DCS Fiber Series
L3+ 10G Routing Switch

Product Overview

AADONA DCS fiber series switches are next-generation 10GbE stackable routing switches that provide fixed gigabit optical access and 10GbE uplink ports. DCS fiber switch has advanced hardware and software architecture design. These switches provide high availability, scalability, security, energy efficiency, and ease of operation with rich features such as **VSF (Virtual Switch Framework),** redundant power supplies. It is ideal for high-density optical aggregation in FTTx solutions or campus networks, enterprise networks and ISP network.

The following models are available in the DCS fiber series.

Appearance	Description
DCS-16F-8C-4XF-E	☐ 16 x 100/1000Base-X (SFP) + 8 x GbE Combo (SFP/RJ45) + 4 x 10GbE (SFP+) ☐ Fixed AC+RPS (12V) Power supply ☐ 1 console, 1 USB, 1 RJ45 management port ☐ 1 Reset Button ☐ Forwarding performance: 95Mpps ☐ Switching capacity: 128Gbps
DCS-48F-4XF-E	☐ 48 x 100/1000Base-X (SFP) + 4 x 10GbE (SFP+) ☐ Fixed AC+RPS (12V) Power supply ☐ 1 console, 1 USB, 1 RJ45 management port ☐ 1 Reset Button ☐ Forwarding performance: 131Mpps ☐ Switching capacity: 176Gbps

Key Features and Highlights

Easy High-Reliability network

MRPP is a Multi-layer Ring Protection Protocol, which is AADONA's private fast Ethernet ring protocol. Comparing to spanning tree protocol, it has the advantages of fast convergence, simple protocol calculation, fewer system resources cost, and so on, which can improve the reliability of Ethernet network operation.

VSF (Virtual Switch Framework)

Virtual Switch Framework can virtualize multiple AADONA switches into one logical device, achieving the sharing of information and data tables between different switches. The performance and ports density of the virtualized device is greatly enlarged by times under VSF. VSF also simplifies management work for the network administrator and provides more reliability.

Performance and Scalability

With high switching capacity, the DCS fiber series support wire-speed L2/L3 forwarding and high routing performance for IPv4 and IPv6 protocols. The 10 Gigabit Ethernet connectivity of DCS fiber series is accomplished via a hot-pluggable 10 Gigabit SFP+ transceiver which supports distance up to 300 meters over multimode fiber and 10 to 40km over single-mode fiber (The distance depends on the optical module chosen).

Rich L3 Features

DCS fiber series delivers high-performance, hardware-based IP routing. RIP, OSPF, and BGP provide dynamic routing by exchanging routing information with other Layer 3 switches and routers. With the DCS fiber series, customers could easily achieve a Policy-based Route (PBR), which is important when they need a multi exit application.

Strong Multicast

DCS fiber series supports abundant multicast features. In Layer 2, such as IGMPv1/v2/v3 snooping and fast leave. L3 multicast protocols such as IGMPv1/v2/v3, PIM-DM, PIM-SM, PIM-SSM, and even MSDP. With Multicast VLAN Register (MVR), multicast receiver/sender control and illegal multicast source detect functions; the DCS fiber series provides a great application experience for the customer.

Comprehensive QoS

With 8 queues per port, the DCS fiber series enable differentiated management of up to 8 traffic types. The traffic is prioritized according to IEEE802.1p, DSCP, IP precedence, and TCP/UDP port number, giving optimal performance to real-time applications such as voice and video.

DCS fiber series also supports Bi-directional rate-limiting, per port or traffic class preserves network bandwidth, and allows full control of network re-sources.

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Specifications

Item	DCS-16F-8C-4XF-E	DCS-48F-4XF-E
Performance		
Switching Capacity	128Gbps	176Gbps
Forwarding Rate	95Mpps	131Mpps
Jumbo Frame	10K	
MAC Address	16K	
ARP Table	4K	
Routing Table	13K	
ACL Table	3K	
L3 Interface	Max 1K	
Physical		
Dimension (W*H*D)	440mm x 44mm x 240mm	440mm x 44mm x320mm
Management port	1 x RJ45 Ethernet Management port 1x Console port 1x USB2.0 interface	
Relative Humidity	10%~90% non-condensing, storage 95%	
Temperature	Working 0°C~50°C, storage -40°C~70°C	
Power Supply	AC: 100~240VAC, 50~60Hz + 12VDC RPS	
Power Consumption	<34W	<80W
Main Features		
L1, L2 Features	IEEE802.3(10Base-T), IEEE802.3u(100Base-TX), IEEE802.3z(1000BASE-X), IEEE802.3ab(1000Base-T), IEEE802.3ae(10GBase), IEEE802.3x, IEEE802.3ak(10GBASE-CX4), Auto MDI/MDIX	
	Port loopback detection LLDP and LLDP-MED UDLD 802.3ad LACP, max 128 group trunks with max 8 ports for each trunk LACP load balance	
	N:1 Port Mirroring RSPAN	
	IEEEE802.1d(STP)，IEEEE802.1w(RSTP)，IEEEE802.1s(MSTP) Root Guard BPDU Guard BPDU Tunnel	
	802.1Q, 4K VLAN MAC VLAN, Voice VLAN, PVLAN, Protocol VLAN, Multicast VLAN QinQ, Flexible QinQ GVRP N:1 VLAN Translation Broadcast / Multicast / Unicast Storm Control	
	IGMP v1/v2/v3 Snooping and L2 Query，IGMP Proxy ND Snooping MLDv1/v2 Snooping	
	Port Security	
	Flow Control: HOL, IEEE802.3x Bandwidth Control	

L3 Features	Static Routing, RIPv1/v2, OSPFv2, BGP4 OSPFv3, BGP4+ OSPF multiple processes LPM Routing Policy-based routing (PBR) for IPv4 and IPv6 VRRP URPF ECMP BFD
	DVMRP, PIM-DM, PIM-SM, PIM-SSM, Anycast RP, MSDP Static Multicast Route Multicast Receive Control Illegal Multicast Source Detect
	ARP Guard, Local ARP proxy, Proxy ARP, ARP Binding, Gratuitous ARP, ARP Limit Anti ARP Cheat, Anti ARP Scan
	DNS Client, DNS Relay
	GRE Tunnel
IPv6	6to4 Tunnel, Configured Tunnel, ISATAP Tunnel, GRE Tunnel ICMPv6, ND, DNSv6 IPv6 LPM Routing, IPv6 Policy-based Routing (PBR) IPv6 VRRPv3, IPv6 URPF, IPv6 RA RIPng, OSPFv3, BGP4+ MLD Snooping, IPv6 Multicast VLAN MLDv1/v2, PIM-SM/DM for IPv6, IPv6 Anycast RP, IPv6 ACL, IPv6 QoS
QoS	8 Queues SP, WDRR, SWDRR Traffic Classification Based on 802.1p COS, ToS, DiffServ DSCP, ACL, port number Traffic Policing PRI Mark/Remark
ACL	IP ACL, MAC ACL, IP-MAC ACL Standard and Expanded ACL Based on source/destination IP or MAC, IP Protocol, TCP/UDP port, DSCP, ToS, IP Precedence), VLAN, Tag/Untag, CoS Redirect and Statistics Rules can be configured to port, VLAN Time Ranged ACL
Security	802.1x AAA , Port, MAC-based authentication Accounting based on time length and traffic Guest VLAN and auto VLAN
	RADIUS for IPv4 and IPv6
	TACACS+ for IPv4 and IPv6
	MAB
DHCPv4/v6 Traffic Monitor	DHCP Server/Client for IPv4/IPv6 DHCP Relay/Option 82 DHCP Snooping/Option 82
Traffic Monitor	sFlow Traffic Analysis
Security Network Management	CLI, WEB, Telnet, SNMPv1/v2c/v3 through IPv4 and IPv6 Syslog and external Syslog Server HTTP SSL SNMP MIB, SNMP TRAP , RMOM 1,2,3,9 FTP/TFTP SNTP/NTP Authentication by Radius/TACACS SSH v1/v2 Dual firmware images/ Configuration files 802.3ah OAM, 802.1ag OAM

Data Center Features	VSF (Virtual Switch Framework)

Application

DCS fiber series are deployed as aggregation switches which provide gigabit downlink and 10G uplink in campus or enterprise network.

DCS fiber series is ideal aggregation for FTTx solutions