

M2M INDUSTRIAL ROUTER 2 SECURE



Reliable and Rugged Communication Device for Smart Grid and Industrial Applications

This secure and robust device features an Ethernet port, cellular module, and compact industrial design. It is currently available with LTE Cat.1 or LTE Cat.M/Cat.NB modules that provide enhanced coverage.

This product boasts special firmware that offers additional security features as required by the European Network for Cyber Security (ENCS).

To meet ENCS standards, the device has been completely redesigned to enhance security. As a result, it has successfully passed all tests and offers improved processing speed with an eMMC chip for secure boot and encrypted data storage.

The device also includes an OTP-enabled memory chip, Chip SIM (MFF2) option, and supercapacitor protection with latest security protocols and features for maximum security.



This device is designed for use in various smart grid and industrial M2M / IoT applications, including Automated Metering Infrastructure (AMI) and industrial automation projects. It is a preferred choice for securing critical smart grid infrastructure for some of the largest European utilities. The device offers all features required for the world of smart metering, smart grid, and industrial automation.

The operating system is open-source OpenWRT® and the device is manageable through our state-of-the-art Device Manager® platform via TLS-secured communication. The solution enables clients to perform OTA firmware updates and mass deployments quickly and efficiently.

MAIN FEATURES

- Power: 12V, 1A (9-32V) / Supercapacitor
- Enclosure: rugged, robust, IP51 aluminum casing
- Cellular module order options:
 - LTE Cat.1 / 450MHz module with 2G „fallback” feature
 - LTE Cat.M / Cat.NB / 450MHz module with 2G „fallback” feature
- mini SIM (2FF) / Chip SIM option (MFF2)
- eMMC chip with secure boot
- Interfaces: Ethernet (RJ45, 10/100 Mbit, LAN), micro-USB port
- Secure wireless data transmission
- Protocols: DHCP, IP Route, IPv4/IPv6, (S)FTP, (S)NTP, SSHv2, IPsec, TLS v1.2
- OpenWRT system with Linux- and UCI command line interface
- Device Management platform connection using TLS v1.2 protocol

APPLICATION

- SMART METERING
- SMART GRID
- INDUSTRIAL PARTNERS
- CORPORATE PARTNERS



M2M Industrial Router 2 SECURE



DESIGN AND OUTFIT

- IP51 aluminum enclosure designed to mount on DIN-rail

SECURITY FEATURES

- Encrypted eMMC memory chip for Secure boot
- Monitoring of operation parameters, detection of network interface connection / disconnection with an alarm event sending to the management platform, unique passwords, firewall, IPSec, and TLS v1.2
- Remote management of routers using Device Manager® software via a secure TLS v1.2 connection
- Supercapacitor with LastGASP feature for the immediate notification of power outage to the Device Manager® platform



SOFTWARE SYSTEM

- Customized OpenWRT® operation system with a Linux-based command line and UCI user interface
- Protocols: DHCP, IP route, NAT, IPv4/IPv6, (S)FTP, (S)NTP, SSHv2, IP passthrough

M2M INDUSTRIAL ROUTER 2 SECURE®		LTE Cat.1	LTE Cat.M / Cat.NB
Power	Voltage	• 12V DC, 1A (9-32VDC), microfit 4-pin power input connection	
	Current / Consumption	• Average current: 200mA - 320mA, 12VDC (according to operation / selected module) / Consumption: 2.4W - 3.84W, 12VDC	
System	Performance	• Cortex ARM Thumb® 600MHz processor - 128MB memory	
	Storage	• 4GB or 8GB eMMC memory chip (size by order option) with hardware protected Secure boot feature	
Communication module	Cellular technology	• LTE Cat.1 / 450MHz - 2G "fallback"	• LTE Cat.M / Cat.NB / 450MHz - 2G "fallback"
	Internet module	• SIMCom A7676E	• SIMCom SIM7070E
	Bands / Frequency (MHz)	• LTE: B1(2100) / B3(1800) / B8(900) / B20(800) / B28(700) / B31(450) / B72(450) • GSM/GPRS/EDGE: B3(1800) / B8(900)	• LTE Cat.M: B1(2100) / B2(1900) / B3(1800) / B4(1700) / B5(850) / B8(900) / B12(700) / B13(700) / B14(700) / B18(850) / B19(850) / B20(800) / B25(1900) / B26(850) / B27(850) / B28(700) / B31(450) / B66(1700) / B72(450) / B85(700) • LTE Cat.NB: B1(2100) / B2(1900) / B3(1800) / B4(1700) / B5(850) / B8(900) / B12(700) / B13(700) / B18(850) / B19(850) / B20(800) / B25(1900) / B26(850) / B28(700) / B31(450) / B66(1700) / B85(700) • GSM/GPRS/EDGE: B2(1900) / B3(1800) / B5(850) / B8(900)
	Speed (DL/UL)	• LTE: 10/5 Mbps • GSM/GPRS/EDGE: 236.8/236.8 kbps	• LTE Cat.M: 119/589 kbps • LTE Cat.NB: 158.5/127 kbps • GSM/GPRS/EDGE: 236.8/296 kbps
	SIM card slot	• mini SIM card (type 2FF) • optional chip SIM (type MFF2)	
	Antenna connector	• 1x antenna connector (SMA, 50 Ohm) for LTE antenna	
Interface connectors	Ethernet	• RJ45 (10/100 Mbit, Ethernet LAN)	
	micro-USB	• USB Ethernet interface	
User interface	System / Services	• Operation system: OpenWrt®, Linux command line, UCI user interface • Protocols: DHCP, IP route, NAT, IPv4/IPv6, (S)FTP, (S)NTP time handlink, NTP time service, SSHv2	
	Security features	• Secure Boot (by eMMC memory chip) • Monitoring of operation parameters, detection of network interface connection / disconnection with an alarm event sending to the management platform, unique passwords, firewall, IPSec, and TLS v1.2 • Management via Secure Device Manager connection (TLS encryption between router- and remote management software) • Supercapacitor with LastGASP feature (sends immediate notification to management platform in case of power outage)	
	Configuration	• On router's command line user interface (Linux, UCI) • Device Manager® software (firmware/software refresh, parameter modification, reboot, etc.)	
	Indication	• Status LEDs: 3 bi-color, reconfigurable	
Construction	Temperature range	• Operation: -40°C to +75°C / Storage: -40°C to +80°C at 0 to 95 relative humidity	
	Enclosure	• IP51 industrial aluminum case, mountable to DIN-rail/wall	
	Dimensions/Weight	• 92.5 x 85 x 35mm / 175 gr. (without antenna and power adapter)	



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WM Systems LLC

8 Villa str., Budapest, H-1222 HUNGARY

Phone: +36 (1) 310 7075

Support: +36 (20) 333 1111

Our website: www.wmsystems.hu

Sales inquiry: intersales@wmsystems.hu

Support: support@wmsystems.hu