

Industrial 3G Router

MRD-310



- Industrial remote access using the Internet
 - Economic and environmental benefits
 - Access SCADA systems, HMI and PLCs remotely
 - Wireless mobile broadband GPRS / EDGE / 3G / HSPA connection
- Designed for industrial applications
 - Compact casing with DIN-rail mounting for easy integration
 - Wide power input range, 10 to 60VDC
 - Built-in two port Ethernet switch as well as an RS-232 D-Sub
- Secure resilient Internet access
 - The connection manager monitors and ensures constant connectivity
 - Easy to use firewall prevents unauthorized access
 - Encrypted and secure data transmission with VPN-tunnels
- A wide-variety of solutions to common communication issues
 - Simple replacement of analogue leased lines
 - Ability to control and receive status changes via SMS
 - Low-power mode for energy efficient applications



R&TTE
Radio and telecommunications
terminal equipment

EN 61000-6-2
Industrial Immunity

EN 61000-6-3
Residential Emission

EN 61000-6-4
Industrial Emission

Remote access removes boundaries, eliminates the need for time consuming site visits and provides a network infrastructure suitable for today's "always-on" society. The MRD-310 industrial mobile broadband router uses the Internet to cost effectively inter-connect systems, allowing HMI, PLCs, sensors etc to communicate with each other.

A compact case design with DIN-rail mounting clips and the wide power input range between 10 to 60VDC make the unit well suited for industrial applications. Easy integration with other devices is achieved using the built-in two port Ethernet switch and the RS-232 D-sub.

The stability of mobile connections can be affected by various different parameters and in order to ensure constant connectivity the MRD-series features a connection manager:

The MRD-310 offers network protection from malicious eavesdroppers via encrypted communication tunnels (VPN), and features a simple, yet powerful, packet inspection firewall.

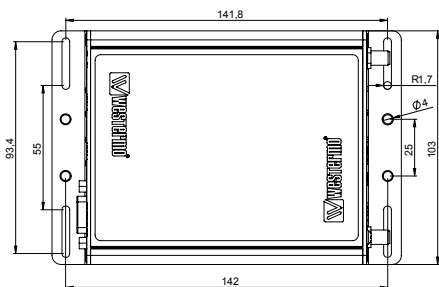
For solar powered applications energy efficiency is vital and the MRD-310 has a special low-power mode to only be fully powered when needed. The built-in serial port offers a simple modem replacement solution with the benefit of not having to reprogram or change legacy components during an upgrade.

Ordering Information

Art.no	Description
3623-0001	MRD-310, GPRS/3G/HSUPA/HSDPA Router; 2 x 10/100 Base-TX; RJ-45, 1 x RS-232: 9-pol D-sub, -20 to +70°C (-4 to 158°F), 10-60 VDC
3125-0001	PS-30, Power supply, DIN mounted (Accessories)

Specifications MRD-310

Dimensional drawing



Dimension W x H x D 103 x 32 x 156 mm (2.08 x 4.05 x 4.05 in)

Weight 0.3 kg

Degree of protection IP 40

Power

Rated voltage 12 to 48 VDC

Operating voltage 10 to 60 VDC

Interfaces

RS-232 1 x 300 bit/s – 115.2 kbit/s

Ethernet TX 2 x 10 Mbit/s or 100 Mbit/s

SIM 1 x SIM slot (3 volts SIM supported)

Mobile/Cellular Technology	Max Connectivity Speed			Frequency (MHz)	
	Downlink	Uplink	Note		
GSM	14.4 kbit/s	14.4 kbit/s	–	850/900/1800/1900	
GPRS	85.6 kbit/s	85.6 kbit/s	Class 12		
EDGE	236.8 kbit/s	236.8 kbit/s	Class 12		
3G UMTS	384 kbit/s	384 kbit/s	–	850/900/1900/2100	
HSDPA	14.4 Mbit/s	–	Cat 10		
HSUPA	–	5.7 Mbit/s	Cat 6		
Antennas	Transmit (TX)	Receive (RX)	Required	Label	Connector
Main Antenna	YES	YES	YES	ANT	SMA
Optional Antenna*	NO	YES	NO	AUX	SMA

* Antenna connector labeled AUX is optional and used for receive diversity.

Temperature

Operating –20 to +60°C (–4 to +140°F), –30 to +70°C (–22 to +158°F) restricted operation

Storage & Transport –40 to +85°C (–40 to +185°F)

Agency approvals and standards compliance

EMC EN 61000-6-1, Immunity residential environments
EN 61000-6-2, Immunity industrial environments
EN 61000-6-3, Emission residential environments
EN 61000-6-4, Emission industrial environments

Safety EN 60950, IT equipment

R&TTE Article 3.1a EN 60950, Safety, EN 50385, EMF exposure
Article 3.1b EN 301 489-1, ERM/EMC, EN 301 489-7, ERM/EMC GSM, EN 301 489-24, ERM/EMC 3G
Article 3.2 EN 301 908-1 ERM 3G, EN 301 908-2 ERM 3G, EN 301 511 GSM

Protocols and Functionality

Ethernet Technologies	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseTX
Cellular Technologies	Circuit Switched Data mode (CSD) GSM GPRS Multi-slot class 12, mobile station class B, PBCCH support, coding schemes CS 1-4 EDGE Multi-slot class 12 (max 236.8 kbit/s), mobile station class B, modulation and coding scheme MCS 1-9 3G (WCDMA / UMTS) 384 kbit/s downlink / uplink HSDPA up to 14.4 Mbit/s downlink HSUPA up to 5.7 Mbit/s uplink
Serial Port Technologies	RS-232 Serial Over IP (Serial Extender and Virtual Serial Port) Modem emulation AT command interpreter MODBUS DNP3 SMS
Layer-2 QoS	IEEE 802.1p Class of Service
IP Routing, Firewall, VPN and Cyber Security	Static IP routing Dynamic IP routing <ul style="list-style-type: none"> • RIPv1/v2 VRRP GRE Stateful inspection Firewall / ACL, NAT, Port Forwarding 3 x IPsec VPN, PSK & X.509, Fail-over 1 x L2TP client 1 x PPTP client 1 x OpenVPN / SSL VPN client Simple Certificate Enrollment Protocol (SCEP) RADIUS PPP Dial in/Dial out
Manageability	Management tools <ul style="list-style-type: none"> • Web interface (HTTP and HTTPS) • Command Line Interface (CLI) via SSHv2 and TELNET • SNMPv1/v2c/v3 • SMS Control Flexible alarm/event handling system Syslog (log files and remote syslog server) SNTP (NTP client) DHCP client DHCP server DDNS (Dynamic DNS update client)