

# 32-Port 100G Data Center Managed L3 Switch

## WD-DC-32QF

## Product Brochure

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## Product Introduction:

WD-DC-32QF is a new generation 100G Ethernet switch designed for enterprise data center and campus LAN networks, providing high-throughput, high-density 100GE interfaces, larger buffer and lower latency. It adopts advanced hardware architecture with 32\*100GE access ports and multiple 100GE uplinks. It provides rich data center service features and management capability.

WD-DC-32QF realize large buffer of the interfaces, meeting the burst flow forwarding without packet loss; provide the M- LAG technology for virtualization scenarios; provide the modular power and fan design for high reliability. The key components adopt "overvoltage" designs to ensure that the product has the strong ability of continuous operation.

WD-DC-32QF can work with core switches to build a complete, scalable, virtualized fabric network that meets the data center requirements. Meanwhile, WD-DC-32QF can also be deployed as aggregation or core switches for enterprise campus LAN networks. WD-DC-32QF also support per port stacking of 8 hardware queue.



# Main Features:

## High-density 100GE ports

- Provide fixed 32\*100G interfaces in compact 1U device. The port combination fully satisfies the interface density requirement of data center scenarios.
- Have a maximum of 32\*100GE QSFP28 uplinks, the uplink ports can be connected to core switches to build a non-blocking network architecture. It also support DDM for optical ports.

## M-LAG for cross-device link aggregation

- Support multi-chassis link aggregation group (M-LAG), which enables links of multiple switches to aggregate into one to implement cross-device link backup. The rest of switches in the M-LAG group are working actively regardless any switch failure. During the upgrade, other switches in the system take over traffic forwarding to ensure uninterrupted services.

## VxLAN for Layer2 Virtualized Deployment

- Can work with the industry's mainstream virtualization platforms and acts a hardware gateway on an VxLAN overlay network. Virtual extensible LANs (VxLAN), a common network virtualization overlay protocol that expands the layer 2 network address space from 4,000 to 16 million.
- Support BGP-EVPN, which is used as the overlay control plane and provides virtual connectivity between different layer 2/3 domains over an IP or MPLS network.

## Zero Touch Implementing

- Support Zero Touch Provisioning (ZTP). It enables the switch to automatically obtain and load version files from file server through DHCP option and XML mechanism.
- Support NETCONF and can work with 3rd party SDN controller for simplified device remote configuration.

## **Telemetry for intelligent OAM**

- Provides telemetry technology to collect device data in real time and send the management data to customer network analyzer platform. Telemetry systems, done properly, play an important role in providing you with information about the health of your network, so you can respond intelligently to prevent hardware failure and network downtime. It can help customers to identify and analyze network problems which affect user experience.

## **Reliable hardware design and energy-saving**

- Use a standard airflow design which isolates cold air channels from hot air channels. This design improves heat dissipation efficiency and meets design requirements of data center. It adopts hot swap redundant power modules and fans which ensure hardware reliability and non-stopping operation. The fan speed can be adjusted dynamically based on system workload. It has energy-saving chipsets with EEE technology and can save system power consumption in real time.

## **Free Licensing Policy**

- WatchDog always insists on “One-time investment” free license policy, the standard features and advanced features will be never divided to different version. For any new firmware version, WatchDog will share to customers without extra charge. Compared with other manufacturers, WatchDog free license policy can better protect users' short-term and long-term investment.

# Specifications:

Hardware Specification:	
<b>Network Interface</b>	<ul style="list-style-type: none"> <li>● 32*40/100G optical interfaces</li> <li>● 1*Console port</li> <li>● 1*Management port</li> <li>● 1*USB port</li> </ul>
<b>Redundant design</b>	<ul style="list-style-type: none"> <li>● Support power redundancy, 1+ 1 backup mode</li> <li>● Support fan redundancy, 5+ 1 backup mode</li> </ul>
<b>Switching capacity</b>	● 6.4 Tbps
<b>Forwarding Rate</b>	● 4760 Mpps
<b>Jumbo Frame</b>	● 16K
<b>MAC</b>	● 128K
<b>VLAN</b>	● 4K
<b>IPv4/IPv6 Routes</b>	● 64K/16K
<b>Power Supplier</b>	<ul style="list-style-type: none"> <li>● Input voltage (AC): 100V ~ 240V, 50Hz ~ 60Hz</li> <li>● Two Power Slots</li> </ul>
<b>Dimension</b>	● WxDxH: 442mm×480mm×44.2mm
<b>RAM/FLASH</b>	● 4GB/4GB
<b>Environment</b>	<ul style="list-style-type: none"> <li>● Operating temperature: 0°C~50°C</li> <li>● Storage temperature: -40°C~70°C</li> <li>● Operating humidity: 10%~ 90% RH non condensing</li> <li>● Storage humidity: 5%~90% RH non condensing</li> </ul>
<b>Safty Regulations</b>	● CE/ROHS/FCC

<b>Software Specification:</b>		
<b>Standard L2 protocol</b>	Interface	<ul style="list-style-type: none"> <li>● Port Type UNI/NNI, Port Speed, Port MTU, Port Loopback, Loopback interface, Tunnel interface, Null interface, VXLAN interface</li> </ul>
	Ethernet Switching	<ul style="list-style-type: none"> <li>● LACP Link aggregation, LACP Port Priority, LACP Load Balance, LACP Rate Monitor, LACP Debug, Port isolation, Port Mirroring, QinQ, VLAN mapping, Super VLAN, PVLAN, Voice VLAN, STP, MSTP, Loopback-detection, Error- disable, GVRP, MLAG, VLAN isolation</li> </ul>
<b>Standard L3 protocol</b>	IP Protocol	<ul style="list-style-type: none"> <li>● ARP, DHCP, DHCPv6, DHCP Server, DHCPv6 Server, DHCPv6 Client, DHCP Relay, DHCPv6 Relay, DHCP Option82, DNS, GRE, IPIP, IPv6 over IPv4, ISATAP, IPv4 over IPv6, IPv6 over IPv6</li> </ul>
	Routing Protocol	<ul style="list-style-type: none"> <li>● Static route for IPv4&amp;IPv6, RIPv1/v2, RIPv6, OSPFv2, OSPFv3, IS-IS, IS-ISv6, BGP, BGPv6, Policy Route, 256 VLANs SVI</li> </ul>
<b>Multicast</b>	L2 multicast	<ul style="list-style-type: none"> <li>● GMPv1/v2/v3 Snooping, multicast VLAN</li> </ul>
	L3 multicast	<ul style="list-style-type: none"> <li>● IGMPv1/v2/v3, PIM-SM, IPv6 PIM-SM, IPv6 PIM-SSM, PIM-DM, MSDP, MLD-snooping</li> </ul>
<b>QoS &amp; ACL</b>	QoS	<ul style="list-style-type: none"> <li>● 802.1p, DSCP, and other priority mapping, SP, WRED, WDRR, Flow classification, Traffic monitoring, Traffic shaping, Congestion management, Congestion avoidance, Flow-based mirroring</li> </ul>
	ACL	<ul style="list-style-type: none"> <li>● Standard IP ACL, extended IP ACL, standard MAC ACL, extended MAC ACL, extended Hybrid ACL, Standard IPv6 ACL, extended IPv6 ACL</li> </ul>

<b>Software Specification:</b>		
<b>Data center feature</b>	Data center feature	<ul style="list-style-type: none"> <li>● TRILL, M-LAG, VXLAN, BGP-EVPN, NLB, OpenFlow, Netconf</li> </ul>
<b>MPLS</b>	BGP MPLS	<ul style="list-style-type: none"> <li>● MPLS LDP, MPLS GR, M-VRF, MPLS L3 VPN</li> </ul>
<b>Virtualization</b>	VST	<ul style="list-style-type: none"> <li>● H-VST, M-VST</li> </ul>
	MAD	<ul style="list-style-type: none"> <li>● IGMPv1/v2/v3, PIM-SM, IPv6 PIM-SM, IPv6 PIM-SSM, PIM-DM, MSDP, MLD-snooping</li> </ul>
<b>Security &amp; Network Reliability</b>	Security	<ul style="list-style-type: none"> <li>● ARP Check, AARF, AARF ARP- Guard, CPU Protection, Port Security, IP Source Guard, IPv6 Source Guard, ND-Snooping, DHCP Snooping, DHCPv6 Snooping, Dynamic ARP Inspection, Host Guard, PPPoE+, AAA, 802.1x, Portal Authentication, DoS Protection , Anti- attack detect  drop  flood  log, URPF, IEEE 802.3: Ethernet media access control (MAC) IEEE 802.3i:10BASE-T Ethernet IEEE 802.3u:100BASE-TX fast Ethernet IEEE 802.3ab:1000BASE-T gigabit Ethernet IEEE 802.3z:1000BASE-X Gigabit Ethernet (optical fiber) IEEE 802.3ad:standard method of link aggregation IEEE 802.3ah : Ethernet OAM compliant IEEE 802.3x:flow control IEEE 802.1p:LAN layer 2 qos/cos protocol related to traffic priority (multicast filtering function) IEEE802.1q:VLAN Bridge operation IEEE 802.1d:STP Spanning tree</li> </ul>

		<p>IEEE 802.1s:MSTP Spanning tree</p> <p>IEEE 802.1w:RSTP Spanning tree</p> <p>IEEE 802.3af</p> <p>IEEE 802.3at</p>
	Network Reliability	<ul style="list-style-type: none"> <li>● HA, ULFD, ERPS, ULPP, Monitor Link, VRRP, VRRPv3, VBRP, BFD, EEP</li> </ul>
<b>Management</b>	Network Management	<ul style="list-style-type: none"> <li>● SNMP v1/v2/v3, MIB, RMON, SYSLOG, DNS, CLI, SSH, Telnet, FTP/TFTP, RADIUS, Debug, NTP, Keep alive Gateway</li> </ul>
	Network Monitoring	<ul style="list-style-type: none"> <li>● SPAN, RSPAN, ERSPAN, VLAN SPAN, IPFIX, LLDP, IP-SLA, CWMP, Telemetry, BSM</li> </ul>



# Networking Application:



OpenFlow ↔ Netconf

