

M2M INDUSTRIAL ROUTER



Best-seller basic, rugged industrial IoT router for applications in energy, transportation, smart cities etc.

A compact, robust cellular router designed for industrial M2M / IoT applications. Cost-effective solution for secure, stable mobile connection even in harsh conditions. A high-quality, rugged communication device for use in many smart grid and industrial applications, including Distribution Automation (DA), Automated Metering Infrastructure (AMI), industrial automation projects etc. The ideal product for gathering all kinds of data from sensors and sending them to a remote data center, securely, over high-speed cellular networks.

It comes with all the most important interfaces, protocols and management functions desirable in the world of industrial automation and smart grid. It is the preferred choice for the mission-critical cellular communications of many large energy companies and IoT system integrators. More than 100.000 units have been sold around the world.

Cellular routers are highly effective for the implementation of reliable and extremely secure communications networks for remote substation SCADA, distribution automation, and metering applications. The routers collect data via Ethernet or RS485 and send it to a central server through encrypted LTE cellular networks. Supports the most important industrial and network protocols. It has full remote access, monitoring and maintenance features. We offer customization (protocols, interfaces, modules) for large projects.



MAIN FEATURES

- Power: 12/24V, 1A power supply (9-24V), microfit 4-pin
- Physical Interfaces: Ethernet port (RJ45, 10/100 Mbit, LAN) / RS485 (terminal block) / MicroUSB / MicroSD
- Protocols: DHCP, DynDNS, IP Route, IPv4/IPv6, FTP, SFTP, SNMP time handlink, NTP time service, SSHv2, HTTP, IPsec, OpenVPN, IP passthrough, Modbus TCP/Modbus RTU, Mbus
- Cellular module order options:
 - LTE Cat.1 with 2G or 3G/2G „fallback”
 - LTE Cat.M/Cat.NB with 2G „fallback” or 450MHz option
- Operating System: OpenWrt
- User Interfaces: WebGUI/LuCi interface, Linux command line
- Management: TR-069 protocol; optionally by our Device Manager software (AES-256 encrypted)
- Enclosure/casing: rugged, robust, IP51 industrial aluminum

APPLICATION

- UTILITY COMPANIES
- SMART METERING
- SOLAR / PV FARMS
- INDUSTRIAL CLIENTS



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DESIGN AND OUTFIT

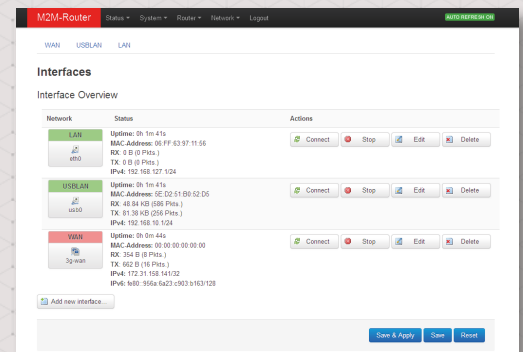
- IP51 aluminum enclosure, mount to DIN-rail
- Industrial interface outfit

COMPATIBILITY

- Web user interface and Linux command line, UCI
- Scada and industrial measurement systems, utility meters
- IIoT IO/RS485® CONCENTRATOR (16 digital inputs)

OPENWRT® SYSTEM

- Web user interface and Linux command line
- Protocols: DHCP, DynDNS, IP route, NAT, IPv4/IPv6, (S)FTP, SNTP/NTP time service, SSHv2, HTTP(S), GRE, mGRE, IP passthrough, Firewall, IPSec, OpenVPN, MBus master, Modbus TCP/RTU, TR-069, TLS v1.2



ACCESSORIES

- 12V DC power adapter (microfit connection)
- External antenna (according to the module version)
- DIN-rail adapter
- You can manage the router by Device Manager® software (order option)

M2M Industrial Router®		LTE Cat.1		LTE Cat.M / NB			
Power	Voltage	DC 12V 1A power supply (9-32VDC) / microfit 4-pins power adapter connection					
	Current	Stand-by: 160-260mA 12VDC (according to module version) / 1.9 - 3.1W, 12VDC					
System	Performance	• Cortex-A3 ARM 400MHz processor / 128MB memory					
	Cellular technology	• LTE Cat.1 with 2G "fallback"	• LTE Cat.1 with 3G/2G "fallback"	• LTE Cat.M / Cat.NB	• LTE Cat.M / Cat.NB	• LTE Cat.M / Cat.NB with 2G "fallback"	• LTE Cat.M / Cat.NB / LTE 450MHz
Communication module	Internet module	• Telit LE91051-EA	• Telit LE91021-EUX	• Telit ME910C1-E1	• Telit ME910C1-W1	• Telit ME310G1-WW	• Telit ME310G1-W2
	Bands / Frequency (MHz)	• LTE: B1(2100) / B3(1800) / B5(850) / B7(2600) / B8(900) / B20(800) / B28A(700) / B28(700) / B38(2600) / B40(2300) / B41(2500) • 2G: B3(1800) / B8(900)	• LTE: B1(2100) / B3(1800) / B7(2600) / B8(900) / B20(800) / B28A(700) • 3G: B1(2100) / B3(1800) / B8(900) • 2G: B3(1800) / B8(900)	• LTE Cat.M / Cat.NB: B3(1800) / B8(900) / B20(800)	• LTE: B1(2100) / B2(1900) / B3(1800) / B4(1700) / B5(850) / B6(900) / B12(700) / B13(700) / B18(800) / B19(800) / B20(800) / B25(1900) / B26(850) / B27(800) / B28(700) / B66(1700) / B71(600) / B85(700)	• LTE: B1(2100) / B2(1900) / B3(1800) / B4(1700) / B5(850) / B8(900) / B12(700) / B13(700) / B14(700) / B18(800) / B19(800) / B20(800) / B25(1900) / B26(850) / B27(800) / B28(700) / B66(1700) / B71(600) / B85(700) • 2G: B3(1800) / B3(1800) / B5(850) / B8(900)	• LTE Cat.M / Cat.NB: B1(2100) / B3(1800) / B5(850) / B8(900) / B20(800) / B28(700) / B31(450) / B71(450)
	Speed (DL/UL)	• LTE Cat.1: 10/5 Mbps • 2G (CSM/EDGE): 80/40 kbps	• LTE Cat.1: 5/0 Mbps • 3G (HSPA+): 42/576 Mbps • 2G (GSM/EDGE): 80/40 kbps	• LTE Cat.M: 300/375 kbps • LTE Cat.NB: 20-250/250 kbps	• LTE Cat.M: 1 Mbps/588 kbps • LTE Cat.NB: 160/120 kbps	• LTE Cat.M: 588 kbps/1 Mbps • LTE Cat.NB: 120/160 kbps • 2G (EGPRS): 264/210 kbps	• LTE Cat.M: 588 kbps/1 Mbps • LTE Cat.NB: 120/160 kbps
	SIM card slot					• mini SIM (2FF type)	
	Antenna connector	• for LTE antenna (SMA, 50 Ohm)				• for LTE Cat.M / Cat.NB antenna (SMA, 50 Ohm)	
Interface connections	Ethernet port	• RJ45 (10/100 Mbps Ethernet LAN/WAN)					
	microUSB port	• micro-USB					
	microSD slot	• micro-SD memory card slot					
	Industrial port	• RS485 port (transparent or Modbus communication - terminal block connection, 3pins)					
User interface	System / Services	• WebGUI / LuCI® interface, OpenWrt® operation system, Linux command line, UCI • Security/Management: Firewall, diagnostics and monitoring of operation parameters, TLS v1.2 • Networking protocols: DHCP, DynDNS, IP route, IPv4/IPv6, FTP, SFTP, SNTP time handlink, SSHv2, HTTP(S), GRE, mGRE, IPSec, OpenVPN, IP passthrough • Management: TR-069 protocol, Device Manager® (AES-256 encrypted, safe data connection) • Scada support: Modbus TCP/Modbus RTU (for meters and measurement systems) • MBus protocol (for MBus master meters)					
	Configuration	• OpenWRT® local website (local/remote configuration) • Optional: Device Manager® (firmware/software refresh, parameter modification)					
	Indication	• 3 bi-color status LED (programmable)					
Construction	Temperature range	• Operation: from -40°C to +75°C / Storage: from -40°C to +80°C to 0 to 95 rel. humidity					
	Enclosure	• IP51 industrial aluminum case, mount to DIN-rail/wall					
	Dimensions/Weight	• 92 x 85 x 35 mm, 170gr (without antenna and power adapter)					



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