Industrial 4G LTE Gateway/Router
MRD-405

⁙ Industrial remote access using the Internet
- Economic and environmental benefits
- Access SCADA systems, HMI and PLCs remotely
- Wireless mobile broadband GPRS/EDGE/3G/HSPA/4G LTE connection

⁙ Designed for industrial applications
- Compact casing for easy integration
- Power input range, 10 to 36 VDC
- Built-in two port Ethernet switch

⁙ 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 communication solutions
- Can act as a gateway to the internet
- Works very well with M2M type SIM cards
- Management via easy to use web-interface or SMS

CE ⚠ R&TTE
Radio and telecommunications
terminal equipment

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-405 industrial 4G LTE gateway/router uses the Internet to cost effectively inter-connect systems, allowing HMI, PLCs, sensors etc to communicate with each other, a pre-requisite for any Industrial Internet (IIoT/IoT) solution.

A compact case design with a power input range between 10 to 36 VDC make the unit well suited for industrial applications. Easy integration with other devices is achieved using the built-in two port Ethernet switch.

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 unit will monitor the cellular connection and, without human-interaction, solve most network related issues, preventing unnecessary power-cycle site visits!

The MRD-405 offers network protection from malicious eavesdroppers via encrypted communication tunnels (VPN), and features a simple, yet powerful, packet inspection firewall.

Requirements and needs vary between different types of M2M/IIoT applications. Sometimes all that is needed is a reliable gateway to the internet whereas other applications might have simpler devices that need to be securely connected to each other, or a server, via a VPN. Regardless of which type of remote access application you might have the MRD-405 can fulfill your communication needs. The unit works very well with any type of SIM card, such as static IP SIM, M2M SIM, or an off-the-shelf SIM.

Configuring the unit is very easy with the built-in web-interface, no need for special AT-commands or similar. The device can also provide both management and monitoring via SMS, for example an SMS could be sent to start a VPN.

Ordering Information

Art.no	Description
3623-0501	MRD-405, GPRS/3G/HSUPA/HSDPA/4G LTE router
3125-0001	PS-30 Power Supply (Accessories)

Specifications MRD-405

Dimensions
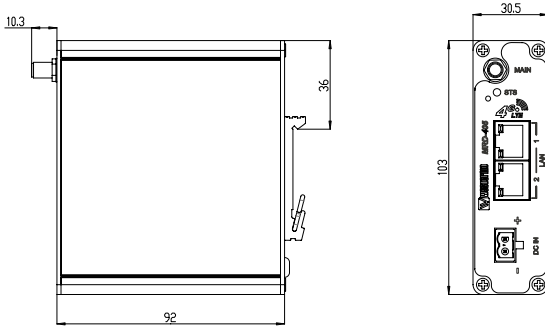
Dimension W x H x D	30.5 x 103 x 92 mm (1.20 x 4.06 x 3.62 in)
Weight	0.25 kg
Degree of protection	IP40

Power

Rated voltage	12 to 24 VDC
Operating voltage	10 to 36 VDC
Rated current	60 mA @ 24 VDC

Interfaces

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	–	900/1800	
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	–	850/900/2100	
HSDPA	7 Mbit/s	–	Cat 8		
HSUPA	–	5 Mbit/s	Cat 6		
4G LTE	10 Mbit/s	5 Mbit/s	Cat 1	800(B20)/1800(B3)/2600(B7)	
Antennas	Transmit (TX)	Receive (RX)	Required	Label	Connector
Main Antenna	YES	YES	YES	MAIN	SMA

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

R&TTE	Article 3.1a	EN 60950-1	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 and EN 301 908-2	ERM 3G
		EN 301 511 and EN 301 908-13 (LTE)	GSM
Safety		IEC/EN 60950-1, IT equipment	

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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 7 Mbit/s downlink HSUPA up to 5 Mbit/s uplink 4G LTE up to 10 Mbit/s downlink 4G LTE up to 5 Mbit/s uplink
Layer-2 QoS	IEEE 802.1p Class of Service
IP Routing, Firewall, VPN and Cyber Security	Static IP routing Stateful inspection Firewall / ACL, NAT, Port Forwarding 1 x IPsec VPN, PSK & X.509, failover 1 x OpenVPN / SSL VPN client 1 x WeConnect 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 DHCP server DDNS (Dynamic DNS update client)