



Leading 5G Innovations

ZTE ZXR10 5900E Series Switch Data Sheet

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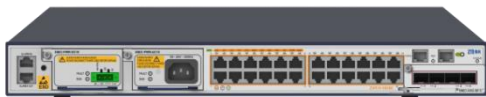


Product Overview

The ZXR10 5900E Series switch is 1RU height all Gigabit MPLS routing stackable switch for carrier/campus access and aggregation scenarios for space-constrained environments in Enterprise network, campus network.

Powered by European standard hardware architecture, state-of-art software platform, the first-in-industry "Easy-maintenance" designs philosophy and industry-leading MPLS capability, the ZXR10 5900E Series switch is a milestone switch presented by ZTE Corporation. It provides up to 52 interfaces (48 GE+ 4 10GE). It supports MPLS L2/L3 VPN technology, providing an economical reliable VPN solution for Enterprise campus or branch office leased line service. With VSC2.0 (Virtual Switch Cluster), it delivers improved resilience and flexibility. Zero-touch provisioning, IEEE 802.3az Energy Efficient Ethernet (EEE) make the network not only easy for maintenance but also low consumption.

The ZXR10 5900E Series switch offers following switch products:



5928E



5928E-FI

5928E: 24 Ethernet 10/100/1000M RJ45 electrical ports and 1 expansion slot, 2 AC/DC power supply modules.

5928E-FI: 24 GE SFP optical ports and 1 expansion slot, 2 AC/DC power supply modules.



5952E

5952E: 1 main control card slot with 16 Ethernet 10/100/1000M RJ45 electrical ports or 16 GE SFP optical ports, 4 subcard-slot with 8 Ethernet 10/100/1000M RJ45 electrical ports or 8 GE SFP optical ports and 1 expansion slot, 1 fan tray, 2 AC/DC power supply modules.

The expansion card slot can be equipped with the following expansion cards:

- 4 * 10GE SFP+ optical ports card
- 2 * 10GE SFP+ optical ports card
- 4 * GE SFP optical ports card
- 4 * GE RJ45 electrical ports card

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Product Features

● **Modular Design Brings Scalability**

- The ZXR10 5952E switch is able to provide ultimate flexible electrical/optical interface combinations for users.
- The ZXR10 5952E switch is a 2U height switch, while each of its four subcard slot can be equipped with 8*GE RJ45 card or 8*GE SFP card.
- The ZXR10 5900E Series switch supports dual modular power supply, while the ZXR10 5952E switch in addition supports field-replaceable fan-tray.
- Modular design brings ultimate flexibility for users to control investment and upgrade their network continuously.

● **Powerful Service Bearing Capability**

- By supporting rich L2 switching and L3 routing functions and low latency forwarding, the ZXR10 5900E series switch can bear multi services including WLAN, Internet, Voice, Video, Enterprise private network and other data services.
- Support comprehensive L2/L3 Multicast protocols: PIM-SM, PIM-DM, PIM-SSM, MLD, IGMP Snooping, MVR (Multicast VLAN Registration), meeting the requirements for IPTV, multi-terminal high-definition video surveillance and other multicast services.
- Support MPLS L2/L3 VPN technology, providing an economical reliable VPN solution for Enterprise campus or branch office leased line service.
- Supports MCE, enabling it to run multiple VPN instances without running MPLS, relieving pressure on the PE (provider edge) equipment.

● **Innovative VSC2.0 (Virtual Switch Cluster) Technology**

- Support VSC2.0 (Virtual Switch Cluster), which enhances cluster system capacity and port density, simplifies network topology and management.
- Real time hot-standby information synchronization between master and standby master to ensure seamless switch over against network failures, enhancing network reliability.

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- Stacking bandwidth between the VSC switches can be up to 80Gbps, which can solve the bandwidth bottleneck of VSC and deliver customers a real-time non-blocking VSC system.
- Master and slave in VSC works in 1+N redundancy mode, MAD (Multi-active Detect) technology is used to detect and avoid dual master in VSC system when failure happens. Together with real-time hot-standby and seamless switchover it brings customer a more flexible VSC network.

● Comprehensive IPv6 Features

- The ZXR10 5900E series switch has passed IPv6 Ready Phase 2 Gold Medal Certification issued by IPv6 Forum.
- Support rich IPv6 unicast routing protocols: IPv6 static routing, RIPng, OSPFv3, IS-ISv6, and BGP4+ and multicast features: MLD v1/v2, MLD snooping, PIMv6, etc.
- Support rich IPv4-to-IPv6 tunnel technologies: IPv6 manual tunnels, 6-to-4 tunnel, ISATAP tunnel and IPv4-compatible automatic tunnels, etc.

● Enhanced Reliability, Multi-Dimensional Security

- The ZXR10 5900E Series switch supports ZESR+ Ethernet ring protection, which can recover the system from any link or node fault within 50ms.
- Support Ethernet OAM, including IEEE 802.3ah, 802.1ag, help monitoring network real-time operating status and fulfill fast fault detection, fault location.
- Dual-core CPU greatly enhances the processing capability for data, voice, video and complex data communication protocols. Virtual multi-core technology and dual-core processing architecture improves control plane performance and control system reliability.
- Support various authentication methods such as 802.1x, Radius, TACACS+. Support CPU overload protection, anti-DDOS, deliver customer a security network.

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● Easy-Maintenance

- The innovative M-Button delivers instant trouble-shooting by reading indicators on front panel without login via terminal. It helps customer solve some common problems immediately.
- GVRP VLAN Registration Protocol can help network administrators reduce network configuration workloads and easily deploy large amounts of VLAN in complicated networking environment.
- Thanks to the ZXR10 5900E Series switch's 220mm depth, it costs users little space to install the switch. All the hardware components, including the power supply, all the access interfaces and uplink interface, fan modules (only 5952E support replaceable fan module) are front accessible, making it convenient to administrate the switch in space-constrained environment.
- The ZXR10 5900E Series switch supports Zero Configuration, switch can automatically download software images and start-up configurations. Zero configurations truly enable plug and play and reduces the requirement for experienced engineers.
- The ZXR10 5900E Series switch support Hotfix, which can deliver the functions upgrade without service interruption.

● Green for More

- Support IEEE 802.3az EEE (Energy Efficient Ethernet). Via chip-grade power management, interfaces can automatically sleep when no traffic.
- The fan speed can be automatically adjusted by 5 levels in accordance with the temperature inside the switch. It not only saves the power consumption, but also reduces the noise and extends the life cycle of fans.
- Complying with ROHS, WEEE and ISO14001 certification, No plumbum (Pb) in not only product materials but also the whole processing technic. Meanwhile, use re-cycles degradable packing materials, practice green for more.

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System Specification

Function and Parameters	5928E	5928E-FI	5952E
Dimensions (H*W*D)	44mm*442mm*220mm	44mm*442mm*220mm	88.1mm*442mm*220mm
Fixed	24 GE RJ45	24 GE SFP	N/A
Main Control Card Slot	N/A		1
Main Control Card Type	N/A		16 GE SFP card or 16 GE RJ45 card
Sub Card Slot	N/A		4
Sub Card Type	N/A		8 GE SFP card or 8 GE RJ45 card
Expansion Card Slot	1	1	1
Expansion Card Type	4*GE SFP card 4*GE RJ45 card 4*10GE SFP+ card 2*10GE SFP+ card		
Weight	<4.8kg	<4.8kg	<10kg
Management Port	1 GE MNG, 1RJ45 Console, 1 Mini USB Console		
DC Power Supply	-40V ~ -72V	-40V ~ -72V	-40V ~ -72V
AC Power Supply	Rated voltages: 100V~240V,50Hz~60Hz Maximum voltages: 90V~286V,45Hz~66Hz		
Maximum Power Consumption	<63W	<64W	122W
Typical Power Consumption	43W	35W	53W
Power Redundancy Pattern	Two independent and swappable power supply module, support AC 1+1, DC 1+1,		
Heat Dissipation Pattern	Fan cooling		

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Function and Parameters	5928E	5928E-FI	5952E
Heat Dissipation	213 BTU/h	180 BTU/h	341 BTU/h
Working Temperature	Long term working temperature: -10 °C ~ +50 °C Short term working Temperature: -10 °C ~ +55 °C		
Humidity	5%~95%		
Working Altitude	<3000 meters		
MTBF/MTR	>200000 hours/ < 30 minutes		
Switching Capacity	128Gbps	128Gbps	176Gbps
Packet Forwarding Rate	96Mpps	96Mpps	132Mpps

Service Specification

Function	The ZXR10 5900E Series switch
L2 Features	<p>Support IEEE 802.1p (COS), IEEE 802.1q (VLAN)</p> <p>Support IEEE 802.1d (STP)/ 802.1w (RSTP)/ 802.1s (MSTP)</p> <p>Support IEEE 802.3ad (LACP)</p> <p>Support IEEE 802.3z (1000Base-X)/ 802.3ab (1000BaseT)</p> <p>Support IEEE 802.3ae (10Gbase)</p> <p>Support QinQ, Selective QinQ</p> <p>Support Port mirroring, Traffic mirroring</p> <p>Support PVLAN</p> <p>Support GVRP</p> <p>Support LLDP</p>
L3 Features	<p>Support IPv4 routing protocols, such as Static routing, Policy based routing , RIP, OSPF, BGP, and IS-IS</p> <p>Support DHCP server/ relay/proxy, DHCP snooping</p> <p>Support IPv6 routing protocols, such as Static routing, Policy based routing , RIPng, OSPFv3, IS-ISv6, and BGP4+</p>
MPLS	LDP, VPLS, VPWS, H-VPLS, MPLS L3 VPN, CE dual-homing protection
Multicast	Support IGMP v1/v2/v3, IGMPv1/v2/v3 snooping

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Function	The ZXR10 5900E Series switch
	<ul style="list-style-type: none"> Support PIM-SM, PIM-DM, PIM-SSM Support administratively scoped multicast/ IPTV, MVR Support MLD v1/v2, MLD snooping, PIMv6
QoS	<ul style="list-style-type: none"> Support traffic classification based on Layer 2 headers, Layer 3 protocols, Layer 4 protocols, and 802.1p priority Support 8 hardware-based queues per port Support queue scheduling algorithms, such as SP, WRR, DWRR, SP+WRR Support congestion avoidance mechanisms, such as WRED and tail drop Support policing/shaping based on port
Security	<ul style="list-style-type: none"> Support L2-L4 ACL Support standard ACL, MAC ACL, L2 ACL, extended ACL, mixed ACL, VLAN ACL Support time-range ACL configuration, bidirectional ACL Support 802.1x authentication and 802.1x server Support MAC authentication Support AAA/ RADIUS and TACACS+ authentication for login users Support SSH v1.0/v2.0 server Support CPU anti-attack Support STP Root Guard, BPDU guard Support URPF Support RIP/OSPF/BGP MD5 encryption checking
Reliability	<ul style="list-style-type: none"> Support 1+1 redundancy power supply Support Hot plugging Support LACP Support ZESR/ZESR+(ZTE Ethernet Switch Ring) Support ERPS Support VRRP, VRRPv3, VRRPE Support GR for OSFP/BGP/IS-IS Support Ethernet OAM (802.1ag and 802.3ah)
Equipment Management	<ul style="list-style-type: none"> Support CLI, Telnet, SSH, Local and remote (Radius/Tacacs+) user authentication Support SNMP v1/v2/v3 Support Mirroring, RSPAN, ERSPAN Support RMON Support NTP



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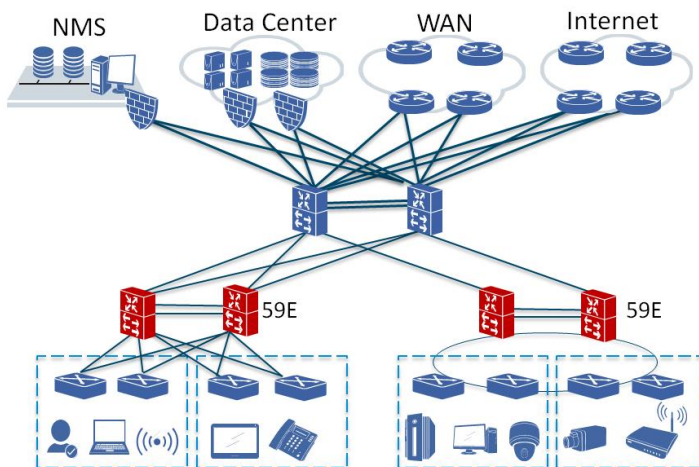


Function	The ZXR10 5900E Series switch
	Support Syslog Support Sflow, IPFIX
Enhanced Features	Support M-BUTTON Support Zero-touch deployment Support Hotfix Support Portal

Application Scenario

● Access and Aggregation in Carrier/Campus Network

The ZXR10 5900E series switch is box-like layer 3 MPLS routing switches that deliver superior integrated network services for space-constrained environments in carrier/enterprise networks. It can serve as an aggregation switch in enterprise network and campus network. Below is an example of campus application as an aggregation switch.



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Order Information

Mainframe

5928E	5928E Switch Base (1*Expansion Card, 2*Power Supply Module)
5928E-FI	5928E-FI Switch Base (1*Expansion Card, 2*Power Supply Module)
5952E-CHS	5952E Chassis (1*Main Control Card, 4*Sub Cards, 1*Expansion Card,1* Fan tray, 2*Power Supply Modules)

Main Control card

5952E-MCS-RJ	Main control card with 16 GE RJ45 electrical ports, only for 5952E
5952E-MCS-SF	Main control card with 16 GE SFP optical ports, only for 5952E

Sub card

RS-59EC-8GE-RJ45	8*GE RJ45 electrical ports Sub card, only for 5952E
RS-59EC-8GE-SFP	8*GE SFP optical ports Sub card, only for 5952E

Expansion card

59EC-2XG-SF-C	2*10GE SFP+ optical ports expansion card
59EC-4XG-SF-C	4*10GE SFP+ optical ports expansion card
59EC-4GE-SF	4*GE SFP optical ports expansion card
59EC-4GE-RJ	4*GE RJ45 electrical ports expansion card

Power Module

59EC-PWR-AC10	5916E, 5928E, 5928E-FI AC Power Module
59EC-PWR-DC10	5916E, 5928E, 5928E-FI DC Power Module
RS-59EC-PWR-AC20	5952E AC Power Module
RS-59EC-PWR-DC20	5952E DC Power Module

Fan Tray

RS-EFAN-2U	5952E Fan tray
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Software

SWLIC-MPLS	MPLS service
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