C70 series

Master L2 Plus Managed Switches

C70-00B-01

C70-00E-01

C70-00F-01

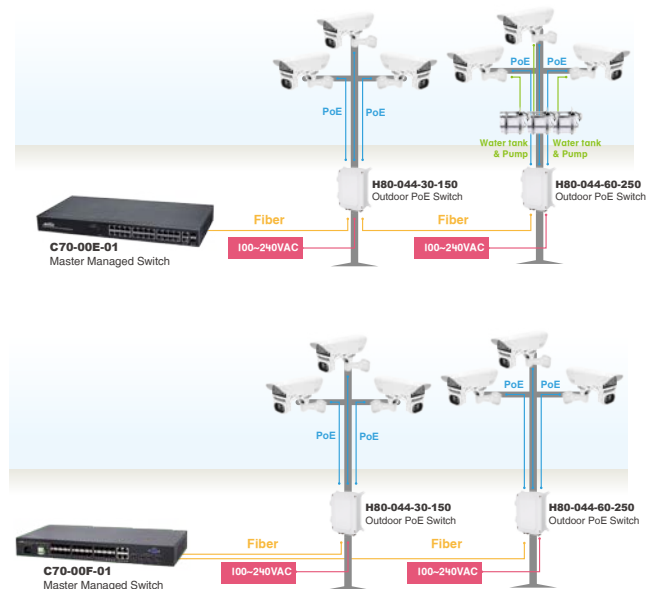| 802.1Q VLAN	RING	DHCP Server	Network Topology	L3 Static Routing	IPv6 Management	Fiber-Optical	Gigabit	30/60/95W PoE

The C70 series of Master L2 Plus Managed Switch, designed as a root switch to manage outdoor H80 series or industrial H70 series or indoor C50 series PoE Switch, enable them to the IP surveillance network. The C70 series provides multi-port Gigabit (10M/100M/1G) or SFP transceiver slots for flexible link. There are three sub models, including 28-port gigabit & 14-port gigabit with 2-port 10G & 24-port gigabit with 4-port 10G. The C70 series keeps L2 plus & basic L3 switch functions such as static route, QoS, security, spanning tree, cable length measurement, and SNMP v1/v2c/v3.

Features

- Layer 2 Switch
  - Fast recover <20ms of R-ring(C70-00F-01)
  - IPV4 and IPV6 protocol
  - IPV4 static route
  - 802.1d (STP), 802.1w (RSTP), 802.1s (MSTP)
  - SNMP v1/v2c/v3
  - Ethernet cable length measurement
  - DHCP Server
- IP Surveillance Controller
  - Automatically discovery for ONVIF camera
  - Generate camera topology automatically
  - Graphic grouping VLAN
  - Cable diagnostic
  - Topology view/Floor view/Google map
  - Monitor/Configure/Manage ONVIF camera remotely
- Flexible SFP transceiver ports for uplink
- Support 10G SFP+ ports for uplink (C70-00F-01 & C70-00B-01)
- Supports 10/100/1000Mbps data rates
- IEEE 802.3az Energy Efficient Ethernet standard for green power

Applications

Technical Specifications - Software

IP Surveillance Graphical User Interface Specifications

Auto Discovery	Discover H80 series PoE Switches and IP cameras complying ONVIF automatically
Topology View	Generate Topology map to manage H80 series PoE Switches & IP cameras complying ONVIF
Traffic Monitor	Comprehensive chart to show traffic status
Cable Diagnostic	Real time to verify the cable status
VLAN Grouping	Easy grouping IP cameras thru topology map

Layer 2 Switching Specifications

Spanning Tree Protocol (STP)	Standard Spanning Tree 802.1d, Rapid Spanning Tree (RSTP) 802.1w, Multiple Spanning Tree (MSTP) 802.1s
Trunking	Link Aggregation Control Protocol (LACP) IEEE 802.3ad up to 26 groups and up to 4 ports per group
VLAN	Port-based VLAN, 802.1Q tag-based VLAN, MAC-based VLAN, Management VLAN, Private VLAN Edge (PVE), Q-in-Q (double tag) VLAN, Voice VLAN, GARP VLAN Registration, Protocol (GVRP)
DHCP Relay	Relay of DHCP traffic to DHCP server in different VLAN, Works with DHCP Option 82
IGMP v1/v2/v3 Snooping	IGMP limits bandwidth-intensive multicast traffic to only the requesters, Supports 1024 multicast groups
IGMP Querier	Support a Layer 2 multicast domain of snooping, switches in the absence of a multicast router
IGMP Proxy	IGMP snooping with proxy reporting or report suppression actively filters IGMP packets in order to reduce load on the multicast router
MLD v1/v2 Snooping	Delivers IPv6 multicast packets only to the required receivers
Multicast VLAN Registration	Manually configured VLAN, called the multicast VLAN, to forward multicast traffic over Layer 2 network in conjunction with IGMP snooping

Layer 3 Switching Specifications

IPv4 Static Routing	IPv4 Unicast: Static routing
IPv6 Static Routing	IPv6 Unicast: Static routing
DHCP Server	Assign IP to DHCP clients

Security

Secure Shell (SSH)	Secures Telnet traffic in or out of the switch, SSH v1 and v2 are supported
Secure Sockets Layer (SSL)	SSL encrypts the http traffic, allowing advanced secure access to the browser-based management GUI in the switch
IEEE 802.1X	IEEE802.1X: RADIUS authentication, authorization and accounting, MD5 hash, guest VLAN, single/multiple host mode and single/multiple sessions, Supports IGMP-RADIUS based 802.1X, Dynamic VLAN assignment
Layer 2 Isolation Private VLAN Edge	PVE (also known as protected ports) provides L2 isolation between clients in the same VLAN. Supports multiple uplinks
Port Security	Locks MAC addresses to ports, and limits the number of learned MAC address
IP Source Guard	Prevents illegal IP address from accessing to specific port in the switch
RADIUS/ TACACS+	Supports RADIUS and TACACS+ authentication. Switch as a client
Storm Control	Prevents traffic on a LAN from being disrupted by a broadcast, multicast, or unicast storm on a port
DHCP Snooping	A firewall between untrusted hosts and trusted DHCP servers
ACLs	Supports up to 512 entries. Drop or rate limitation based on • Source and destination MAC, VLAN ID or IP address, protocol, port, • Differentiated services code point (DSCP) / IP precedence • TCP/ UDP source and destination ports • 802.1p priority • Ethernet type • Internet Control Message Protocol (ICMP) packets • TCP flag
Loop Protection	Prevent unknown unicast, broadcast and multicast loops in Layer 2 switching configurations

QoS

Hardware Queue	8 hardware queues
Scheduling	Strict priority and weighted round-robin (WRR), Queue assignment based on DSCP and class of service
Classification	Port based, 802.1p VLAN priority based, IPv4/IPv6 precedence / DSCP based, Differentiated Services (DiffServ), Classification and re-marking ACLs
Rate Limiting	Ingress policer, Egress shaping and rate control, Per port

Management software

Dying Gasp	Support Dying Gasp notification on loss of Power
HW Monitoring	Temperature Detection and Alarm
HW Watchdog	Resume operation from CPU hang up
IEEE 1588v2 PTP	Precision Time Protocol
Remote Monitoring (RMON)	RMON groups 1,2,3,9 (history, statistics, alarms, and events) for enhanced traffic management, monitoring and analysis
Port Mirroring	Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe. Up to N-1 (N is Switch's Ports) ports can be mirrored to single destination port. A single session is supported.
UPnP	The Universal Plug and Play Forum, an industry group of companies working to enable device-to-device interoperability by promoting Universal Plug and Play
s-Flow	The industry standard for monitoring high speed switched networks. It gives complete visibility into the use of networks enabling performance optimization, accounting/billing for usage, and defense against security threats
IEEE 802.1ab (LLDP)	Used by network devices for advertising their identities, capabilities, and neighbors on an IEEE 802ab local area network Support LLDP-MED extensions
Web GUI Interface	Built-in switch configuration utility for browser-based device configuration
CLI	configure/manage switches in command line modes
Dual Image	Independent primary and secondary images for backup while upgrading
SNMP	SNMP v1, v2c and v3 supporting traps, and SNMP v3 user-based security model (USM)
Firmware Upgrade	Web browser upgrade (HTTP/ HTTPs) and TFTP
Network Time Protocol (NTP)	A networking protocol for clock synchronization between computer systems over packet-switched
Others	HTTP/HTTPs, SSH, DHCP Client/ DHCPv6 Client, Cable Diagnostic, Ping, Syslog, IPv6 Management

Technical Specifications - Hardware

	C70-00B-01	C70-00E-01	C70-00F-01
Network Specifications			
Gigabit Ports (RJ45)	2	24	-
Gigabit Ports (SFP)	12	-	20
Gigabit RJ45/SFP Combo Ports	-	2	4
1G/10G SFP+ Ports	2	-	4
Total Ports	16	26	28
Forwarding Capacity	50.592 Mpps	38.7Mpps	95.232Mpps
Mac Table	32 K	8K	32K
Jumbo Frames	10,056 Bytes	9,216 Bytes	10,056 Bytes
Switching Capacity	68Gbps	52Gbps	128Gbps
Power Specifications			
Input Voltage	100VAC ~ 240VAC / 24-48VDC	100VAC ~ 240VAC	100VAC ~ 240VAC / 24-48VDC
Power Consumption	30W	25W	40W
Mechanical Specifications			
Dimensions (W x D x H)	280 x 134 x 44 mm	442 x 211 x 44 mm	442 x 211 x 44 mm
Weight	1 KG	2.6 KG	3.1 KG
Connectors	RJ45x2, SFP Slot x12, SFP+ Slotx2, Console RJ45x1	RJ45x26, SFP Slot x2, Console RJ45x1	RJ45x4, SFP Slot x24, SFP+ Slot x4, Console DB9x1
Environmental Specifications			
Operating Temperature	-20°C~60°C (-4°F~140°F)	0°C ~ 50°C (32°F ~ 122°F)	-20°C~60°C (-4°F~140°F)
Storage Temperature	-20°C ~ 70°C (-4°F ~ 158°F)	-20°C ~ 70°C (-4°F ~ 158°F)	-20°C ~ 70°C (-4°F ~ 158°F)
Operating Humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	5% ~ 90% non-condensing
Certifications			
EMC	CE, FCC	CE, FCC	CE, FCC
Safety	EN60950-1,IEC60950-1	EN60950-1,IEC60950-1	EN60950-1,IEC60950-1

Ordering Information

Switches		
C70-00B-01	**C70-00E-01**	**C70-00F-01**
• Indoor 2xGbE RJ45 + 12xGbE SFP + 2x1G/10G SFP+ • 100~240VAC, 24-48VDC	• Indoor 24xGbE + 2xCombo GbE (SFP & RJ45) • 100~240VAC	• Indoor 20xGbE SFP + 4xCombo GbE (SFP & RJ45) + 4x1G/10G SFP+ • 100~240VAC, 24-48VDC

Optional Accessories

SFP Modules				
SFP-SX-X5 Gigabit SFP Transceiver	**SFP-SX-02** Gigabit SFP Transceiver	**SFP-LX-10** Gigabit SFP Transceiver	**SFP-LX-40** Gigabit SFP Transceiver	**SFP-TX-X1** Gigabit SFP Transceiver
• MMF • 0.5 km • 0°C ~70°C	• MMF • 2 km • 0°C ~70°C	• SMF • 10 km • 0°C ~70°C	• SMF • 40 km • 0°C ~70°C	• RJ45 • 100m • 0°C ~70°C

SFP+ Transceiver				
SFPP-SR-X3 10G SFP+ Transceiver	**SFPP-LR-10** 10G SFP+ Transceiver	**SFPP-ER-40** 10G SFP+ Transceiver	**SFPP-ZR-80** 10G SFP+ Transceiver	**SFPP-TX-X03** 10G SFP+ Transceiver
• MMF • 0.3 km • 0°C ~70°C	• SMF • 10 km • 0°C ~70°C	• SMF • 40 km • 0°C ~70°C	• SMF • 80 km • 0°C ~70°C	• RJ45 • 30 m • 0°C ~70°C

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