MRO200-LTE

„ The professional router MRO200-LTE is the compact power pack for your mobile (LTE) M2M and IoT applications.

Industrial-grade VPN router with internal LTE modem

Latest technology and high performance combined in a compact housing characterise the new professional router MRO200-LTE.

Varied and operating system independent

Besides its 5-port switch, an RS232 interface as well as digital inputs and outputs are available. With the integrated icom SmartBox, a Linux environment based on LXC technology, the router provides an operating system-independent platform, for example for local storage and processing of data or executing further programs and scripts (edge computing).

Secure and durable

Like all routers of INSYS icom, the MRO200-LTE is also characterised by high system stability, longevity and consistent user guidance. VPN, a stateful firewall and many other security features like event-based messages provide for security.

Technical highlights

- High performance for broadband networks and high VPN data rate
- Dynamic routing
- Dual APN: Traffic division across 2 APNs
- Several VPN tunnels can be used in parallel
- Stateful firewall also in VPN tunnel
- Segmentation in several local IP networks
- Integrated Linux programming environment (LXC) for edge computing (icom SmartBox)
- Flexible administration with profile manager
- Extended event-based control (e.g. profiles, connections, redundancy)
- Access control via user roles
- PPPoE for external ADSL modem

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Technical details

Mobile communication

Frequency bands *	4G/LTE*: 800, 900, 1.800, 2.100, 2.600 MHz; LTE Cat. 3 (DL: max. 100 Mbps, UL: max. 50 Mbps) 3G/UMTS/HSPA: 900, 1.800, 2.100 MHz; UMTS, HSPA+ (DL: max. 42 Mbps, UL: max. 5,76 Mbps) 2G/GPRS/EDGE: 900, 1.800 MHz; GPRS/EDGE Class 12 (DL: max. 237 kbps, UL: max. 237 kbps)
Antenna connection	2x SMA female (2G/3G/4G: Main, 3G: Rx Diversity, LTE: MIMO)
SIM	Slot for 1 Mini-SIM card (2FF), locked

Router

Function	Up to 5 IP networks local (LAN) or as WAN, VLAN incl. tags and trunk ports; own DHCP server per IP network, static routing, routing priority configurable; dynamic routing OSPF, BGP, RIP, RIPv2, RIPng; netfilters: DNAT, SNAT, IP/port forwarding, netmapping, IP filters (stateful firewall), DNS relay, dynDNS support, Dual APN: traffic division across 2 APNs - e.g. for separating payload and management data (only cellular radio)
Security	OpenVPN (client and server), IP filters (stateful firewall) also in VPN tunnel, several VPN tunnels in parallel possible, IPsec, GRE (incl. multi-port), DMVPN, PPTP server
Redundancy	WAN chains: several WAN accesses configurable (prioritised and event-controlled), WAN groups: parallel operation of WAN interfaces or VPNs, several OpenVPN servers, additional redundancy via further MRcards

Ethernet switch, interfaces

Ports	5x RJ45, 10/100 MBit/s, full/half-duplex, auto MDI-X, 1.5 kV isolation voltage
Function	Each port can be freely assigned to the IP networks, link up/down detection, configuration port
Digital inputs	2x digital inputs, 1x low-active, 1x high-active (as per EN 61131-2, Type 1)
Digital outputs	1x Open collector output
Events (selection)	Change: input, Ethernet port, WAN chain, profile, supply input, cellular field strength; timer expiry, firewall violation, login attempt detection, pulse sequence at digital input, counter
Event-controlled actions (selection)	E-mail messages, SMS, SNMP traps, MCIP, start timer, profile switching, connection switching, reset, log out/turn off modem, activate firmware

* Please check the availability of the LTE frequencies in the planned operating area

„Since I use your remote maintenance solution, everything is going great. I have never had problems here."

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> Create VPN connection easily and securely. With the DELTA LOGIC Connectivity Service.
>
> https://connectivity.deltalogic.de

Serial interface

RS 232 (Serial 1)	1 x RS232 / D-Sub-9 (m)
Functions	Serial-Ethernet gateway (incoming and outgoing connections, Modbus TCP/RTU gateway, modem emulation, editable AT answer list, phone number conversion to IP addresses), PPPoE for external ADSL modem)

Operation

Wizards	Configuration of connection incl. VPN, adding LAN networks, quick start of DELTA LOGIC Connectivity Service
Help	Web interface with inline help texts, online help, FAQ, exemplary profiles, plausibility check
Configuration	Local and remote web interface (http, https; with session management), command line interface (CLI), Telnet, SSH, ASCII and binary file (also for backup), configuration management with switchable profiles (event-controlled)
Indications (LEDs)	Power, WAN (internet connection), 1x configurable, 1x signal (for cellular radio)
Authentication	Several users, different user roles and rights, RADIUS
Diagnosis	Comprehensive log files, support package, integrated help functions, diagnosis tools: ping, tcpdump, traceroute, DNS lookup, AT commands
Firmware updates	Incremental, fail-safe, automated via update server (http, ftp, https, ftps)

Edge Computing

Icom SmartBox	Linux programming environment: creation of LXC containers for programs and scripts (apps), ARMv7 CPU, 192 MB RAM, 2 GB flash memory
Additional features	NTP client and server, buffered real-time clock

Supply

Voltage	12 ... 24 V DC (± 20%)
Terminals	5-pin push-in terminal connectors (maintenance free), rigid/flexible conductors up to 2.5 mm^2
Power consumption	typical approx. 2.5 W, max. 8.0 W

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Ambient conditions

Dimensions (W x D x H) in mm	54 x 88 x 117
Operating temperature	-30...+70 °C, -30...+75 °C under restricted conditions (refer to www.insys-icom.com/restricted)
Humidity	0...95% (non-condensing)
Mounting/protection class	DIN rail mounting/housing: IP40, terminals: IP30

Approvals & Standards

Certifications	CE
EMC	Emission: EN 55022 Class B; Immunity: EN 61000-6-2, EN 55024
Security	IEC/EN 60950
Environmental conditions	Vibration/shock as per PLC standard EN 61131-2 and EN 60068-2-6, EN 60068-2-27; Temperature tests as per EN 60068-2-1, EN 60068-2-2, EN 60068-2-14, EN 60068-30