

# CES-3424-G-SD

24 埠 10/100/1000TX + 4 埠 1000M SFP 光纖埠

SDN 網管型交換機



- 內建 OVS Open Flow 代理程式 (選配)
- 支援 Open flow 1.3 (選配)
- 支援 SSH、SSL、RADIUS/TACACS+
- 支援 Denial-of-Service (DOS) 保護
- 支援 IPV6 & IPV4 存取控制清單
- 內建 802.3az 節能乙太網路
- 支援 SNMP V2c/V3
- 支援 IPV6 管理介面
- 支援 DDM threshold monitoring 數位診斷監控
- 支援進階 SNMP 功能，包含 QoS、IGMP V2 /V3 嗅探與查詢



## OVERVIEW

CES-3424-G-SD 是一款具有 24 埠 10/100/1000BaseTX 端口和 4 埠 1000M SFP 光纖端口的 SDN 網管型交換機。其先進的 SNMP 管理功能包含了有 8 個佇列的 QoS、802.1q VLAN、802.1v 基於協定與端口分類的 VLAN、IGMP V2/V3 嗅探與查詢、MLD-Snooping、LLDP-MED、網路攻擊防護，以及 SNTP 和 SMTP 等功能。

CES-3424-G-SD 具備大型網路所需的所有重要管理功能，如 DHCP 客戶端、802.1X RADIUS/TACACS+、IGMP 嗅探/查詢以及進階 QoS 功能。

CES-3424-G-SD 是一款高性能的 Gigabit 網管型交換機，整合了 OVS Open Flow 代理程式。Open Flow 代理程式可以連接到 SDN 控制器，以啟用各種基於流量的 SDN 應用。\*\*選配\*\*

CES-3424-G-SD 提供多種先進的資訊安全功能，以保護您的網路。這些安全保護功能包括 802.1X RADIUS/TACACS+、HTTPS、SSL、端口安全、風暴控制、阻斷服務 (DOS) 保護、動態 ARP 檢查、IP 源地址保護等。

CES-3424-G-SD 為網路管理員提供進階的 SDN 功能。通過與 IoT 控制器和應用程序合作，CES-3424-G-SD 可以執行基於流量的精細網路管理功能，例如交換機配置自動開通、基於流量的動態網路流量監控以及異常流量檢測/拒絕等。

CES-3424-G-SD 支持進階 QoS，通過與控制器和應用程序協作，網路管理員可以根據不同的 QoS 要求指定媒體串流服務的優先等級。CES-3424-G-SD 優先處理延遲敏感的服務，如語音和影像串流。它提供不同的服務類別，也包括基於流量的動態調整。

CES-3424-G-SD 具有強大的 ACL 應用功能，管理者可以通過它來限制網路中的敏感部分，防止未經授權的用戶訪問並防範網路攻擊。CES-3424-G-SD 可支援以 MAC 為基礎的 ACL、以及以 IPV4、IPV6 為基礎的 ACL。

CES-3424-G-SD 具有內建的 IEEE802.3az 節能乙太網路 (EEE) 功能和更多創新的綠色功能，可以通過許多智慧自動檢測來降低能源消耗，例如鏈路斷路時電源節能、電纜長度節能、無流量或小流量時節能。

CES-3424-G-SD 是最適合用於中央管理的網路設備，並準備好為您打造軟體定義網路。

## FEATURES & BENEFITS

- RJ-45 埠支援 MDI/MDI-X 功能
- SFP 插槽支援 DDM for SFP 數位診斷與監控 (SFP 模組也必須具備支援 DDM 功能)
- 背板頻寬 (Switching Fabric): 56 Gbps
- 16K MAC 網路地址表
- 內建 OVS Open Flow 代理程式 (\*\*選配\*\*)

Datasheet Version 1.0

www.wandong.com.tw | shsh0963@gmail.com

- IPv6 管理介面
- IEEE 802.1d STP 生成樹協定 · IEEE 802.1w RSTP 快速生成樹協定& IEEE 802.1s MSTP 多重生成樹協定
- IGMP 嗅探與查詢功能最佳化多媒體應用流量；基於 IPV6 的 MLD-Snooping 功能
- 支援 IP 攝影機以及影片的動態多播 IP 來源學習
- 基於端口的 VLAN, 802.1Q 標籤 VLAN, GVRP
- 埠匯聚以及鏈路聚合控制協定
- 支援 IEEE 802.1ab LLDP, LLDP-MED, UDLD
- 支援 IEEE 802.1p CoS, 每埠支援 8 個優先權佇列
- 支援基於端口 · 標籤以及封包類型調整服務優先權
- 支援進入封包過濾以及送出速率管控
- 支援廣播/多播封包過濾控制
- 端口鏡像: 監視網絡中轉送的流量
  - TX, RX, 同時複製 TX 與 RX 封包
- 安全性
  - 端口安全: MAC 地址條目/過濾/MAC 違規保護
  - RADIUS/TACACS+
  - 登入保護: IEEE802.1X
  - HTTPS 與 SSL
  - 阻斷服務(DOS)保護
  - 動態 ARP 檢查
  - IP 源地址保護
- SNMP Trap
  - 設備冷機啟動、電源異常、認證失敗、鏈路連結/鏈路斷路。
- Sntp 時間同步
- TFTP 韌體升級 & 系統配置恢復/備分
- 原廠還原按鈕可回復所有配置到原廠預設狀態
- 看門狗設計可在特定情況下自動重新啟動設備

## SPECIFICATION

Hardware Specification		Software Specification	
IEEE Standards	IEEE802.3 10Base-T Ethernet IEEE802.3u 100Base-TX IEEE802.3ab 1000Base-T IEEE802.3z Gigabit fiber IEEE802.3x Flow Control and Back Pressure IEEE802.3ad Port trunk with LACP IEEE802.3af Power over Ethernet IEEE802.1d Spanning Tree IEEE802.1w Rapid Spanning Tree IEEE802.1s Multiple Spanning Tree IEEE802.1p Class of Service IEEE802.1Q VLAN Tag IEEE802.1x User Authentication (Radius) IEEE802.1ab LLDP IEEE802.3az Power Saving	protection	
Switch Architecture	Back-plane (Switching Fabric): 56Gbps	Operating Humidity	5% ~ 95% (Non-condensing)
Transfer Rate	14,881pps for Ethernet port 148,810pps for Fast Ethernet port 1,488,100pps for Gigabit Fiber Ethernet port	Operating Temperature	Standard: 0°C~50°C
MAC Address	16K MAC address table	Storage Temperature	-40°C~-85°C / -40°F~-185°F
Flash ROM	16Mbytes	Case Dimension	440 (W) x180 (D) x 44 (H) mm ;Rack mount installation
DRAM	128Mbytes	Weight	1500 g
Connectors	10/100TX: 8 x ports RJ-45 with Auto MDI/MDI-X function 10/100/1000T/SFP Combo port: 2 x RJ-45 + 2 x 100/1000 SFP socket with DDM RS-232 connector: RJ-45 type	Fan Number	0
Network Cable	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5/ 5E/ 6 cable EIA/TIA-568 100-ohm (100m) 100Base-TX: 2-pair UTP/STP Cat. 5/ 5E/ 6 cable EIA/TIA-568 100-ohm (100m) 1000Base-TX: 2-pair UTP/STP Cat. 5/ 5E/ 6 cable EIA/TIA-568 100-ohm (100m)	EMI & EMS	CE / FCC
Optical Fiber	Distance: Multi mode: 0 to 5 km, 1300 nm (50/125 μm, 800 MHz*km) 0 to 4 km, 1300 nm (62.5/125 μm, 500 MHz*km) Single mode: 0 to 40 km, 1310 nm (9/125 μm, 3.5 PS/(nm*km)) 0 to 80 km, 1550 nm (9/125 μm, 19 PS/(nm*km)) Min. TX Output: Multi mode: -20 dBm Single mode: 0 to 40 km, -5 dBm; 0 to 80 km, -5 dBm Max. TX Output: Multi mode: -14 dBm Single mode: 0 to 40 km, 0 dBm; 0 to 80 km, 0 dBm Sensitivity: -36 to -32 dBm(SM); -34 to -30(MM)	Power Consumption	35 W (no PoE load) for Ethernet data at full load
Protocol	CSMA/CD	Warranty	1 years
LED	<b>Per unit:</b> Power 1 (Green), Fault (Red ), System alive (Green) <b>24 port 10/100/1000:</b> Link/Activity (Green), Speed (Green) <b>SFP port:</b> 4 x LNK/ACT(Green),	<b>Software Specification</b>	
Power Supply	AC input 110V~240V,	Management	SNMP v1 v2c, v3/ Web/Telnet/CLI
Overload current	Present	SNMP Agent	SNMP V1/V2c/V3
		VLAN	Port Based VLAN IEEE 802.1Q Tag VLAN (256 entries)/ VLAN ID (Up to 4K, VLAN ID can be assigned from 1 to 4096.) GVRP (256 Groups) Double Tag VLAN (Q in Q)
		Port Trunk with LACP	LACP Port Trunk: 4 Trunk groups/Maximum 4 trunk members
		LLDP	Supports LLDP to allow switch to advise its identification and capability on the LAN
		LLDP-MED	Support LLDP-MED via IPv6.
		UDLD	UDLD (Unidirectional Link Detection) is a private protocol to detect a uni-directional fiber link between two Ethernet switches in order to prevent a looped network. UDLD is often used in switched Ethernet networks where Spanning-Tree is required to block one or more ports to prevent a loop from forming.
		Spanning Tree	Supports IEEE802.1d Spanning Tree and IEEE802.1w Rapid Spanning Tree; IEEE802.1s Multiple Spanning Tree
		BPDU GUARD	
		IPv6 Management	Allow the user access by IPv4 or IPv6,And IPv6 supports the following features. <input type="checkbox"/> IPv4/IPv6 Dual Protocol Stack <input type="checkbox"/> Auto Configuration <input type="checkbox"/> IPv6 Neighbor Discovery <input type="checkbox"/> ICMPv6 <input type="checkbox"/> SNMP over IPv6 <input type="checkbox"/> HTTP/HTTPS over IPv6 <input type="checkbox"/> TFTP over IPv6 <input type="checkbox"/> Ping over IPv6 <input type="checkbox"/> DHCPv6
		Quality of Service	The quality of service determined by port, Tag and IPv4 Type of service, IPv4 Different Service
		Class of Service	Supports IEEE802.1p class of service, per port provides 4 priority queues
		Port Security	Supports 100 entries of MAC address for static MAC and another 100 for MAC filter

Port Mirror	Supports 3 mirroring types: "RX, TX and Both packet"	Relay Alarm	Provides one relay output for port breakdown, power fail alarm. Alarm Relay current carry ability: 1A @ DC24V
IGMP	Supports IGMP snooping v1,v2 256 multicast groups and IGMP query	SNMP Trap	1. Cold start 2. Link down 3. Link up 4. Authorization fail
IP Security	Supports 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder.	DHCP	Provides DHCP Client/ DHCP Server/ Port and IP Binding
Login Security	Supports IEEE802.1X Authentication/RADIUS	DNS	Provide DNS client feature and support Primary and Secondary DNS server.
Flow Control	Supports Flow Control for Full-duplex and Back Pressure for Half-duplex	Firmware Update	Supports TFTP firmware update, TFTP backup and restore.
System Log	Supports System log record and remote system log server	Factory reset & Watchdog design	Factory reset bottom can restore all setting back to factory default and Watchdog design to automatically reboot switch under certain circumstances
SMTP	Supports SMTP Server and 6 e-mail accounts for receiving event alert	ifAlias	Each port allows importing 128bits of alphabetic string of word on SNMP and CLI interface
SNTP	Supports SNTP to synchronize system clock to Internet		
Bandwidth Control	Support ingress packet filter and egress packet limit The egress rate control supports all of packet type and the limit rates are 100K~102400Kbps(10/100), 100K~256000Kbps(1000) Ingress filter packet type combination rules are Broadcast/Multicast/Unknown Unicast packet, Broadcast/Multicast packet, Broadcast packet only and all of packet. The packet filter rate can be set from 100K~102400Kbps(10/100), 100K~256000Kbps(1000)		

\*Future Release  
\*\*Optional

## ORDERING INFORMATION

- **CES-3424-G**  
24 10/100TX + 4 1000 SFP Combo Managed Switch;  
0°C ~ 50°C
- **CES-3424-G-SD**  
24 10/100TX + 4 1000 SFP Combo SDN Managed Switch;  
0°C ~ 50°C

## OPTIONAL ACCESSORIES

### Mini GBIC (SFP)

- |  |  |
|--|--|
| ■ <b>8330-162</b> MINI GBIC 1000SX (LC/0.5km) Transceiver      | ■ <b>8330-188</b> LTSFP-1000BX-10KM Transceiver (WDM 1310) |
| ■ <b>8330-163</b> MINI GBIC 1000SX2 (LC/2km) Transceiver       | ■ <b>8330-189</b> LTSFP-1000BX-10KM Transceiver (WDM 1550) |
| ■ <b>8330-165</b> MINI GBIC 1000LX (LC/10km) Transceiver       | ■ <b>8330-186</b> LTSFP-1000BX-20KM Transceiver (WDM 1310) |
| ■ <b>8340-0591</b> MINI GBIC 1000LHX (LC/40km) Transceiver     | ■ <b>8330-187</b> LTSFP-1000BX-20KM Transceiver (WDM 1550) |
| ■ <b>8330-166</b> MINI GBIC 1000XD (LC/50km) Transceiver       | ■ <b>8330-180</b> LTSFP-1000BX-40KM Transceiver (WDM 1310) |
| ■ <b>8330-169</b> MINI GBIC 1000XD (LC/60km) Transceiver       | ■ <b>8330-182</b> LTSFP-1000BX-40KM Transceiver (WDM 1550) |
| ■ <b>8330-167</b> MINI GBIC 1000ZX (LC/80km) Transceiver       | ■ <b>8330-181</b> LTSFP-1000BX-60KM Transceiver (WDM 1310) |
| ■ <b>8330-170</b> MINI GBIC 1000EZ (120km) Transceiver         | ■ <b>8330-183</b> LTSFP-1000BX-60KM Transceiver (WDM 1550) |
| ■ <b>8330-168</b> MINI GBIC 1000T (100m) Transceiver           | ■ <b>8330-184</b> LTSFP-1000BX-80KM Transceiver (WDM 1490) |
| ■ <b>8330-061</b> 100Base LX 30KM, Single-mode, LC Transceiver | ■ <b>8330-185</b> LTSFP-1000BX-80KM Transceiver (WDM 1550) |
| ■ <b>8330-060</b> 100Base FX 2KM, Multi-mode, LC Transceiver   |  |

**WanDong Technology Co.,Ltd..**  
[www.wandong.com.tw](http://www.wandong.com.tw)  
[shsh0963@gmail.com](mailto:shsh0963@gmail.com)

© 2021 Copyright WanDong Technology Co.,Ltd. all rights reserved.  
 The revise authority rights of product specifications belong to WanDong Technology Co.,Ltd..  
 WanDong may make changes to specification and product descriptions at anytime, without notice.