LMSW-62H/71H
Ruggedized L2+ PoE Managed Switch
6x 10/100M + 2x 100/1000M

Description:

The Optokon LMSW-H series Switch is an ultra-rugged Cisco IOS-managed Layer 2+ network switch subsystem integrating Cisco's ESS 2020 Embedded Services Switch technology. The integrated PoE Injector is designed to transmit power along with data over an Ethernet network. It is ideal for powering PoE capable devices where running an AC power feed is either not possible or cost effective.

Switch is optimized for mobile and embedded networks that require switching capability in harsh environments with an AC/DC redundant power supply in an IP67 (dust/water proof) sealed aluminum chassis with MIL-C-26500 connectors. The unit provides reliable local area network (LAN) switching capabilities with the ease of use, secure access, and manageability expected from Cisco based technology.

The LMSW-62H/71H Switch enables IPv4 and IPv6 devices (computers, IP phones, sensors, routers, etc.) to be networked across extended operating temperature ranges (-40 to +80C) and extreme shock/ vibration conditions.

Two levels of Cisco IOS software (LAN Lite or LAN Base) are available to support access layer connectivity and needs for data, security, voice, and video traffic at the network edge for stationary or mobile network nodes.

Features:

- Robust compact design, resistant to harsh environmental conditions and rough handling
- 2x 100/1000Base-X FO HMA-J ports
  or 1x 100/1000Base-X + 1x 100/1000Base-T
- 6x 10/100Base-T Ethernet ports
- LAN1-6 with PoE
- PoE Standard IEEE 802.3af, DC 56V/15.4W
- Redundant dual power supply (24-48 V DC / 90-264 V AC)
- RS-232 console
- Allows installation into 19" rack
- Operating Temperature: -40 to +80 °C
- Storage Temperature: -50 to +85 °C

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Functionality:

- **Security:** Dot1x, port security, and Dynamic Host Configuration Protocol (DHCP) allow dynamic port-base authentication; Secure Shell Version 2 (SSHv2); Simple Network Management Protocol Version 3 (SNMPv3) provides encrypted administrator traffic during Telnet and SNMP sessions; TACACS+ and RADIUS
- **Resiliency:** Flex links for fast recovery, Cisco Resilient Ethernet Protocol (REP) for fast convergence
- **Manageability:** Auto SmartPort, Web Device Manager, Telnet, HTTPS access, and SNMP

Switch performance and scalability

- Line rate/nonblocking application-specific integrated circuit (ASIC)-based architecture
- Forwarding rate: 6.6 Mpps with 64-byte frames
- Forwarding bandwidth: 4.4 Gbps; Egress buffer: 2 MB
- Unicast MAC addresses: 8000
- IGMP multicast groups: 255
- Max VLANs: 255
- IPv4 MAC security ACEs: 384 (default TCAM template)

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Software Features

- **Layer 2 switching**: IEEE 802.1, 802.3 standard (see Table 6), VTPv2, NTP, UDLD, CDP, LLDP, Unicast MAC filter, Flex Link, EPVTPv3, EtherChannel, Voice VLAN
- **Security**: SCP, SSH, SNMPv3, TACACS+, RADIUS Server/Client, MAC Address Notification, BPDU Guard, SPAN session, Port-Security, DHCP Snooping, Dynamic Arp Inspection, IP Source Guard, 802.1x, Guest VLAN. MAC Authentication Bypass, 802.1x Multi-Domain Authentication, Storm Control, Trust Boundary
- **Layer 3 routing** IPv4 Static Routing

Specifications:

Standard	IEEE 802.3 10Base-T, 802.3u 100Base-TX and 100Base-FX, 802.3z 1000Base-X
Interface	Metallic - mechanical resistant, watertight connectors Optical - HMA-J 50/125 µm or 62.5/125 µm MM optical cable 9/125 µm SM optical cable
Wavelength	MM: 1300 nm, SM: 1310 nm, 1550 nm
Distance	UTP cable (10Base-T, 100Base-TX, 1000Base-TX): 100 m MM optical cable, full duplex: up to 2 km SM optical cable, full duplex: 10, 30, 50 km
Environmental temperature humidity	Fulfils MIL-STD 810E operating -40 °C to +80 °C, storage -50 °C to +85 °C 10% to 95%
Mechanical	Fulfils MIL-STD 810E, IP 63 protection
Power supply: DC AC	24-48 V DC 90-264 V AC redundant dual input power
Dimensions	430 x 260 x 65 mm (W x D x H)

1. Environmental and mechanical tests:		**2. Electromagnetic compatibility tests**
MIL-STD 810E Method 501	High temperature	**EMC** – Electromagnetic compatibility
MIL-STD 810E Method 502	Low temperature	EM emission, EM compatibility
MIL-STD 810E Method 503	Change of temperature	EN 55022 ed.3:2011, Class B ITE
MIL-STD 810E Method 506	Rain	EN 61000-6-3 ed.2: 2007 + A1: 2011
MIL-STD 810E Method 507	Humidity	MIL-STD 461E: 1999, method RE102, CE102
MIL-STD 810E Method 513	Acceleration	MIL-STD 461F methods CS101, CS114, CS115, CS116, RS103
MIL-STD 810E Method 514	Vibration	**3. Safety tests**
MIL-STD 810E Method 516	Impact	**LVD** – Low Voltage Directive: EN 60950-1 ed.2:2006

Ordering code:

LMSW-62H **LMSW-71H[5]**	**-**	**XX**	**-**	**XX**	**-**	**(AC/DC[4])**
		Fiber optic **M5**: MM 50/125 µm **M6**: MM 62.5/125 µm **S3**: SM 1310 nm **S5**: SM 1550 nm		**Distance (FO)** **XX[2]**: Multimode) **10**: 10 km **30**: 30 km **50[3]:** 50 km		**Power supply** AC: 80-264 V AC DC: 20-57 V DC

Note: 2) MM fiber – the distance depends on fiber type, up to 2 km.
3) 1550 nm – DFB laser, 50 km distance connectivity
4) standard power supply: AC/DC, please define if required different

Variants:

5) **LMSW-71H**:
1x 100/1000Base-X: FO HMA-J port
1x 100/1000Base-T: RJ-45 port
6x 10/100Base-T: RJ-45 PoE ports

Figure 1: LMSW-71H-S3-10
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Standard Accessories:

Power supply cables:

DC: LMC-PSC2-03-DC,
2-wires shielded cable 3 m, one side – connector 62GB
AC: LMSW08-PSC-02-EU (UK)
power supply cord, EU (UK) plug – other on request

LMC-PSC2-03-DC

LMSW08-PSC-02-EU

Optional Accessories:

LMSW08B-LAN-02.....Data cable 2 m RJ45-RJ45
LMSW08B-LAN-05.....Data cable 5 m RJ45-RJ45
LMSW08B-LAN-08.....Data cable 8 m RJ45-RJ45
HMA optical cable

LMSW08B-LAN-08

HMA Optical cable

LMSW-62H application diagram:

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