

# D60 series

## Industrial L2 PRO Gigabit PoE Switches























The D60 series of Industrial Pro L2 Plus Managed PoE Switches are designed with 6KV Ethernet port surge protection and harden-graded standard to operate between -40°C and 75°C for harsh weather conditions. They enable outdoor connections of PoE PDs to the network such as outdoor IP cameras, wireless APs, and other outdoor industrial applications.

The D60 series provides multi-port Gigabit PoE (10M/100M/1G) delivering data and power to PoE PDs over a single network cable and additional SFP transceiver slots for flexible uplink. The D60 series has three sub models classified as power source equipment (PSE) and provide PoE budget up to 30W or 60W per port.

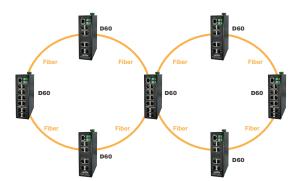
Besides general functions of L2 plus & basic L3 switch such as QoS, security, spanning tree, cable length measurement, and SNMP v1/v2c/v3, a dedicated web graphic user interface of IP surveillance is easy to configure and manage IP device. It automatically generates network topology maps, cable diagnostic, and PoE management.

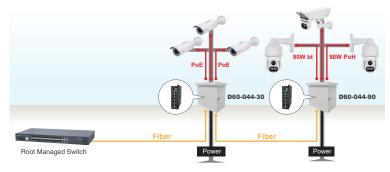
#### **Features**

- Layer 2 Switch
  - 802.1d (STP), 802.1w (RSTP), 802.1s (MSTP)
  - Loop protection
  - SNMP v1/v2c/v3
  - QoS
  - VLAN
  - Ethernet cable length measurement
  - DHCP Server
- Network Topology System
  - · Automatic discovery for ONVIF camera
  - Generates camera topology map automatically
  - Cable diagnostic & reboot camera remotely
  - PoE management
  - Topology view / Floor view / Google map
  - Monitor / Configure / Manage ONVIF camera thru web
- · Flexible SFP transceiver ports for uplink
- Operating temperature between -40°C and 75°C
- Compliant IEEE802.3at 30W per port (D60-044-30, D60-084-30)
- 90W bt/PoH PoE per port (D60-044-90)
- 90W bt PoE per port (D60-044-91)
- Supports 10/100/1000Mbps data rates
- 6KV PoE surge protection
- IEEE 802.3az Energy Efficient Ethernet standard for green power

#### **Applications**

#### **Dual Ring**



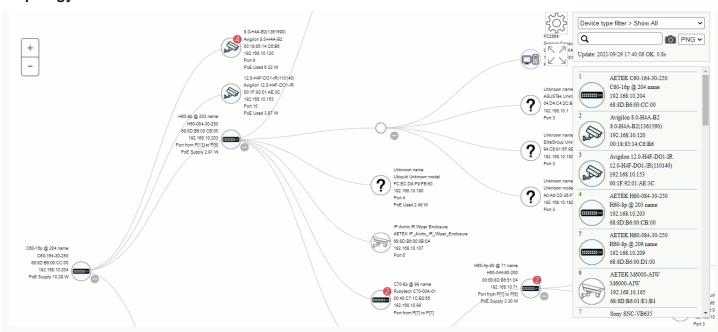


#### **IP Camera Controller Features**

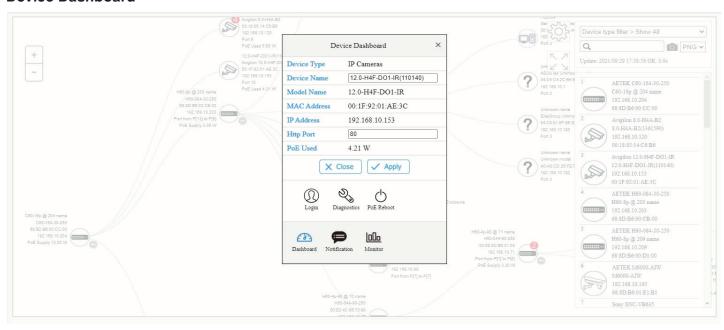
#### **Device List**

now 10 ∨ entries						Search:
Status	Device Type	♦ Model Name	Device Name	<b>\$</b>	MAC	<b> </b>
Online	PoESW	H60-084-30-250	H60-8p @ 203 name		68:8D:B6:00:CB:00	192.168.10.203
Online	PoESW	H60-084-30-250	H60-8p @ 209 name		68:8D:B6:00:D1:00	192.168.10.209
Online	IPMX	M6000-AIW	M6000-AIW		68:8D:B6:01:E1:B1	192.168.10.165
Online	IP Camera	SNC-VB635	Sony		D8:D4:3C:DD:F5:C7	192.168.10.122
Online	IP Camera	WV-S1131	Panasonic_WV-S1131		BC:C3:42:71:79:D0	192.168.10.104
Online	IPSG	SD-504	SD-504		68:8D:B6:00:00:01	192.168.10.108
Online	PC	General Computer	FC2564		00:50:56:2D:FA:AC	192.168.10.201
Online	Others	Unknown model	Unknown name		04:D4:C4:2C:B5:EC	192.168.10.1
Online	Others	Unknown model	Unknown name		94:C6:91:5F:9E:EA	192.168.10.180
Online	PC	General Computer	MIS-TEMP-NB4		A0:A8:CD:26:FE:FD	192.168.10.192
nowing 1 to 10 of 29 entries					Pr	evious 1 2 3 Nex

#### **Topology View**



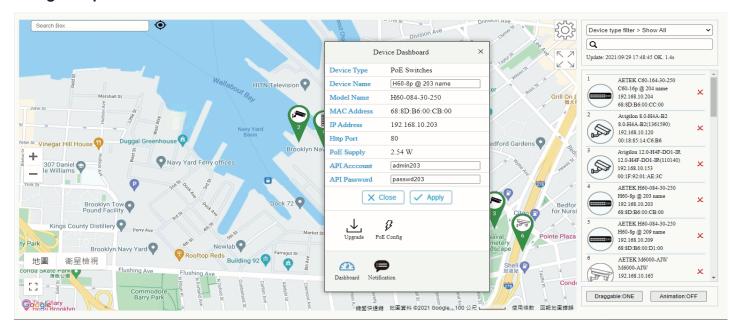
#### **Device Dashboard**



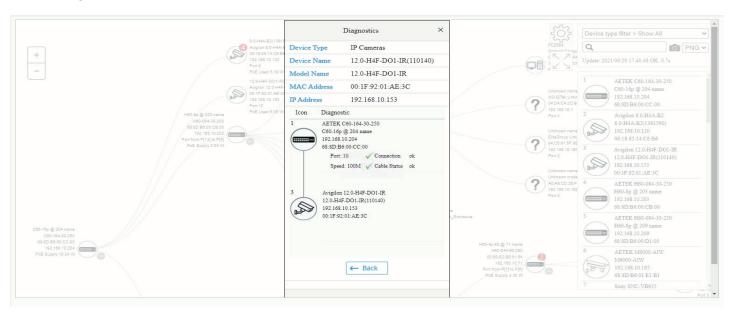
#### Floor Map View



#### **Google Map View**



#### **Cable Diagnostics**



#### **PoE Features**

- IEEE802.3at (PoE+ 30W),bt / PoH 90W
- Max. allowed 30W / 90W per port
- Port status table

PoE Port Configuration					
Local Port	PD Class	Power Used	Current Used	Priority	Port Status
1	-	0.00 [W]	0 [mA]	high	No PD detected
2	-	0.00 [W]	0 [mA]	high	No PD detected
3	-	0.00 [W]	0 [mA]	high	No PD detected
4	class0	2.65 [W]	50 [mA]	high	on
5	-	0.00 [W]	0 [mA]	high	No PD detected
6	-	0.00 [W]	0 [mA]	high	No PD detected
7	-	0.00 [W]	0 [mA]	high	No PD detected
8	-	0.00 [W]	0 [mA]	high	No PD detected
Total		2.00 [W]			
Apply Refresh					

## **Specifications - Software**

PoE Management				
Port Configuration	Supports per port PoE configuration function			
PoE Scheduling	Supports per port PoE scheduling to turn on/off the PoE devices (PDs).			
Auto-checking	Check the link status of PDs. Reboot PDs if there is no responses			
Power Delay	The switch provides power to the PDs based on delay time when PoE switch boots up, in order to protect switch from misuse of the PDs			
IP Surveillance Graphic	cal User Interface Specifications			
Automatic Discovery	Discover IP cameras complying ONVIF automatically			
Topology View	Generate Topology maps to manage IP cameras			
Floor view	It's easy to drag and drop PoE devices and help you to build smart workforces			
Map view	Enhance efficiency to drag and drop devices and monitor surroundings on google map			
Traffic Monitoring	Comprehensive chart to show traffic status			
PoE Management	Reboot IP camera, Scheduling PoE on/off, alive checking, Power delay as PoE switch boots up, PoE configuration			
Layer 2 Switching Spe	cifications			
Spanning Tree Protocol	MAC Bridges Standard Spanning Tree (STP) 802.1d, Rapid Spanning Tree (RSTP) 802.1w, Multiple Spanning Tree (MSTP) 802.1s			
IP/Mac Port Trunking	Link Aggregation Control Protocol (LACP) IEEE 802.3ad , Static aggregation.			
VLAN	Supports up to 4K VLANs simultaneously (out of 4096 VLAN IDs), Port-based VLAN, 802.1Q tag-based VLAN			
IGMP v1/v2 Snooping	IGMP limits bandwidth-intensive multicast traffic to only the requesters.			
Layer 3 Switching Spe	cifications			
DHCP Server	Assign IP to DHCP clients			
Security				
Port Security	Locks MAC addresses to ports, and limits the number of learned MAC address			
Storm Control	Prevents traffic on a LAN from being disrupted by a broadcast, multicast, or unicast storm on a port			
Loop Protection	To prevent unknown unicast, broadcast and multicast loops in Layer 2 switching configurations.			
QoS				
Classification	Port based, 802.1p VLAN priority based			
Bandwidth Control	Ingress policer, Egress shaping and rate control, Per port			
Management software				
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.			
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			
SNMP	SNMP version1, 2c, 3			
Flow Control	The IEEE 802.3x 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			
Firmware Upgrade	Web browser upgrade HTTP and TFTP			
NTP	Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems over packet-switched			
Other Management	System, HTTP, HTTPS, DHCP Client, Cable Diagnostics, Syslog, IPV4/IPV6 Management, SSH, Telnet			

## **Specifications**

	D60-044-30	D60-044-90	D60-044-91	D60-084-30	
Networking Specifications					
Total Gigabit Ports	8	8	8	12	
Gigabit PoE Ports (10M/100M/1G)	4 x 30W PoE	4 x 90W bt / PoH	4 x 90W bt	8 x 30W PoE	
SFP Slots (100M/1G)	2	2	2	4	
Gigabit Ports (RJ45)	2	2	2	-	
Forwarding Capacity	11.904Mpps	11.904Mpps	11.904Mpps	17.856Mpps	
Mac Table	8 k	8 k	8 k	8k	
Jumbo Frames	9,216 Bytes	9,216 Bytes	9,216 Bytes	9,216 Bytes	
Switching Capacity	16 Gbps	16 Gbps	16 Gbps	24 Gbps	
Power Specifications					
Input Voltage	48VDC ~ 56VDC x2	48VDC ~ 56VDC x2	48VDC ~ 56VDC x2	48VDC ~ 56VDC x2	
Output Voltage Range /per PoE Port	PoE IEEE 802.3af (Max. 15.4W) output PoE+ IEEE802.3at (Max. 30W) output	PoE IEEE 802.3af (Max. 15.4W) output PoE+ IEEE802.3at (Max. 30W) output bt/PoH PoE (Max. 90W) output	PoE IEEE 802.3af (Max. 15.4W) output PoE+ IEEE802.3at (Max. 30W) output bt PoE (Max. 90W) output	PoE IEEE 802.3af (Max. 15.4W) output PoE+ IEEE802.3at (Max. 30W) output	
PoE Power Budget	120W	360W	360W	240W	
Surge Protection /each PoE Port	6KV	6KV	6KV	6KV	
Mechanical Specifications					
Dimensions (L x W x H)	43.5x 150x 122mm	43.5x 150x 122mm	43.5x 150x 122mm	43.5x 150x 122mm	
Weight	1KG	1KG	1KG	1KG	
DI/DO	1/1	1/1	1/1	1/1	
Console	RJ45	RJ45	RJ45	RJ45	
Reset Button	Yes	Yes	Yes	Yes	
Environmental Specifications	5				
Operating Temperature	-40°C~75°C (-40°F~167°F)	-40°C~75°C (-40°F~167°F)	-40°C~75°C (-40°F~167°F)	-40°C~75°C (-40°F~167°F)	
Storage Temperature	-40°C~85°C (-40°F~185°F)	-40°C~85°C (-40°F~185°F)	-40°C~85°C (-40°F~185°F)	-40°C~85°C (-40°F~185°F)	
Operating Humidity	5%~95% non-condensing	5%~95% non-condensing	5%~95% non-condensing	5%~95% non-condensing	
Certifications					
EMC	CE,FCC,C-Tick	CE,FCC,C-Tick	CE,FCC,C-Tick	CE,FCC,C-Tick	
Surge	EN61000-4-5	EN61000-4-5	EN61000-4-5	EN61000-4-5	

## **Ordering Information**

PoE Switches					
D60-044-30  • 4xGbE PoE (30W) + 2xGbE SFP + 2xGbE RJ45		D60-044-90  • 4xGbE bt / PoH PoE (90W) + 2xGbE SFP + 2xGbE RJ45			
<b>D60-084-30</b> • 8xGbE PoE (30W) + 4xGbE SFP		<b>D60-044-91</b> • 4xGbE bt PoE (90W) + 2xGbE SFP + 2xGbE RJ45			

#### **SFP Modules**



SFP-ISX-X5 Industrial Gigabit SFP Transceiver

- MMF 0.5 km -40°C ~85°C



#### SFP-ISX-02

Industrial Gigabit SFP Transceiver





#### SFP-ILX-10

Industrial Gigabit SFP Transceiver

- SMF 10 km -40°C ~85°C



SFP-ILX-40

- Industrial Gigabit SFP Transceiver

  - SMF 40 km -40°C ~85°C



**Industrial Power Supply** 



#### NDR-120-48 Indoor Industrial Din Rail Power Supply, 48~55VDC/120W, -20°C ~ 70°C



NDR-240-48 Indoor Industrial Din Rail Power Supply, 48~55VDC/240W, -20°C ~ 70°C



NDR-480-48 Indoor Industrial Din Rail Power Supply, 48~55VDC/480W, -20°C ~  $70^{\circ}$ C



HLG-120H-54 Outdoor Industrial Power Supply 54VDC/120W, -40°C ~ 70°C, IP67



HLG-240H-54 Outdoor Industrial Power Supply 54VDC/240W, -40°C ~ 70°C, IP67