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