

# LA-SWM3-DC10G0648

Managed Ethernet Switch with 48 GE TX, 6×10 GE/GE SFP+

## Highlight Information ▶▶▶▶

Supports Maximum 48  
GE TX Ports and 4× 10GE  
SFP+ Uplink Ports



Advanced Hardware  
Architecture and  
Industry-leading Port  
Density



Carrier-Level High  
Reliability  
Layer-3 Routing  
Function



Varied Service  
Characteristics  
Versatile IPv6  
Solution Complete  
Security Mechanism



## ■ Introduction

LA-SWM3-DC10G0648 is a next-generation aggregation 10GE switch. It is targeted at the IP MAN (metropolitan area network), government and enterprise networks, Internet café and disk-less working environment. It is developed based on high-performance hardware and a software platform with our own independent intellectual property rights. It supports functions such as powerful ACL, flexible QinQ, 1:1 or N:1 VLAN switching, Ethernet OAM, carrier-level QoS and industry-level 10GE Ether-ring, ensuring this switch series meets application requirements in all kinds of complicated sites. It also supports layer-3 routing protocol.

### **Industrial Ethernet Ring with Zero Delay and Zero Packet Loss**

- Supports industry-level EAPS and their protection shift time is less than 50ms. Their high reliability is represented by the null packet loss, which has been proved by many years of application in the Grid, rail transportation and defense systems.

### **Telecom-Level Ethernet Switch**

- Supports the telecom-level Ethernet-ring protection protocol with a protection shift time of less than 50ms, STP/RSTP/MSTP, backup of active and standby uplinks and LACP link aggregation to cater to the requirements of high reliability of carriers.
- Provides the perfect Ethernet OAM mechanism to monitor the network running status in real time for rapid trouble locating and detection.
- Supports powerful ACL functions to access and control L2-L7 data based on physical port, VLAN, MAC, IP and protocol port ID, and providing carriers flexible and various policy control methods.
- Supports In-Service Software Upgrade (ISSU) to ensure the unremitting data forwarding during system upgrade.
- Supports various L2 multicast functions, including IGMP- Snooping, fast-leave and trans-vlan multicast copy.

### **Flexible and Convenient Management and Maintenance**

- Supports management modes such as the console port, Telnet, SSH, etc.
- Supports the WEB management mode, which is easy and efficient so that it makes installation and debugging convenient.
- Supports TFTP-patterned file upload/download management.
- Supports ISSU (In-Service Software Upgrade).
- Support SNMP and NMS s mar t network management platform to realize automatic equipment discovery, network topology management, equipment configuration management, performance data statistics and analysis and trouble management.

### **Carrier-Level QoS Policies**

- Supports priority retagging and complicated flow classification based on VLAN, MAC, source address, destination address, IP or priority to better streamline carrier's services.
- Supports provides flexible bandwidth control policies and supports port-/flow-based flow limit and ensuring the line speed forwarding of each port to make sure the high quality of video, audio and data services.
- Supports 8 priority queues by each port.

- Supports multiple queue schedule algorithms such as SP, WRR, or “P plus WRR”

### Versatile IPv6 Solutions

- Supports the IPv6 protocol suite, IPv6 neighbor discovery, ICMPv6, path MTU discovery, etc.
- Supports Ping, Traceroute, Telnet, SSH, ACL and so like on the basis of IPv6, meeting IPv6 networks' equipment management requirements and service control requirements.

### Perfect Security Mechanisms

- Equipment-level security: The advanced hardware infrastructure design realizes the level-based packet schedule and packet protection, prevents DoS-/TCP-related SYN flood, UDP flood, broadcast storm or large traffic attacks, and supports level-based command line protection, endowing different levels of users with different management permissions.
- Supports perfect security authentication mechanisms: IEEE 802.1x, Radius and Tacacs+.
- Supports storm/multicast/unicast limit to ensure the normal running of equipment in harsh network conditions.
- Supports a perfect ring detection mechanism to ensure the long-term stable running of network.
- Supports port isolation within the same VLAN, DHCP-Snooping, and IP plus MAC plus Port binding for ensuring user data security.

## Features

- **VLAN:** 4K Active VLAN, QinQ & Selective QinQ, GVRP, Private VLAN, Voice VLAN
- **Spanning Tree:** 802.1D (STP) 802.1W (RSTP) and 802.1S (MSTP) BPDU guard, root guard and loopback guard
- **Multicast:** IGMP v1/v2/v3, IGMP Snooping, IGMP Fast Leave, MVR, IGMP filter
- **IP:** Static route, RIP, OSPF, IPv4/v6 dual stack
- **IPv6:** ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet, IPv6 neighbor discovery, Path MTU discovery, MLD v1/2, MLD snooping.
- **QoS:** CAR, HQoS, MAC/IP/TCP/UDP/ VLAN/COS/DSCP/TOS based QoS, 802.1P/DSCP priority re- labeling, SP, WRR, and “SP+WRR”, Tail-Drop, WRED, flow monitoring and traffic shaping.
- **Security:** Port isolation, Port security, and “IP+MAC+port” binding, MAC sticky. DAI & IP source guard, PPPoE+, IEEE 802.1x, Radius and Tacacs+ L2/L3/L4 ACL flow identification and filtration. Anti-attack from DDOS, TCP's SYN Flood, UDP Flood, etc. Broadcast/ multicast/unknown unicast storm- control .MD5, SHA-256, RSA-1024, AES256, etc.
- **DHCP:** DHCP server/relay/client, DHCP snooping/option82.

- **Reliability:** Static/LACP link aggregation, Interface backup EAPS and ERPS, ISSU uninterrupted system upgrade, up to 16-units per stack, VRRP, UDLD
- **Management:** Console, Telnet, SSH v1/2, HTTP, HTTPS SNMP v1/v2/v3, RMON TFTP, FTP, SFTP NTP ZTP (Zero Touch Provisioning), SPAN, RSPAN, Dying gasp\*
- **Accessories:** Power cord, rack-mount kits, console cable
- **Environment:** Operating temperature/humidity: 0°C -50°C, 10%-90% non-condensing; Storage temperature/humidity: -20°C -70°C, 5%-95% non-condensing
- **Certification:** CE, FCC, ROHS

## ■ Specification

PART NO	LA-SWM3-DC10G0648
Interface	48 GE TX, 6 × 10 GE/GE SFP+
Console	1 RJ45
Backplane	216 Gbps
Forwarding rate	162 Mpps
Total output BTU (1000BTU/H=293W)	153.58
Fan number	2
Noise@25°C(dBA)	45
MTBF(H)	>50,000
Forwarding mode	Store-forward
Flash (MB)	32
DRAM (MB)	256
MAC	16K
Buffer size (MB)	1.5
Interface VLAN	64
Routing table	2040
Jumbo frame	9K
Power supply	AC:100V-240V, 50Hz±10%; 45W
Power consumption	
No-load	<25W
Full-load	<40W
Chassis	
Dimensions (W x D x H) (mm)	440*280*44
Weight (KG)(empty)	4.3
Package	
Dimensions (W x D x H) (mm)	576*448*94
Weight (KG)	5.5

## Ordering Information

PART NO	DESCRIPTION
LA-SWM3-DC10G0648	Ethernet Layer-3 lite switch with 48 GE and 6 10GE/GE SFP+ ports (1 Console port, 48 GE TX ports, 6×10GE/GE SFP+ ports; AC100-240V power supply, 60Hz, the cooling fan, 1U, standard 19-inch rack-mounted installation)

### Optical Modules

#### 10GE Optical Modules

LA-SFP+TX	10GE SFP+-to-RJ45 module
LA-SFP+SX	10GE SFP+ multi-mode (300m, 850nm, LC)
LA-SFP+LX-10	10GE SFP+ single mode (10Km, 1310nm, LC, DDM)
LA-SFP+LX-20	10GE SFP+ single mode (20Km, 1310nm, LC, DDM)
LA-SFP+LX-40	10GE SFP+ single mode (40Km, 1310nm, LC, DDM)
LA-SFP+LX-80	10GE SFP+ single mode (80Km, 1550nm, LC, DDM)
LA-SFP+LX-SM1270/1330-10	10GE SFP+ single-mode, single-fiber (10Km, TX1270/RX1330, LC, DDM) 10GE SFP+ single-mode, single-fiber (10Km, TX1330/RX1270, LC, DDM)
LA-SFP+LX-SM1270/1330-20	10GE SFP+ single-mode, single-fiber (20Km, TX1270/RX1330, LC, DDM) 10GE SFP+ single-mode, single-fiber (20Km, TX1330/RX1270, LC, DDM)
LA-SFP+LX-SM1270/1330-40	10GE SFP+ single-mode, single-fiber (40Km, TX1270/RX1330, LC, DDM) 10GE SFP+ single-mode, single-fiber (40Km, TX1330/RX1270, LC, DDM)

#### GE Optical Modules

LA-SFP-TX-B	GE-SFP-to-RJ45 module
LA-SFP-SX-D	GE SFP multi-mode (500m, 850nm, LC, DDM)
LA-SFP-LX-10-D	GE SFP single-mode (10Km, 1310nm, LC, DDM)
LA-SFP-LX-20-D	GE SFP single mode (40Km, 1310nm, LC, DDM)
LA-SFP-LX-40-D	GE SFP single mode (40Km, 1310nm, LC, DDM)
LA-SFP-ZX-80-D	GE SFP single mode (80Km, 1550nm, LC, DDM)
LA-SFP-ZX-120-D	GE SFP single mode (120Km, 1550nm, LC, DDM)
LA-SFP-LX-SM1310/1550-10BIDI	GE SFP single-mode, single fiber (10Km, TX1310/RX1550, LC, DDM) GE SFP single-mode, single fiber (10Km, TX1550/RX1310, LC, DDM)
LA-FP-LX-SM1310/1550-20BIDI	GE SFP single-mode, single fiber (20Km, TX1310/RX1550, LC, DDM) GE SFP single-mode, single fiber (20Km, TX1550/RX1310, LC, DDM)
LA-SFP-LX-SM1310/1550-40BIDI	GE SFP single-mode, single fiber (40Km, TX1310/RX1550, LC, DDM) GE SFP single-mode, single fiber (40Km, TX1550/RX1310, LC, DDM)
LA-SFP-LX-SM1490/1550-80BIDI	GE SFP single-mode, single fiber (80Km, TX1490/RX1550, LC, DDM) GE SFP single-mode, single fiber (80Km, TX1550/RX1490, LC, DDM)
LA-SFP-LX-SM1490/1550-120	GE SFP single-mode, single fiber (120Km, TX1490/RX1550, LC, DDM) GE SFP single-mode, single fiber (120Km, TX1550/RX1490, LC, DDM)