

LMX-1604G-4XS(-T)

MANAGED GIGABIT ETHERNET SWITCH WITH 10G SFP+ SLOTS



PORT CONFIGURATION

- Support 12*10/100/1000BASE-T Gigabit
- Support 4*1G/2.5G/10G SFP+ Slots

MANAGEMENT

- ITU-T G.8032 Ethernet Ring Protection Switch (ERPS) Protocol
- IEEE 802.1D STP (Spanning Tree Protocol), IEEE 802.1w RSTP (Rapid Spanning Tree Protocol), IEEE 802.1s MSTP (Multiple Spanning Tree Protocol)
- Static Routes, ARP, NAT
- SNMPv1/v2c/v3, RMON, Modbus TCP, and HTTP/HTTPS

SECURITY

- RADIUS, TACACS+, 802.1X Authentication
- ACL, IP Source Guard
- VLAN, QoS, and, SNMPv3

RUGGED DESIGN

- IP30 Rugged Metal Case Design
- Redundant Power Input
- Fanless Operation
- Power Reverse Polarity Protection
- High EFT and ESD Protection
- Operating Temperature – STD: -10°C to 65°C, EOT: -40°C to 75°C
- NDAA and TAA Compliant
- 5-Year Warranty



INTRODUCTION

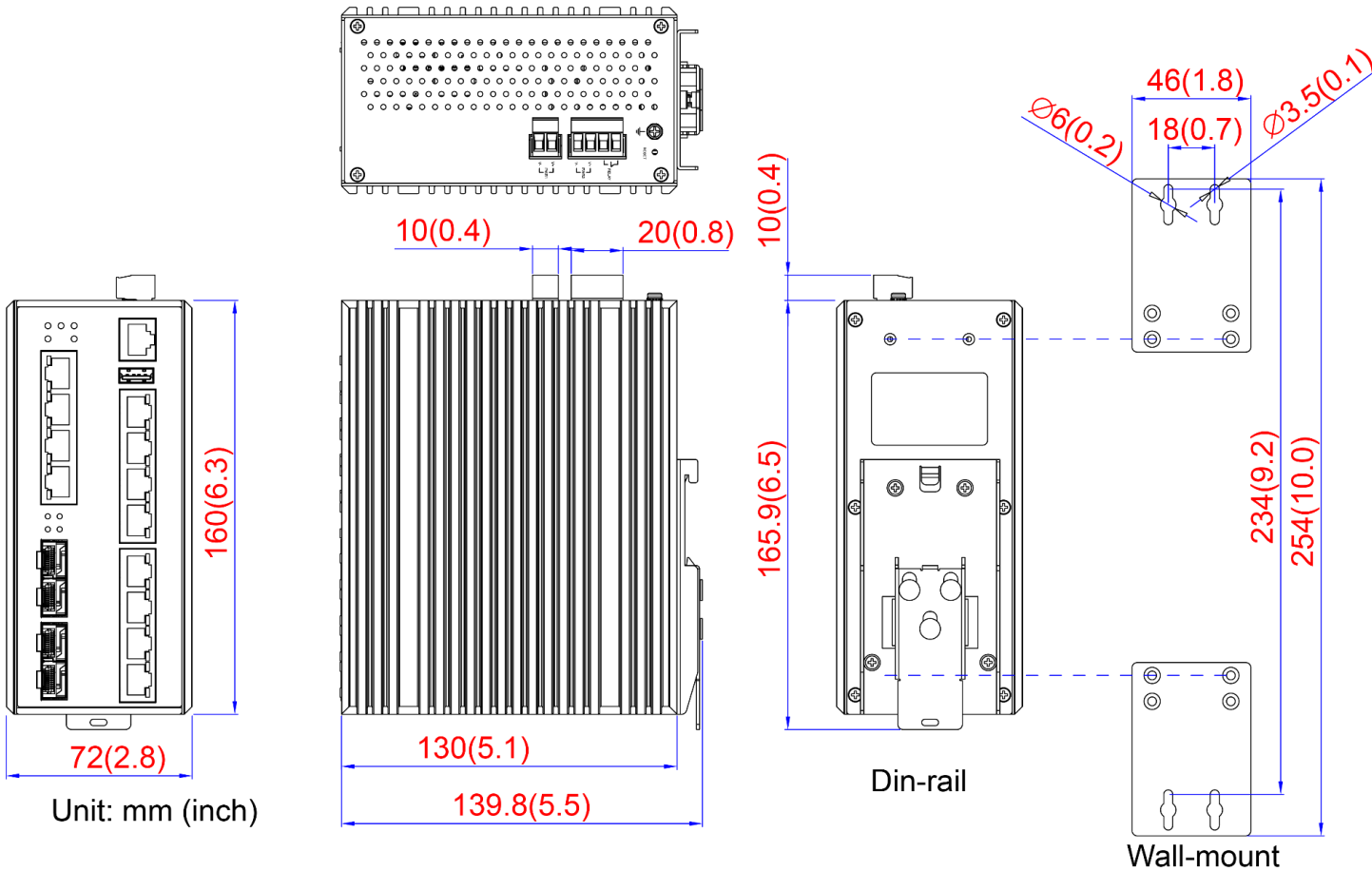
Antaira Technologies' LMX-1604G-4XS(-T) is an 16-port managed Gigabit Ethernet switch embedded with 12*10/100/1000T Ethernet ports and 4*1G/2.5G/10G SFP+ slots for fiber connection. It is a fully manageable light layer 3 Ethernet switch that is pre-loaded with a user-friendly web management console design. It supports the ring network redundancy function using the market's open standard ITU-T G.8032 Ethernet Ring Protection Switch (ERPS) protocol that has a <50ms network recovery time. The advanced network filtering and security functions, such as IGMP, VLAN, QoS, SNMP, RMON, Modbus TCP, and 802.1X/HTTPS/SSH/SSL increase determinism and improve network management for remote SCADA systems or control networks.

LMX-1604G-4XS(-T) is IP30 rated and DIN-rail mountable. It supports extended operating temperature from -40°C to 75°C. It also provides high EFT and ESD protection for industrial networking applications, such as power/utility, water wastewater, oil/gas/mining, factory automation, security surveillance, ITS and any other outdoor or harsh environment. With a compact form and all connections facing the front of the Ethernet switch making it easy viewing of installations in a reserved space.

SPECIFICATIONS

Hardware Specifications						
Part Number	Total Ports	RJ-45 GE	SFP 10G Fiber	System Power	Input Voltage	Operating Temp.
LMX-1604G-4XS	16	12	4	24W	12-48VDC	-10 to 65°C 14 to 149°F
LMX-1604G-4XS-T	16	12	4	24W	12-48VDC	-40 to 75°C -40 to 167°F

Physical Specifications					
Part Number	Dimensions (W x H x D)	Weight (Unit)	Weight (Shipping)	Mounting	Housing
LMX-1604G-4XS LMX-1604G-4XS-T	72 x 160 x 130mm 2.83 x 6.3 x 5.11in	1.912kg 4.22lb	2.38kg 5.25lb	DIN-Rail, Wall Mount	Metal, IP30



Standards		
Part Number	IEEE Standards	
LMX-1604G-4XS LMX-1604G-4XS-T	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet IEEE 802.3z Gigabit Fiber IEEE 802.3ae 10Gigabit Fiber	IEEE 802.3x Flow Control for Full Duplex IEEE 802.3ad for Port Trunk with LACP IEEE 802.1D STP (Spanning Tree Protocol) IEEE 802.1w RSTP (Rapid Spanning Tree Protocol) IEEE 802.1s MSTP (Multiple Spanning Tree Protocol) IEEE 802.1Q for VLAN Tagging IEEE 802.1X for Network Authentication IEEE 802.1p QoS/CoS Protocol for Traffic Prioritization ITU-T G.8032/Y.1344 ERPS (Ethernet Ring Protection Switch) IEEE 802.1AB Link Layer Discovery Protocol (LLDP)

Key Firmware Features		
VLAN	Private VLAN Port-based VLAN IP Subnet-based VLAN GARP/GVRP Guest VLAN	MAC-based VLAN Protocol-based VLAN VLAN Trunking Voice VLAN
Layer 2 Switching	STP MSTP RSTP Port Mirror Loop Guard BPDU Guard	MEP G.8032 ESP v1/v2 Loop Detection LACP Error Disable Recovery
Layer 2 Multicast	IGMPv1/v2/v3 Snooping IGMP Filtering IPMC Filtering Leave Proxy	MLDv1/v2 Snooping IPMC Throttling
Layer 3 Switching	Static Route ARP NAT	OSPFv2, OSPFv3 (Under development) RIPv2, RIPv3 (Under development) VRRPv2, VRRPv3 (Under development)
QoS	802.1p Queueing Input Priority Mapping Port/Queue/ACL policer DiffServ (DSCP)	Port Egress Shaper Queue Egress Shaper Tag Remarking Scheduler Mode
Power Saving	ActiPHY PerfectReach IEEE 802.3az EEE power management	
Security	SSHv2 Port-based 802.1X MAC-based Authentication QoS Assignment TACACS+ Web/CLI Authentication Port Security IP Source Guard DHCP Snooping Secure Copy Protocol (SCP)	IP Based Access Filter Access Control List (ACL) ACL for Filtering/Policing/Port Copy VLAN Assignment IP MAC Binding User Privilege (15 levels) RADIUS Authentication and Accounting ARP Inspection Broadcast/Multicast/Unicast Storm Control Secure FTP
Management	IPv4/IPv6 LLDP/LLDP-MED DHCP Client DHCP Server DNS Proxy Syslog Daylight Saving RMON Command Line Interface (CLI) Relay Trigger Telnet Server and Client Dual Image Protection Ping6 DDMI	SMTP SNMP v1/v2c/v3 HTTP/HTTPS DHCPv6 Client DNS Client ICMPv6 Time Zone NTP Client sFlow Power Lost Warning DHCP Option 82 TFTP Ping USB Configuration Backup/Restore Modbus TCP

Switch Properties			
Specification		Specification	
Switch Architecture	Back-Plane (Switching Fabric): 104Gbps	MAC Table Size	32K
Priority Queues	8	VLAN Group	4095
Processing Type	Store and Forward	IGMP Group	1024
Flow Control	IEEE 802.3x flow control, back pressure flow control	RS232 Serial Console	1*RS232 in RJ45
Packet Buffer	32Mbits	Relay Contact	24VDC, 1A resistive
Transfer Rate	77.37 Mpps	Overload Current Protection	Present
Jumbo Frame	9.6Kbytes	Reverse Polarity Protection	Present

Compliance Specifications	
EMI	FCC Part 15 Subpart B Class A EN 61000-6-4 Class A CE EN55032
EMS	CE EN 55035 EN 61000-6-2 IEC 61000-4-2,3,4,5,6,8
Free Fall	IEC 60068-2-32
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Green	RoHS Compliant
Certifications	FCC, CE UL 61010-1, UL 61010-2-201 (Pending) ISA12.12.01 (Pending)
Storage Temperature	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5% to 95%, (non-condensing)
Country of Origin	Made in Taiwan
Warranty	5 Years

Mean Time Between Failures (MTBF)			
Part Number	MTBF (Telcordia SR-332, Issue 3)	Part Number	MTBF (Telcordia SR-332, Issue 3)
LMX-1604G-4XS	406943.1735 hrs.	LMX-1604G-4XS-T	406943.1735 hrs.

ORDERING INFORMATION

Switch Models	
Part Number	Description
LMX-1604G-4XS	16-Port Industrial Gigabit Light Layer 3 Managed Ethernet Switch, with 12*10/100/1000BASE-T and 4*1G/2.5G/10G SFP+ Slots, 12-48VDC Power Input
LMX-1604G-4XS-T	16-Port Industrial Gigabit Light Layer 3 Managed Ethernet Switch, with 12*10/100/1000BASE-T and 4*1G/2.5G/10G SFP+ Slots, 12-48VDC Power Input; EOT: -40 to 75°C

Power Supply Options				
Part Number	Wattage	Input Voltage	PoE/PoE+ Support	Operating Temperature
ML60.242	60W	100~240VAC	Yes, Voltage Adjust 24~28VDC	-40~70°C / -40~158°F
MDR-40-12	40W	85~264VAC	Yes, Voltage Adjust 12~15VDC	-20~70°C / -4~158°F
MDR-40-24	40W	85~264VAC	Yes, Voltage Adjust 24~30VDC	-20~70°C / -4~158°F
MDR-40-48	40W	85~264VAC	Yes, Voltage Adjust 48~56VDC	-20~70°C / -4~158°F
MDR-60-12	60W	85~264VAC	Yes, Voltage Adjust 12~15VDC	-20~70°C / -4~158°F
MDR-60-24	60W	85~264VAC	Yes, Voltage Adjust 24~30VDC	-20~70°C / -4~158°F
MDR-60-48	60W	85~264VAC	Yes, Voltage Adjust 48~56VDC	-20~70°C / -4~158°F
HDR-30-12	30W	85~264VAC	Yes, Voltage Adjust 10.8~13.8VDC	-30~70°C / -22~158°F
HDR-30-24	30W	85~264VAC	Yes, Voltage Adjust 21.6~29VDC	-30~70°C / -22~158°F
HDR-60-24	60W	85~264VAC	Yes, Voltage Adjust 21.6~29VDC	-30~70°C / -22~158°F
EDR-75-12	75W	90~264VAC	Yes, Voltage Adjust 12~14VDC	-20~60°C / -4~140°F
EDR-75-48	75W	90~264VAC	Yes, Voltage Adjust 48~55VDC	-20~60°C / -4~140°F
NDR-75-12	75W	90~264VAC	Yes, Voltage Adjust 12~14VDC	-20~70°C / -4~158°F
NDR-75-24	75W	90~264VAC	Yes, Voltage Adjust 24~28VDC	-20~70°C / -4~158°F
NDR-75-48	75W	90~264VAC	Yes, Voltage Adjust 48~55VDC	-20~70°C / -4~158°F
PWRCORD2-US	AC Power Cord NEMA 5-15P to ROJ 3-Wire Open End (US Plug) 18 AWG 6 feet			

SFP Modules with DDMI							
Part Number	Speed	Mode	Distance	Connector	Wavelength	Operating Temperature	TAA Compliance
SFP-10G-S10	10Gbps	Single Mode	10km / 6.2mi	LC	1310nm	0~70°C / 32~158°F	-
SFP-10G-S10-T	10Gbps	Single Mode	10km / 6.2mi	LC	1310nm	-40~85°C / -40~185°F	-
SFP-10G-S10-T-TAA	10Gbps	Single Mode	10km / 6.2mi	LC	1310nm	-40~85°C / -40~185°F	Yes
SFP-10G-S40	10Gbps	Single Mode	40km / 24.8mi	LC	1550nm	0~70°C / 32~158°F	-
SFP-10G-S40-T	10Gbps	Single Mode	40km / 24.8mi	LC	1310nm	-40~85°C / -40~185°F	-
SFP-10G-S40-T-TAA	10Gbps	Single Mode	40km / 24.8mi	LC	1310nm	-40~85°C / -40~185°F	Yes
SFP-10G-S80	10Gbps	Single Mode	80km / 49.7mi	LC	1550nm	0~70°C / 32~158°F	-
SFP-10G-S80-T-TAA	10Gbps	Single Mode	80km / 49.7mi	LC	1550nm	-40~85°C / -40~185°F	Yes

SFP-S10-T	1.25Gbps	Single Mode	10km / 6.2mi	LC	1310nm	-40~85°C / -40~185°F	-
SFP-S10-T-TAA	1.25Gbps	Single Mode	10km / 6.2mi	LC	1310nm	-40~85°C / -40~185°F	Yes
SFP-S20-T	1.25Gbps	Single Mode	20km / 12.4mi	LC	1310nm	-40~85°C / -40~185°F	-
SFP-S20-T-TAA	1.25Gbps	Single Mode	20km / 12.4mi	LC	1310nm	-40~85°C / -40~185°F	Yes
SFP-S40-T	1.25Gbps	Single Mode	40km / 24.8mi	LC	1310nm	-40~85°C / -40~185°F	-
SFP-S40-T-TAA	1.25Gbps	Single Mode	40km / 24.8mi	LC	1310nm	-40~85°C / -40~185°F	Yes
SFP-S120-T	1.25Gbps	Single Mode	120km / 74.5mi	LC	1550nm	-40~85°C / -40~185°F	-
SFP-S120-T-TAA	1.25Gbps	Single Mode	120km / 74.5mi	LC	1550nm	-40~85°C / -40~185°F	Yes
SFP-M	1.25Gbps	Multi Mode	550m / 0.34mi	LC	850nm	0~70°C / 32~158°F	-
SFP-M-T	1.25Gbps	Multi Mode	550m / 0.34mi	LC	850nm	-40~85°C / -40~185°F	-
SFP-M-TAA	1.25Gbps	Multi Mode	550m / 0.34mi	LC	850nm	0~70°C / 32~158°F	Yes
SFP-M-T-TAA	1.25Gbps	Multi Mode	550m / 0.34mi	LC	850nm	-40~85°C / -40~185°F	Yes
SFP-10G-M	10Gbps	Multi Mode	300m / 0.19mi	LC	850nm	0~70°C / 32~158°F	-
SFP-10G-M-TAA	10Gbps	Multi Mode	300m / 0.19mi	LC	850nm	0~70°C / 32~158°F	Yes
SFP-10G-M-T-TAA	10Gbps	Multi Mode	300m / 0.19mi	LC	850nm	-40~85°C / -40~185°F	Yes
SFP-C	1Gbps	-	-	Copper	-	0~70°C / 32~158°F	-
SFP-C-TAA	1Gbps	-	-	Copper	-	0~70°C / 32~158°F	Yes
SFP-C-T-TAA	1Gbps	-	-	Copper	-	-40~85°C / -40~185°F	Yes
SFP-10G-C	10Gbps	-	-	Copper	-	0~70°C / 32~158°F	-
SFP-10G-C-T-TAA	10Gbps	-	-	Copper	-	-40~85°C / -40~185°F	Yes

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