

LMSW-62M/82M

Ruggedized Gigabit Ethernet Managed PoE Switch

Description:

The LMSW-62M is a ruggedized field switch, which has been developed according to the requirements for optical networks in harsh environmental conditions. It is designed for operation in military tactical networks, for installation in heavy industry enterprise, oil refineries and mining plants, or for rescue actions during natural disasters. The switch combines all advantages: excellent optical network performance and rugged construction.

The Gigabit Ethernet LMSW-62M switch includes 6x RJ-45 LAN ports and 2x optical fiber ports. The switch supports a variety of management functions, including STP/RSTP/MSTP and ITU-T G.8032 Ring <50 ms recovery time, advanced PoE management functions such as PoE device auto-checking and auto reset, layer 2 Ethernet IGMP, VLAN, QoS, Security, IPv6, bandwidth control, port mirroring, cable diagnostic and Green Ethernet. The switch version LMSW-82M supports 8x RJ-45 LAN PoE ports and 2x optical fiber ports.

The switch is classified as power source equipment (PSE) and can be used to power IEEE 802.3af/at standard devices (PD), eliminating the need of additional power cable wiring. It is able to fit all the common 24/48 VDC and 230 VAC power systems simultaneously (redundant power supply). The switch operates in wide operating temperature range -40 +75 °C.

Features:

- Robust compact design resistant to harsh environmental conditions and rough handling
- 2x 100/1000Base-X: HMA FO connectors
- 6(8)x 10/100/1000Base-T: RJ-45 interface with support of IEEE802.3af/at PoE output (30 W per Port)
- Built-in power booster design up to 55 VDC for PoE/PoE+ output
- Redundant dual input power 20-57 VDC / 80-264 VAC



LMSW-62M-S3-10

Functionality:

- Advanced PoE Management, PoE PD auto detection and auto reset, PoE configuration for power planning, weekly scheduling
- Cable diagnostic, measuring cable OK or broken point distance
- Support IEEE802.3az EEE (Energy Efficient Ethernet) Management to optimize the power consumption
- STP, RSTP, MSTP, ITU-T G.8032 Ethernet Protection Ring (EPR) for cabling redundant
- QoS, Traffic classification QoS, CoS, Bandwidth control for Ingress and Egress, Strom Control, DiffServ
- IEEE802.1q VLAN, port base VLAN, Mac base VLAN, IP subnet base VLAN, Protocol base VLAN, VLAN translation, MVR
- Dynamic IEEE 802.3ad LACP Link Aggregation, Static Link Aggregation
- IGMP/MLD snooping V1/V2/V3, IGMP Filtering / Throttling, IGMP query, IGMP proxy reporting, MLD snooping
- Security: Port based and MAC based IEEE802.1X, RADIUS, ACL, TACACS+, HTTP/HTTPS, SSL/SSH v2
- Cisco® like CLI, Web base management, SNMP v1/v2c/v3, Telnet server for management
- Software upgrade via TFTP and HTTP, redundant firmware to avoid in case of upgrading failure
- DHCP client/Relay/Snooping/Snooping option 82/Relay option 82
- RMON, MIB II, Port mirroring, Event syslog, DNS, NTP/SNTP, IEEE802.1ab LLDP
- Support IPV6 Telnet server /ICMP v6, SNMP, HTTP, SSH/SSL, NTP/SNTP, TFTP, QoS, ACL

1. Environmental and mechanical tests:		2. Electromagnetic compatibility tests
MIL-STD 810E Method 501.3	High temperature	EMC – Electromagnetic compatibility EM emission, EM compatibility EN 55022 ed.3:2011, Class B ITE EN 61000-6-3 ed.2: 2007 + A1: 2011 MIL-STD 461E: 1999, method RE102, CE102 MIL-STD 461F methods CS101, CS114, CS115, CS116, RS103
MIL-STD 810E Method 502.3	Low temperature	
MIL-STD 810E Method 503.3	Change of temperature	
MIL-STD 810E Method 506.3	Rain	
MIL-STD 810E Method 507.3	Humidity	
MIL-STD 810E Method 513.4	Acceleration	
MIL-STD 810E Method 514.4	Vibration	
MIL-STD 810E Method 516.4	Impact	
		3. Safety tests
		LVD – Low Voltage Directive: EN 60950-1 ed.2:2006

Specifications:

Standards:	
IEEE 802.3	10Base-T 10Mbit/s Ethernet
IEEE 802.3u	100Base-TX, 100Base-FX, Fast Ethernet
IEEE 802.3ab	1000Base-T Gbit/s Ethernet over twisted pair
IEEE 802.3z	1000Base-X Gbit/s Ethernet over Fiber-Optic
IEEE 802.1d	STP (Spanning Tree Protocol)
IEEE 802.1w	RSTP (Rapid Spanning Tree Protocol)
IEEE 802.1s	MSTP (Multiple Spanning Tree Protocol)
ITU-T G.8032 / Y.1344	EPR (Ethernet Protection Ring)
IEEE 802.1Q	Virtual LANs (VLAN)
IEEE 802.1X	Port based Network Access Control, Authentication
IEEE 802.3ad	Link aggregation for parallel links with LACP(Link Aggregation Control Protocol)
IEEE 802.3x	Flow control for Full Duplex
IEEE 802.3af	PoE (Power over Ethernet)
IEEE 802.3at	PoE+ (Power over Ethernet enhancements)
IEEE 802.1ad	Stacked VLANs, Q-in-Q
IEEE 802.1p	LAN Layer 2 QoS/CoS Protocol for Traffic Prioritization
IEEE 802.1ab	Link Layer Discovery Protocol (LLDP)
IEEE 802.3az	EEE (Energy Efficient Ethernet)
VLAN ID	4096
Switch Architecture	Backplane (Switching Fabric): 22Gbps
Data Processing	Store and Forward
Flow Control	IEEE 802.3x for full duplex mode Back pressure for half duplex mode
Jumbo Frame	9.6KB
MAC address Table	8K
PoE standard	IEEE802.3af, IEEE802.3at
PoE RJ-45 pin Assignment	8 RJ-45 port support IEEE 802.3af/at End-Span, Alternative A mode Positive (VCC+): RJ-45 pin 1, 2. Negative (VCC-): RJ-45 pin 3, 6. Data (1,2,3,6)
Network Connector	8 x RJ-45 10/100/1000BaseT(X) auto negotiation speed, Auto MDI/MDI-X function, Full/Half duplex 3X 100/1000 BaseX dual speed mode SFP slot, With DDMI
Console	RS-232 (RJ-45)
Network Cable	UTP/STP above Cat. 5e cable EIA/TIA-568 100-ohm (100m) CSMA/CD
Protocol	
Reverse polarity protection	
Overload current protection	
CPU Watch Dog	
Power Supply	Redundant Dual DC 20~57VDC/80-264 VAC
LED signalization	

Mechanical parameters:	
Interface	RJ-45 port: ruggedized, watertight connectors FO - HMA-J ¹ : 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	Fulfils MIL-STD 810E Operating: -40 °C to +75 °C Storage: -40 °C to + 85 °C
Mechanical	Fulfils MIL-STD 810E, IP 63 protection
Power supply:	DC 20-57 V DC AC 80-264 V AC
Dimensions	430 x 300 x 65 mm (W x D x H)

Note: 1) HMA-J (Expanded Beam) standard, other on request

Ordering code:

LMSW-62M	-	XX	-	XX	-	(AC/DC⁴)
LMSW-82M⁵		Fiber optic		Distance (FO)		Power supply
		M5 MM 50/125 μm		XX²: Multimode		AC: 80-264 V AC
		M6 MM 62.5/125 μm		10: 10 km		DC: 20-57 V DC
		S3 SM 1310 nm		30: 30 km		
		S5 SM 1550 nm		50³: 50 km		

Note: 2) MM fiber – the distance depends on fiber type, up to 2 km.
SM fiber – longer distance on request

- 3) 1550 nm – DFB laser, 50 km distance connectivity
4) standard power supply: AC/DC, please define – if required different
5) LMSW-82Ma: 8x LAN PoE ports at front panel, 2x Fiber Optic HMA connectors at rear panel
LMSW-82Mb: 6x LAN PoE ports, 2x Fiber Optic HMA connectors at front panel, 2x LAN PoE ports at rear panel