Industrial 3G Router
MRD-315

⋮ 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 60 VDC
- 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

CE   FC Part 15   C-Tick

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-315 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 60 VDC 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-315 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-315 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
3623-0050	MRD-315, Industrial 3G router
3125-0001	PS-30, Power supply, DIN mounted (Accessories)

Specifications MRD-315

Dimensional drawing
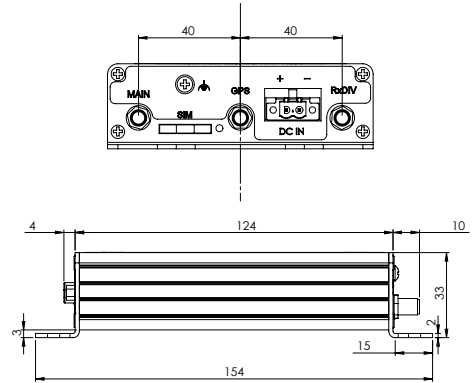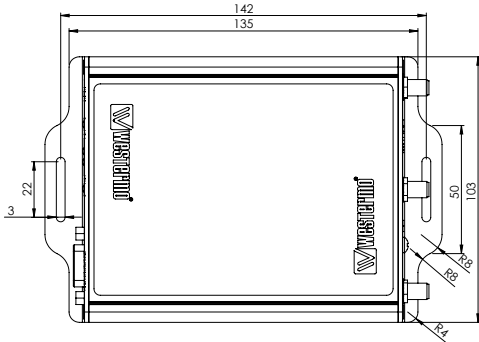
Dimension W x H x D	103 × 32 × 156 mm (2.08 × 4.05 × 4.05 in)
Weight	0.3 kg
Degree of protection	IP 40

Power	
Rated voltage	12 to 48 VDC
Operating voltage	10 to 60 VDC
Rated current	110 mA @ 24 VDC

Interfaces	
RS-232	1 × 300 bit/s – 115.2 kbit/s
Ethernet TX	2 × 10 Mbit/s or 100 Mbit/s
SIM	1 × 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	–	800/850/900/ AWS 1700/1900/2100
HSDPA	21.0 Mbit/s	–	Cat 14	
HSUPA	–	5.7 Mbit/s	Cat 6	
Antennas	Transmit (TX)	Receive (RX)	Required	Label	Connector
Main Antenna	YES	YES	YES	MAIN	SMA
Optional Antenna*	NO	YES	NO	RxDIV	SMA
GPS Antenna	–	–	NO	GPS	SMA

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

Temperature	
Operating	–40 to +70°C (–40 to +158°F)
Storage & Transport	–40 to +85°C (–40 to +185°F)

Agency approvals and standards compliance	
EMC	EN 55024, EN 55024 A1, EN 55024 A2, Electromagnetic compatibility – Immunity IT equipment
	EN 55022, EN 55022 A1, Information technology equipment.
	Radio disturbance characteristics. Limits and methods of measurement
Safety	EC/EN 60950-1, IT equipment

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 21.0 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	UDP, TCP, FTP, SSH, TELNET, ICMP Static IP routing Dynamic IP routing • RIPv1/v2 VRRP GRE Stateful inspection Firewall / ACL, NAT, Port Forwarding, IP filtering 25 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 MD5, SHA, DES, 3DES, AES/FIPS 197, TLS

Manageability	Management tools
	  • 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)