

# H60-022-90-DC

IP67 / IK10 L2 PRO Gigabit PoE Switches  
w/ 12~56V DC Input



The H60-022-90-DC of IP67/IK10 Pro L2 Managed PoE Switches are designed with 6KV Ethernet port surge protection, 10KV surge protection in DC Input, and harden-graded standard to operate between -40° C and 65° 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.

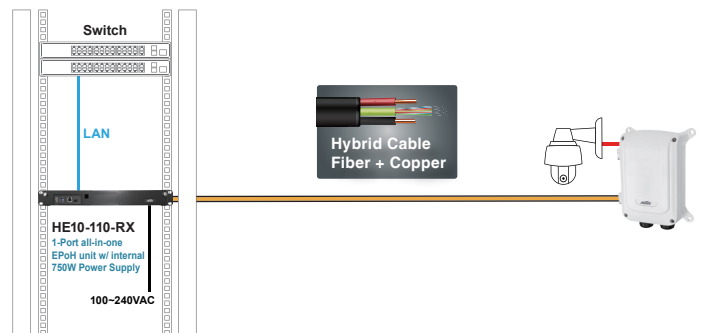
The H60-022-90-DC provides 2-port Gigabit PoE (10M/100M/1G) delivering data and power to PoE PDs over a single network cable and additional SFP transceiver slots for flexible uplink. The H60-022-90-DC provide PoE budget up to 90W per port.

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 ONVIF cameras. It automatically generates camera 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
- IP67 standard
- IK10 impact rated cast aluminum housing
- Operating temperature between -40°C and 65°C
- Compliant 90W bt PoE per port
- Supports 10/100/1000Mbps data rates
- 6KV PoE surge protection
- IEEE 802.3az Energy Efficient Ethernet standard for green power

## Applications



PSU Output Voltage	Cable Gauge (AWG)	Maximum PoE Power over Cable Distance by Gauge		
		80 W (802.3af/at PoE)	50 W (802.3af/at PoE)	17 W (802.3af PoE)
57V DC	12	700m / 2,296ft	1,000m / 3,280ft	2,400m / 7,874ft
	16	300m / 984ft	400m / 1,312ft	850m / 2,788ft

## Device List

Show  entries

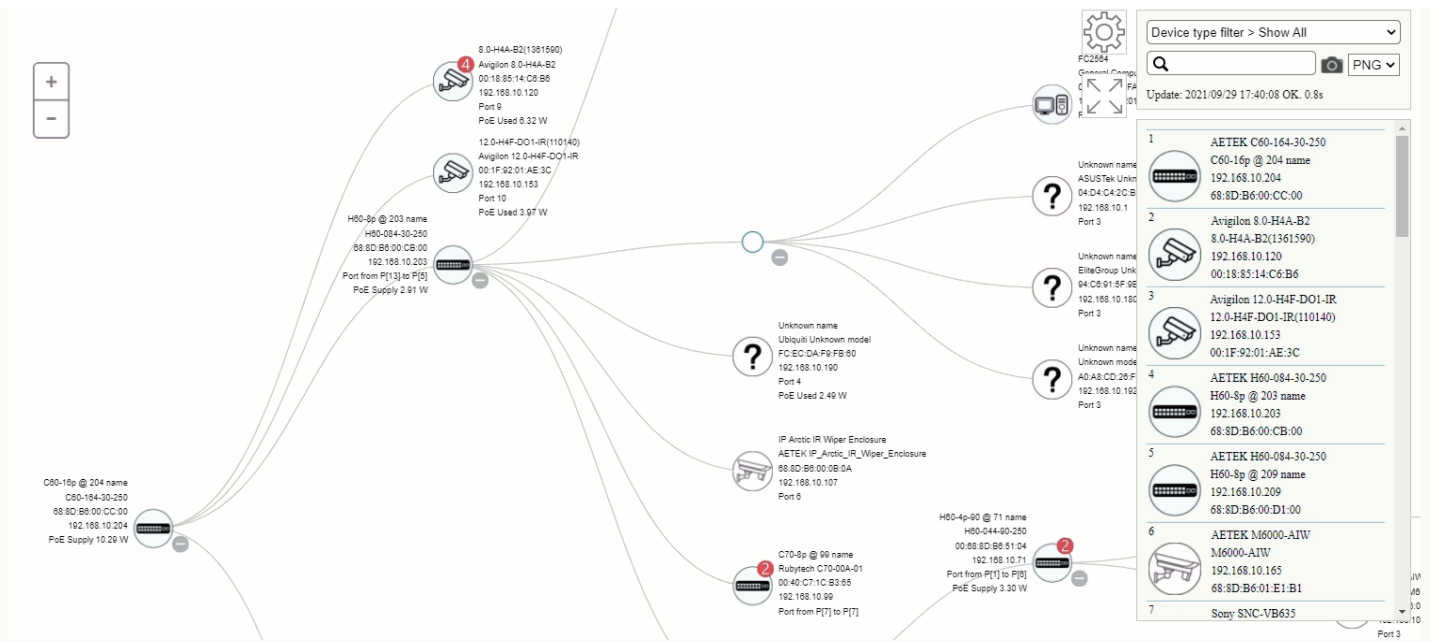
Status	Device Type	Model Name	Device Name	MAC	IP Address
Online	PoESW	H60-084-30-250	H60-8p @ 203 name	68:8D:B6:00:CB:00	192.168.10.203
Online	PoESW	H60-084-30-250	H60-8p @ 209 name	68:8D:B6:00:D1:00	192.168.10.209
Online	IPMX	M6000-AIW	M6000-AIW	68:8D:B6:01:E1:B1	192.168.10.165
Online	IP Camera	SNC-VB635	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

Showing 1 to 10 of 29 entries

Previous    Next

[Edit](#)

## Topology View



## Device Dashboard

The device dashboard provides detailed information and management options for a selected device.

Field	Value
Device Type	IP Cameras
Device Name	12.0-H4F-DO1-IR(110140)
Model Name	12.0-H4F-DO1-IR
MAC Address	00:1F:92:01:AE:3C
IP Address	192.168.10.153
Http Port	80
PoE Used	4.21 W

Management options: [Close](#) [Apply](#)

Actions: [Login](#) [Diagnostics](#) [PoE Reboot](#)

Navigation: [Dashboard](#) [Notification](#) [Monitor](#)

## Floor Map View

**Device Dashboard**

Device Type	PoE Switches
Device Name	H60-4p-90 @ 73 name
Model Name	H60-044-90-250
MAC Address	00:E0:4C:51:04:0A
IP Address	192.168.10.73
Http Port	80
PoE Supply	0 W
API Account	admin73
API Password	passwd73

Close Apply

Login Upgrade PoE Config Diagnostics

Dashboard Notification

Device type filter > Show All

Update: 2021/09/29 17:44:22 OK. 0.7s

- AETEK C60-164-30-250  
C60-16p @ 204 name  
192.168.10.204  
68:8D:B6:00:CC:00
- Avigilon 8.0-H4A-B2  
8.0-H4A-B2(1361590)  
192.168.10.120  
00:18:85:14:C6:B6
- Avigilon 12.0-H4F-DO1-IR  
12.0-H4F-DO1-IR(110140)  
192.168.10.153  
00:1F:92:01:AE:3C
- AETEK H60-084-30-250  
H60-8p @ 203 name  
192.168.10.203  
68:8D:B6:00:CB:00
- AETEK H60-084-30-250  
H60-8p @ 209 name  
192.168.10.209  
68:8D:B6:00:D1:00
- AETEK M6000-AIW  
M6000-AIW  
192.168.10.165

Draggable: ONE

## Google Map View

**Device Dashboard**

Device Type	PoE Switches
Device Name	H60-8p @ 203 name
Model Name	H60-084-30-250
MAC Address	68:8D:B6:00:CB:00
IP Address	192.168.10.203
Http Port	80
PoE Supply	2.54 W
API Account	admin203
API Password	passwd203

Close Apply

Upgrade PoE Config

Dashboard Notification

Device type filter > Show All

Update: 2021/09/29 17:48:45 OK. 1.4s

- AETEK C60-164-30-250  
C60-16p @ 204 name  
192.168.10.204  
68:8D:B6:00:CC:00
- Avigilon 8.0-H4A-B2  
8.0-H4A-B2(1361590)  
192.168.10.120  
00:18:85:14:C6:B6
- Avigilon 12.0-H4F-DO1-IR  
12.0-H4F-DO1-IR(110140)  
192.168.10.153  
00:1F:92:01:AE:3C
- AETEK H60-084-30-250  
H60-8p @ 203 name  
192.168.10.203  
68:8D:B6:00:CB:00
- AETEK H60-084-30-250  
H60-8p @ 209 name  
192.168.10.209  
68:8D:B6:00:D1:00
- AETEK M6000-AIW  
M6000-AIW  
192.168.10.165

Draggable: ONE Animation: OFF

## Cable Diagnostics

**Diagnostics**

Device Type	IP Cameras
Device Name	12.0-H4F-DO1-IR(110140)
Model Name	12.0-H4F-DO1-IR
MAC Address	00:1F:92:01:AE:3C
IP Address	192.168.10.153

Icon	Diagnostics
1	AETEK C60-164-30-250 C60-16p @ 204 name 192.168.10.204 68:8D:B6:00:CC:00 Port: 10 <input checked="" type="checkbox"/> Connection ok Speed: 100M <input checked="" type="checkbox"/> Cable Status ok
3	Avigilon 12.0-H4F-DO1-IR 12.0-H4F-DO1-IR(110140) 192.168.10.153 00:1F:92:01:AE:3C

Back

Device type filter > Show All

Update: 2021/09/29 17:48:48 OK. 0.7s

- AETEK C60-164-30-250  
C60-16p @ 204 name  
192.168.10.204  
68:8D:B6:00:CC:00
- Avigilon 8.0-H4A-B2  
8.0-H4A-B2(1361590)  
192.168.10.120  
00:18:85:14:C6:B6
- Avigilon 12.0-H4F-DO1-IR  
12.0-H4F-DO1-IR(110140)  
192.168.10.153  
00:1F:92:01:AE:3C
- AETEK H60-084-30-250  
H60-8p @ 203 name  
192.168.10.203  
68:8D:B6:00:CB:00
- AETEK H60-084-30-250  
H60-8p @ 209 name  
192.168.10.209  
68:8D:B6:00:D1:00
- AETEK M6000-AIW  
M6000-AIW  
192.168.10.165
- Sony SNC-VB635

## PoE Features

- bt 90W
- Max. allowed 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]				

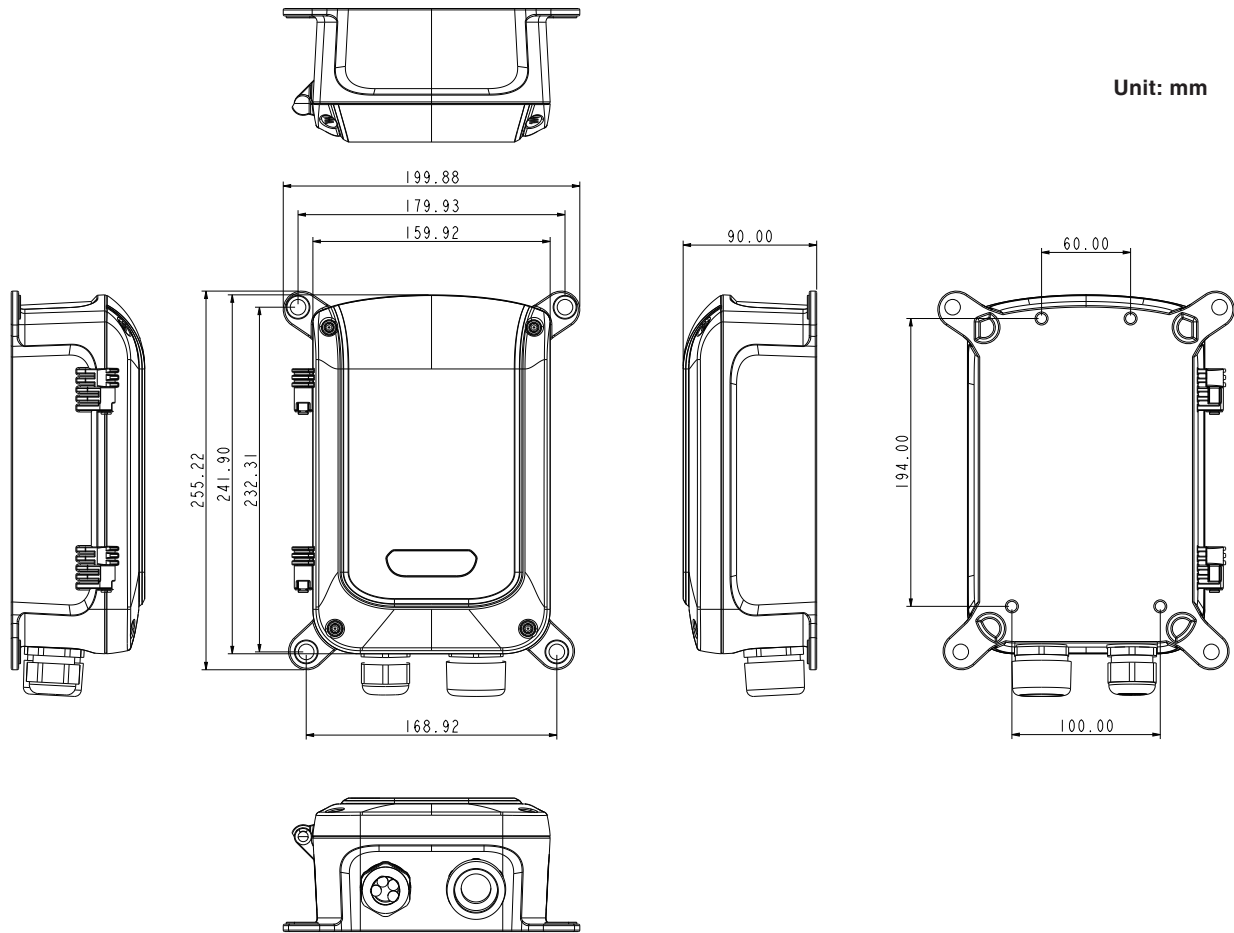
## Specifications - Software

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 Graphical 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 Specifications	
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 Specifications	
DHCP Server	Assign IP to DHCP clients
Security	
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
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.
RADIUS/ TACACS+	Supports RADIUS and TACACS+ authentication. Switch as a client
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, DHCP Client, Cable Diagnostics, Syslog, IPV4/IPV6 Management, SSH, Telnet

## Specifications

H60-022-90-DC	
<b>Networking</b>	
Total Gigabit Ethernet Ports	4
Gigabit Ethernet 802.3af/at/bt PoE Ports	2 x 90W bt/PoH PoE
Gigabit Ethernet SFP Ports (100M/1G)	2
Forwarding Capacity	5.952Mpps
Mac Table	8K
Jumbo Frames	9,216 Bytes
Switching Capacity	8 Gbps
<b>Power</b>	
Input Voltage	Dual 12-56V DC
ESD	Contact $\pm 6$ KV, Air $\pm 8$ KV
Output Power per PoE Port	PoE IEEE 802.3af (Max. 15.4W) PoE+ IEEE 802.3at (Max. 30W) PoE++ IEEE 802.3bt (Max. 90W)
Output PoE Power Pin Assignment	12(-), 36(+), 45(+), 78(-)
System Power Consumption	12V DC: 6.36W 24V DC: 6.72W 48V DC: 7.2W
PoE Output Power Budget	12V DC: 90W 24-56V DC: 180W
Surge Protection per PoE Port	6KV
Surge Protection for DC Power Input Differential	mode : $\pm 10$ KV Differential mode : $\pm 10$ KV
<b>Mechanical</b>	
Dimensions (W x D x H)	199.88 x 255.22 x 90 mm (7.9 x 10.0 x 3.5 in)
Weight	3.2 kg (7.05 lb)
Console	RJ45
Reset Button	2~7 sec.: Reset 7~12 sec.: Restore default
<b>Environmental</b>	
IP Rating	IP67
IK Rating	IK10
Operating Temperature	-40°C ~ 65°C (-40°F ~ 149°F)
Storage Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
Operating Humidity	5% ~ 95% non-condensing
<b>Certifications</b>	
EMC	CE, FCC, VCCI, C-Tick Class A
Surge	EN61000-4-5

## Dimension



## Optional Accessories

### SFP Modules



**SFP-ISX-X5**  
Industrial Gigabit SFP Transceiver

- MMF
- 0.5 km
- -40°C ~85°C



**SFP-ISX-02**  
Industrial Gigabit SFP Transceiver

- MMF
- 2 km
- -40°C ~85°C



**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

### Pole Mount Brackets



**AT-100**  
Pole Mount Adapter



**AT-101**  
Pole Mount Adapter

### Corner Mount Bracket



**AT-200**  
Corner Mount Adapter

### Fiber Splice Tray



**AT-302**  
Fiber Splice Tray