Industrial Cellular Router

MRD-415

- Industrial remote access using the Internet
  - Economic and environmental benefits
  - Access SCADA systems, HMI and PLCs remotely
  - Wireless 2G/3G/4G connections
- Designed for industrial applications
  - Compact casing with wall 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
- Secured 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 replacements of analogue leased lines
  - Ability to control and receive status changes via SMS
  - Low-power mode for energy efficient applications

CE   RED Radio equipment directive

Remote access removes boundaries, eliminates the need for time consuming site visits and provide a network infrastructure suitable for today's "always-on" society.

A compact case design with wall mounting 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 a variety of parameters and in order to ensure constant connectivity, the MRD-series features the customer-praised connection manager.

The MRD-415 offers network protection from malicious eavsdroppers via encrypted communication tunnels (VPN), and features a simple, yet powerful, packet inspection firewall.

For solar and battery powered application energy efficiency is vital and the MRD-415 features a low-power mode to only be fully powered when needed. The built-in serial port offers a simple modern replacement solution with the benefit of not having to reprogram or change legacy components during an upgrade.

Ordering information

Art. no.	Description
3623-0515	MRD-415, Industrial Cellular Router
3125-0001	PS-30, power supply, DIN-mounted (Accessories)

Specifications - MRD-415

Dimensional drawing
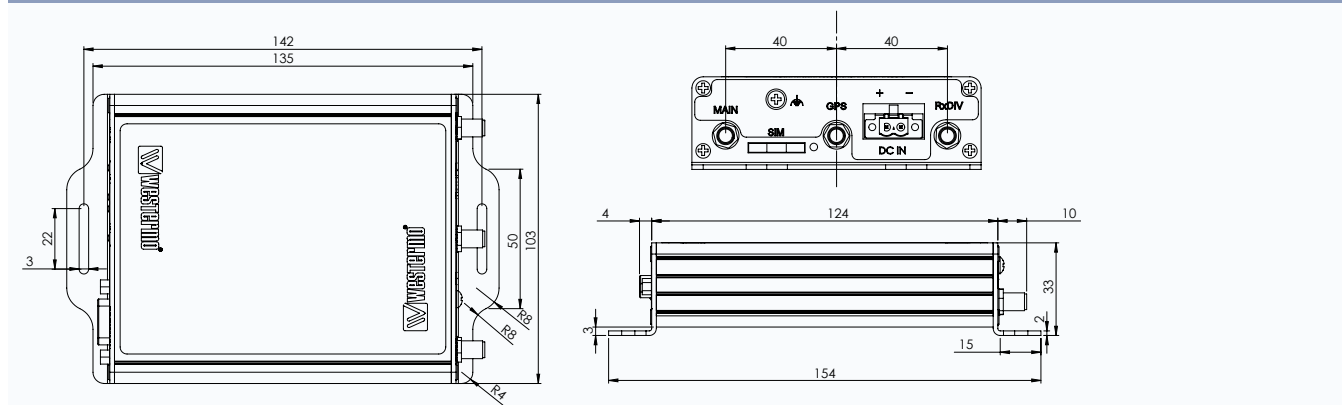
Technical data

Dimensions (W x H x D)	103 x 32 x 156 mm (4.06 x 1.26 x 6.14 inches)
Weight	0.3 kg
Operating temperature	-40 to +70°C (-40 to +158°F)
Storage and transport temperatures	-40 to +85°C (-58 to +185°F)
Ingress protection	IP40
MTBF	Ground Benign 40°C: 1.367.000 hours Ground Fixed 40°C: 341.800.000 hours

Power

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

Interfaces

RS-232	1 x 300 bit/s - 115.2 kbit/s
Ethernet	2 x RJ-45, 10 Mbit/s or 100 Mbit/s
SIM	1 x mini-SIM (3 volt SIM supported)
Antennas	3 x SMA female (Main, RxDiv, GPS)

Cellular Technologies

Technology	Frequency (MHz)
2G	900/1800
3G	B1 (2100), B3 (1800), B8 (900)
4G	B1 (2100), B3 (1800), B7 (2600), B8 (900), B20 (800), B28A (700)
Category	LTE Cat. 1

Type	Approval/Compliance
Certifications	CE according to RED 2014/53/EU, RoHS
EMC	EN 301489-1, EN 301489-19, EN 301489-52
Safety	EN/IEC 60950-1, EN 50385, EN 62311
Radio spectrum usage	EN 301908-1, EN 301908-2, EN 301908-13
Shock and vibration	EN 61373

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Protocols and Functionality	
Ethernet Technologies	-IEEE 802.3 for 10BaseT -IEEE 802.3u for 100BaseTX
Serial Port Technologies	-RS-232 -Serial Over IP (Serial Extender and Virtual Serial Port) -Modern emulation -AT command interpreter -MODBUS -DNP3 SMS
Layer-2 QoS	-IEEE 802.1p Class of Service
Positioning (GNSS)	-Passive and Active antenna -GPS/GLONASS/BeiDou/Galileo/QZSS
IP Routing, Firewall, VPN and Cyber Security	-Static IP routing -Dynamic IP routing: RIPv1/v2 -VRRP -GRE -Stateful inspection Firewall / ACL, NAT, Port Forwarding -25 x IPsec VPN[a], 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: 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 and server -DDNS (Dynamic DNS update client)

[a]25 x Configurable IPsec VPNs, processing power in relation to traffic over VPN sets limitation on number of VPNs.