

LMSR-R63

Ruggedized next Gen Gigabit Router

2x GE WAN + 4x GE LAN ports, PoE

**OPTOKON's R&D
Solution Technology Integrator
of Cisco Systems**

Description:

The OPTOKON LMSR-R63 ruggedized router based on Cisco Next Gen GE Embedded Router 6300 is optimized for military networks that require IP routing and services. The compact router provides highly secure data, voice, and video communications to stationary and operational tactical network nodes.

The LMSR-R63 is a high-performance, ruggedized router designed for use in harsh environments—offering reliable operation in extreme temperatures and under shock and vibration conditions typical for mobile applications in rugged terrain. With onboard hardware encryption, the router offloads encryption processing from the routing engine to provide highly secure yet scalable video, voice, and data services for mobile and embedded outdoor networks. The router offers high performance, six Gigabit Ethernet interfaces (two routed and four switched), and a rich Cisco IOS Software feature set, providing investment protection for customers deploying bandwidth-intensive applications in mobile or embedded networks in heavy industrial, public safety, transportation, defense, and energy markets.

The router supports a variety of management functions, including Cisco DNA, Web UI, IOx, MIB – SNMP (version 2 and 3), syslog etc. It is able to fit all the common 24 V DC power systems. The router operates in wide operating temperature range -40 to +70 °C and can operate as a stand alone device or it can be installed into 19" rack.

Features:

- Robust compact design resistant to harsh environmental conditions and rough handling
- Interface support:
 - 4x GE LAN ports, with PoE
 - 2x GE WAN ports:
 - Cu wires port or fiber optic (HMA connector)
- MRJ (RJ-45) or D38999 multipin rugged connectors
- 1x console RJ45 connector
- Advanced next generation Cisco IOS-XE SW
- Crypto throughput (250 Mbps)
- Wide range of operating temperature -40 to +70 °C
- Installation into ½ or full width of 19" rack
- Stackable with LMSW-E33 rugged switch
- Power supply 20-40 V DC
- Low power 12 W consumption (up to 150 W with PoE)



LMSR-R63/MRJ



LMSR-R63/D38999

Primary features

- | | |
|------------------------------|--|
| 2 GE WAN, 4 GE LAN, | The router LMSR-R63 provides two routed and four switched Gigabit Ethernet interfaces, enabling the router to serve as an aggregation point for on-demand network connectivity in mobile or fixed deployments. |
| Robust compact design | A robust and compact design that can withstand harsh environments (-40 to +70°C operating temperature) |
| Security | Enterprise-grade Cisco IOS-XE switching security features ensure highly secure voice, video, and data communication, with support FIPS-140 certified Security – IPSec, Suite-B |
| Manageability | Facilitates easy deployment and rapid configuration with easy-to-use WEB UI and Cisco DNA (Cisco Digital Network Architecture) |

Specifications:

| | |
|--------------------------|---|
| Interface | 6x Cu wires port: rugged connectors (MRJ or D38999) 2x HMA-J fiber optic rugged connectors |
| Routing protocols | <ul style="list-style-type: none"> Simple Network Management Protocol (SNMP) Versions 2 and 3 Telnet Console port RADIUS TACACS+ Cisco Service Assurance Agent Syslog Response Time Reporter Network Time Protocol (NTP) Client Trivial File Transfer Protocol (TFTP) Client and Server Dynamic Host Configuration Protocol (DHCP) Client and Server DHCP Relay Hot Standby Router Protocol (HSRP) |
| Radio routing | <ul style="list-style-type: none"> Radio-Aware Routing (RAR) Dynamic Link Exchange Protocol (DLEP) |
| VLANs | Up to 32 VLANs supported per router |
| IPv4 and IPv6 | IPv4 support, IPv6 (routing and Cisco Express Forwarding switching, IPv6 QoS, IPv6 tunneling support, Cisco IOS Zone-Based Firewall for IPv6 traffic) |
| Security protocols | <ul style="list-style-type: none"> IPsec SSL/TLS SRTP 3DES AES IKE |
| Voice | Cisco Unified Communications Manager Express <ul style="list-style-type: none"> With support for up to 48 phones |
| QoS – traffic management | <ul style="list-style-type: none"> QoS Generic traffic shaping Class-based Ethernet matching and mobile access routing (802.1p class of service [CoS]) Committed access rate Flow-based Weighted Random Early Detection (WRED) |
| Dimensions | 220 x 320 x 56 mm W x D x H, box |
| Weight | 5.0 kg |
| Power supply | 20 - 40 V DC power supply |

Electromagnetic compatibility:

EMC compatibility

ČOS 599902, 3rd edition (MIL-STD-461F)

- Radiated emissions: 2 MHz-18 GHz requirement RE 102;
- Conducted emissions: 10 kHz-10 MHz requirement CE 102;

Electromagnetic susceptibility - ČOS 599902, 4rd edition (MIL-STD-461G)

- susceptibility to interfering fields, electric fields, 30 MHz-18 GHz requirement RS 103;
- susceptibility to line-borne interference, injection into cable harnesses, 10 kHz-200 MHz requirement CS 114

Reliability:

- Mean Time Between Failure (MTBF) - min. 20,000 hours;
- Mean Time To Repair (MTTR) - min. 180 minutes;

Time between overhauls - TBO (Time Between Overhaul) - at least 5 years.

Mechanical:

ČOS 999902, Ed.3

AECTP-400, Ed.2

Annex 7B tracked vehicles:

Method: light vehicles

Environmental:

MIL-STD 810G

Operating temperature: -40 °C to +70 °C

Storage temperature: -40 °C to +85 °C

IP65 protection

Certifications from CSfC, Common criteria & FIPS140-2

- Class-Based Weighted Fair Queuing (CBWFQ)
- Low Latency Queuing (LLQ)
- Priority Queuing
- Weighted Fair Queuing (WFQ)
- Link fragmentation and interleaving (LFI)
- Traffic Policing Resource Reservation Protocol (RSVP)

Ordering code:

| | | | | | | |
|--------------------|---|--|---|---|---|---|
| LMSR-R63-CT | - | WAN ports¹ (XX) (XX) | - | DC24 | / | XX |
| | | Fiber type/λ: M5: MM 50/125 XX²: MM S3: SM 1310 nm 10: 10 km S5: SM 1550 nm 30: 30 km CT: RJ-45 | | Power supply: DC24: 20-40 V DC | | Cu wires connector: MRJ D38999³ |

- Note: 1 WAN ports: **FO HMA-J** connectors at rear panel, **CT** – copper at front panel
2) Multimode – up to 2 km, distance depends on optical fiber parameters
3) D38999 – 37-pins connector: 4x LAN + 2x WAN ports in two separate connectors

Example:

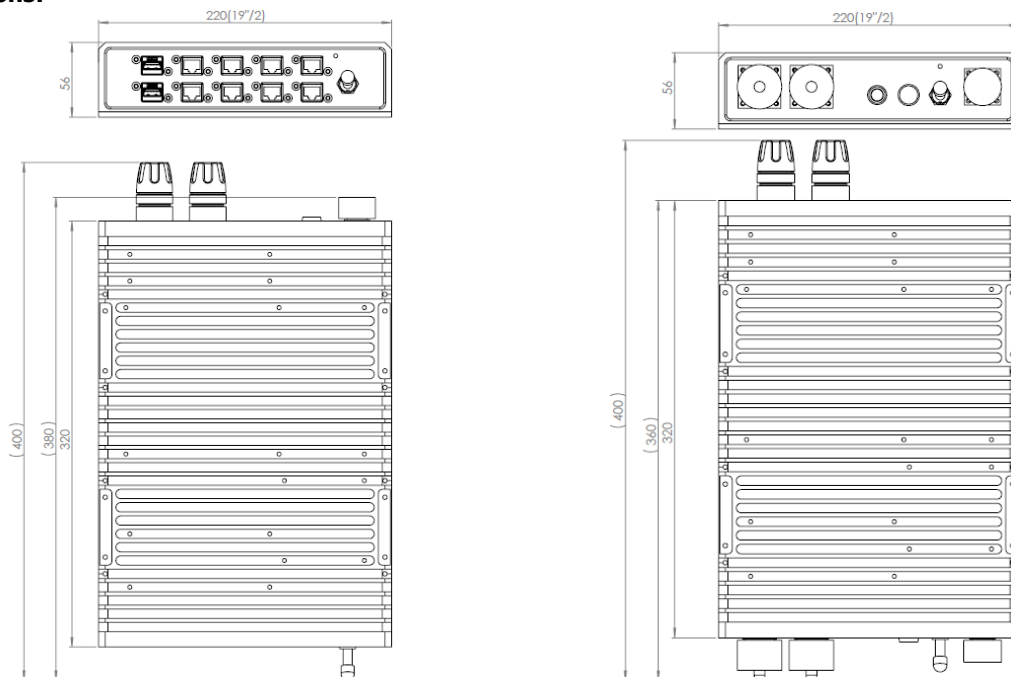
LMSR-R63-CT-DC24/MRJ

4x LAN, 2x WAN, MRJ connectors

LMSR-R63-S310-DC24/D38999

4x LAN, 2x WAN 2x HMA-J, D38999 connectors

Dimensions:



Applications:

Installation into 1/2 19" rack width

Installation into full 19" rack width – connection with other 1/2 width unit (switch, DC box, external discs, ...)

Example of installation router + switch into full width 19" rack



LMSW-E33 switch

LMSR-R63 router

Standard accessories:

- Power cable, 3 m
PSCAB2-03
(26WB2SN to 2x bare wires)
- Manual
- ESR6300-SW:
Cisco ESR6300 Series IOS
XE Universal

Options:

- Military-Grade UTP cables (IP67), xx - length (m)
LANCAB-6RR-xx Ethernet cable
LMSRCAB-MNG-A-xx Management cable (2x WAN + console)
LMSRCAB-MLT-A-xx Multi I/O cable (4x LAN)
- Tactical fiber optic cable with HMA-J connectors
- Brackets for installation into 19" rack

License option:

- Network Essentials License for Cisco ESR6300 (50 Mbps) PN: **SL-6300-NE/DEF-K9**
- Network Essentials License for Cisco ESR6300 (250 Mbps) PN: **SL-6300-NE/PERF-K9**
- Network Essentials License for Cisco ESR6300 (350 Mbps) PN: **SL-6300-NE/BOOS-K9**
- Network Advantage License for Cisco ESR6300 (50 Mbps) PN: **SL-6300-NA/DEF-K9**
- Network Advantage License for Cisco ESR6300 (250 Mbps) PN: **SL-6300-NA/PERF-K9**
- Network Advantage License for Cisco ESR6300 (350 Mbps) PN: **SL-6300-NA/BOOS-K9**
- Cisco Communication Manager Express (CME) PN: **CME-ULxx⁴**

Note: 4) xx1 to 48 number of registered phones

- SmartNet for HW: SNTC-8X5XNBD Cisco ESR6300 Embedded Series Router, 12-60 months
- SmartNet for Phone license (separate for each license): CON-ECMU-CMEULCTG, 12-60 months