

SWM-36 SERIES

PRODUCT OVERVIEW

Benefits

- Full Gigabit switch
- L2/L3 switching
- 8xSFP+ : 10GE
- ERP : Ethernet ring protection
- STP, RSTP, MSTP
- VRRP
- CVSS : CXR Virtual Switch system
- MPLS-VPN
- MPLS-OAM
- MVRF, VRF
- OSPF, OSPF Virtual link
- BGP
- ISSU : uninterrupted system upgrade
- PIM-SM and PIM-DM
- IGMP snooping v1,2,3
- IPv4, IPv6

The SWM-36 series are new generation of aggregation 10GE switches oriented for the IP MANs (Metropolitan Area Network), Campus networks and Enterprise networks. Developed on the basis of high performance hardware, SWM-36 series supports high-performance L2/L3/L4 wire speed switching capacity by integrating services such as IPv6 and MPLS VPN. SWM-36 series also supports nonstop upgrade, continuous forwarding, graceful restarting and redundancy protection.



SPECIFICATIONS

Advanced Hardware Architecture and Industry-Leading Port intensity

- 1U box-shaped switch with 48 GE ports and 8x10GE ports with high-performance ASIC switch chip.
- 64K Mac and 64K routing items.

Innovative Virtual Cluster Switching Technique

- **Innovative CVSS** (CXR Virtual Switch System) : virtualize multiple physical devices into one. The performance, reliability and management of the virtual system are superior to the physical one.
- **Improved Performance** : BVSS makes full use of each link in the physical devices, which avoids STP blocking the link and protects the original link to the maximum extent.
- **High Reliability** : Based on the advanced distribution mechanism and efficient cross-physical link aggregation, the logic control plane, service control plane and service data plane are separated. Thus, the device can support continuous layer3 routing forwarding, avoiding service interruption as a result of a single point of failure.
- **Easy Management** : CVSS realizes single IP management, greatly improving the networking efficiency and lowering the operating cost.

Carrier-Level High Reliability

- Based on HPS (Hitless Protection System), the key components of SWM-36 series such as the power module support dual backup, hot-swap, seamless switching in the downtime without manual intervention.
- Supports **STP/RSTP/MSTP, VRRP** protocol, **Ethernet Ring Protection**, dual master-slave uplink protection and **LACP** link aggregation.
- Supports **ISSU** (In-Service Software Upgrade), **BFD** mechanism, **Ethernet OAM** mechanism, **802.3ah, 802.1ag and ITU-Y-1731**.
- High reliability (99.999%) : MTTR of SWM-36 series is 50ms, meeting the requirement of the carrier-level service.

Varied Service Characteristics

- Supports **Layer2 and Layer3 multicast routing protocol**, which enable the device can access to IPTV, HD video surveillance and HD video conference.
- Supports **Layer3 routing protocol** and super-large

routing table capacity, which enables the device is available in large campus, enterprise and industry networks.

- Supports **Layer2 and 3 MPLS-VPN**.

Versatile Ipv6 Solution

- Supports IPv6 protocol suite, **IPv6 neighbour discovery, ICMPv6**, Path MTU discovery, **DHCPv6**, etc.
- Supports **Ping, Traceroute, Telnet, SSH, Acl**.
- Supports **MLD, MLD snooping, IPv6 static routing, RIPng, OSPFv3 and BGP4+**, etc.
- Supports IPv6 Tunnel : **manual, automatic and GRE tunnels, 6to4, ISATAP**
- Supports IPv4 transits to IPv6 : **IPv6 manual and automatic, 6to4 and ISATAP tunnels**.

Complete Security Mechanism

- **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.
- **Security Authentication Mechanism** : IEEE802.1x, radius and BD Tacacs+.
- **Enhanced Service Security Mechanism** : supports the plaintext or MD5 authentication of relevant routing protocol, URPF, deep inspection of hardware packet, control and data packets and filtering technology.

Innovative Energy-Saving Design

- **Intelligent Power Management** : The power system of SW3B series supports real-time monitoring and the slow start : it is also power-saving.
- **Intelligent fan management system** : The fan system of SW3B series supports automatic speed regulation which efficiently slow the Fan speed and mitigate the noise.
- Comply with the international standard IEEE 802.3az.

SWM-36 Series SPECIFICATIONS 1/2

Part Number	SWM-3640-R-MA	SWM-3640-S-MA	SWM-3656-R-MA	SWM-3656-S-MA
Backplane	256 Gbps			
Forwarding	168Mpps	168Mpps	192Mpps	192Mpps
RAM	256MB			
Flash	16MB			
MAC Table	32/64K			
Ports	32 Gigabit TX Ports + 8 10G SFP ports	24 Gigabit SFP ports + 8 Gigabit TX ports + 8 10G SFP ports	48 Gigabit TX ports + 8 10G SFP ports	48 Gigabit SFP ports + 4 Combo Gigabit TX ports + 8 10G SFP ports
Dimensions (WxDxH) mm	442.5x350x44	442.5x350x44	442.5x350x44	442.5x350x44
Power	AC : 100-240V, 50Hz±10% DC : -36V ~ -72V (POE doesn't support DC power) Dual-power is optional. Mixed AC or DC power supply is available.			
Environment	Operating temperature/humidity : 0°C-50°C; 10%-90% non-condensing Storage temperature/humidity : -20°C-70°C, 5%~95% non_condensing			
MAC exchange	Static configuration and dynamic MAC learning, MAC browsing and removal Configurable aging time of the MAC address, Limited number of learnable MAC addresses MAC filtration, Black-hole MAC list			
VLAN	4K VLAN, GVRP, 1:1 VLAN mapping and N:1 VLAN mapping QinQ and flexible QinQ, PVLAN			
STP	802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP) BPDU protection, root protection and loopback protection			
Multicast	IGMP v1/v2/v3, IGMP Snooping, IGMP Fast Leave, Multicast group strategy and quantity limitation, Multicast flow copying over VLANs, PIM-SM and PIM-DM			
IPv4	Static routing, RIP v1/v2, OSPF, BGP, policy based routing, load balance by equivalent routing, BFD for OSPF, BGP			
IPv6	ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet, IPv6 neighbor discovery, path MTU discovery, MLD V1/V2, IGMP snooping, IPv6 Static Routing, RIPng, OSPF V3, BGP4+, Manual tunnel, ISATAP Tunnel, 6to4 tunnel			
MCE	MCE			
MPLS VPN	LDP protocol, P/PE of MPLS VPN, MPLS OAM			
QoS	Flow classification based on L2~4 protocols, CAR flow limit, 802.1P/DSCP priority relabeling, SP, WRR, and SP+WRR, congestion avoidance mechanisms like Tail-Drop and WRED			
Security features	L2/L3/L4 ACL flow identification and filtration, DDoS attack prevention, TCP's SYN Flood attack prevention, UDP Flood attack prevention, etc. Broadcast/Multicast/unknown unicast storm-control, port isolation, Port security and IP+MAC+port binding, DHCP snooping and DHCP option 82, IEEE802.1x authentication, URPF, level-based command line protection			
Reliability	1+1 power backup, Static/LACP link aggregation, EAPS, VRRP, GR for OSPF and BGP, BFD for OSPF and BGP, ISSU uninterrupted system upgrade			
Management	Console, Telnet, SSH 2.0, Web, SNMP v1/v2/v3, TFTP, RMON, sFlow			
Energy saving	IEEE802.3az			
MTBF	200.000 hours (MIL-HDBK-217 standard at 25 °C)			

ORDERING INFORMATION

Part number	Description
SWM-3640-R-MA	Ethernet routing switch with 32 Gigabit TX ports +8 10G SFP ports (1 Mini USB, console port, 32 Gigabit TX ports, 8 10G/GE auto-adaptation SFP+ ports; AC 220V power, the cooling fan, 1U, standard 19 inch rack-mounted installation)
SWM-3640-S-MA	Ethernet routing switch with 24 Gigabit SFP ports + 8 10G SFP ports (1 mini USB console port, 24 100/1000M auto-adaptation SFP port, 8 Gigabit TX ports, 8 10G/GE auto-adaptation SFP+ ports, AC 220V power, the cooling fan, 1U, standard 19 inch rack-mounted installation)
SWM-3656-R-MA	Ethernet routing switch with 48 Gigabit TX ports +8 10G SFP ports (1 Mini USB, console port, 48 Gigabit TX ports, 8 10G/GE auto-adaptation SFP+ ports; AC 220V power, the cooling fan, 1U, standard 19 inch rack-mounted installation)
SWM-3656-S-MA	Ethernet routing switch with 48 Gigabit SFP ports + 4 combo Gigabit TX ports + 8 10G SFP ports (1 mini USB console port, 48 100/1000M auto-adaptation SFP port, 4 Combo Gigabit TX ports, 8 10G/GE auto-adaptation SFP+ ports, AC 220V power, the cooling fan, 1U, standard 19 inch rack-mounted installation)
SWM-3656-P-M	Ethernet routing switch with 48 Gigabit POE ports + 4 combo Gigabit TX ports + 8 10G SFP ports (1 mini USB console port, 8 10G/GE auto-adaptation SFP+ ports, the cooling fan, 1U, standard 19 inch rack-mounted installation), (NO DEFAULT POWER,NEED TO CHOOSE BELOW SWM3600-AC500 or SWM3600-AC1100)
SWM3600-AC150	Hot Swap Power Supplies of NEW SWM3600 Series (150W max, AC100~240v input, the isolated cooling fan)
SWM3600-DC150	Hot Swap Power Supplies of SWM3600Series (150W Max, DC-36V~~72V input, the isolated cooling fan)
SWM3600-AC500	hot-swap power supply of new SWM3600POE switch series (500W max power, 380W max POE power, AC100~240V input, the isolated cooling fan)
SWM3600-AC1100	hot-swap power supply of new SWM3600POE switch series (1100W max power, 800W max POE power, AC100~240V input, the isolated cooling fan)



The information contained in this document are provided without warranty and do not constitute a contractual document. In order to improve its products, CXR reserves its right to modify, without notice, any part of this document and the specification it contains.



CXR Anderson Jacobson
Rue de l'Ormette
28410 Abondant - France

T +33 (0) 237 62 87 90
F +33 (0) 237 62 88 01
email: contact@cxr.com