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Product Specifications

4-Port 10/100Mbps 802.3at/af PoE + 1-Port 10/100Mbps Desktop Switch

FSD-504HP

Version 3.0

Change History:

Revision:	Date:	Author:	Change List
Version 1.0	2013/10/25	Marc Liao	Initial Release
Version 1.1	2013/12/18	Marc Liao	Change 48V DC to 56V DC.
Version 2.0	2015/10/30	Marc Liao	Hardware Revision. - Appearance/dimension changed. - Change PoE Controller from Microsemi PD69104B to Texas Instruments TPS23861. - Change DC power input from DC 56V to DC 51V.
Version 3.0	2017/07/13	Brandon Wang	Hardware Revision. - Chipset change - Add the grounding hole

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1. PRODUCT DESCRIPTION

Easy Deployment for SOHO and Home Users

PLANET FSD-504HP, a **4-port 10/100Mbps 802.3at/af Power over Ethernet** + **1-port Fast Ethernet Switch**, can be easily and quickly deployed for SOHO and home-use PoE application environment by any users as it is compact in size and simple to install. The FSD-504HP is definitely an ideal solution for SOHO and home users as it has the following advanced features:

- **4-port PoE, 60-watt PoE budget**
- **One 10/100Mbps uplink port**
- **Can extend distance of up to 250m in the extend mode**
- **30-watt power output at speed of 10Mbps**
- **Desktop palm-size design**

Centralized Power Distribution for Small Ethernet Networking

The FSD-504HP has a total PoE budget of **60 watts**, which is an ideal solution to meeting the demand for sufficient PoE power for network applications. The four 802.3at/af PoE ports provide PoE power injector function which is able to drive two IEEE 802.3at compliant powered devices or four IEEE 802.3af compliant powered devices. The FSD-504HP also provides a simple, cost-effective and non-blocking wire-speed performance. It comes with a palm-size metal housing, suitable for the desktop deployment of SOHO or home-use network environment.

Innovative Port-based VLAN Protection features

The FSD-504HP features "Port-based VLAN Protection" whose ports can be isolated from each other via one DIP switch. This can help to prevent the IP camera's multicast or broadcast storm from influencing each other.

802.3at/af PoE Power and Ethernet Data Transmit Distance Extension

The built-in solid DIP switch provides **"Standard"** and **"Extend"** operation modes. The FSD-504HP operates as a normal IEEE 802.at/af PoE Switch in the **"Standard"** operation mode. In the **"Extend"** operation mode, the FSD-504HP operates on a per-port basis at 10Mbps duplex operation but can support 30-watt PoE power output over a distance of up to 250 meters overcoming the 100m limit on Ethernet UTP cable. With this brand-new feature, the FSD-504HP provides an additional solution for 802.3at/af PoE distance extension, thus saving the cost of Ethernet cable installation.

Guaranteed Protection for a Smooth Operation

The FSD-504HP protects against the ESD 6KV surge to improve product stability and also protects users' networks from devastating ESD attacks, making sure the flow of operation does not fluctuate.

Environment-friendly, Fanless Design for Silent Operation

The FSD-504HP comes with a desktop-sized, compact metal housing, making the placement of the unit convenient. It features a ventilated construction in which a cooling fan is not necessary, thereby making its operation noiseless. Moreover, the FSD-504HP is able to operate reliably and stably in any environment without affecting its performance. The deployment of PoE PDs with constant power feeding can be easily and quickly done.

Easy Cable Connection

With data switching and Power over Ethernet integrated into one unit, the FSD-504HP reduces cabling requirements and eliminates the need for electrical outlets on the wall, ceiling or any unreachable place. A wire that carries both data and power can lower the installation costs, simplify the installation effort and eliminate the need for electricians or extension cords. With 4 PoE interfaces, the FSD-504HP is ideal for small businesses and workgroups making the deployment of the PoE facility including wireless access points, IP-based surveillance camera and IP phones in any places easier, more efficient and more cost-effective.

2. PRODUCT FEATURES

➢ RJ45 Interface

- 5 10/100Mbps Fast Ethernet ports
- 4 ports supporting 51V DC power to PoE powered device

➢ Power over Ethernet

- Complies with IEEE 802.3af/at Power over Ethernet end-span + mid-span PSE
- Up to 4 IEEE 802.3af/2 IEEE 802.3at devices powered
- Supports PoE power up to 30 watts for each PoE port
- 60-watt PoE budget
- Hardware-based DIP switch for "Standard" and "Extend" mode selection; the "Extend" mode features 30-watt PoE transmit distance of 250m at speed of 10Mbps and VLAN isolation
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m in the standard mode

➢ Switching

- Hardware-based 10/100Mbps auto-negotiation and auto MDI/MDI-X
- Flow control for full duplex operation and back pressure for half duplex operation
- 1536bytes packet size support
- Integrates address look-up engine, supporting 1K absolute MAC addresses
- Automatic address learning and address aging
- Solid DIP switch to isolate ports to prevent broadcast storm and defend DHCP spoofing

➢ Hardware

- Desktop palm size
- LED indicators for PoE ready/activity and LINK/ACT
- 6KV lightning protection
- One 51V DC power jack

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3. PRODUCT SPECIFICATIONS

3.1 MAIN COMPONENTS

Switch ASIC:	IC Plus IP175G x 1
PoE Control:	IC Plus IP804 x 1
Power Adapter:	SHENZHEN HEWEISHUN
	BN031-A65051 x1
	Input: 100-240V, 50/60Hz 1.5A
	Output: 51V, 1.25A

3.2 FUNCTION SPECIFICATIONS

Model	FSD-504HP 4-port 10/100Mbps 802.3af/at PoE + 1-port 10/100Mbps Desktop Switch
Hardware Specifications	
Network Connector	5-port RJ45 for 10/100BASE-TX, auto MDI/MDIX
PoE Inject Port	4-port with 802.3af/at PoE injector function (Port 1 to Port 4)
LED Display	**System:** Power (Orange) **Per PoE port:** PoE (Orange, Port 1 to Port 4) LNK/ACT (Green, Port 1 to Port 5)
DIP Switch	Standard mode for 100m Extend mode for 250m (Based on the cable category)
Switch Architecture	Store and Forward switch architecture
MAC Address Table	1K MAC address table with auto learning function
EST Protection	6KV
Switch Fabric	1Gbps
Switch Throughput	0.74Mpps @64bytes
Maximum Packet Size	1536bytes
Flow Control	Back pressure for half duplex. IEEE 802.3x pause frame for full duplex
Power Requirements	51V DC, 1.25A.
Power Consumption	Max. 63 watts, 214 BTU
Dimensions (W x D x H)	100 x 100 x 26 mm
Weight	257g
Power over Ethernet	
PoE Standard	IEEE 802.3af Power over Ethernet/PSE IEEE 802.3at Power over Ethernet Plus/PSE
PoE Power Supply Type	End-span + mid-span
Power Pin Assignment	1/2 (+), 4/5(+), 3/6(-), 7/8(-)
PoE Power Output	Per Port 51V DC, 300mA. max. 15.4 watts (IEEE 802.3af) Per Port 51V DC, 600mA. max. 30 watts (IEEE 802.3at)

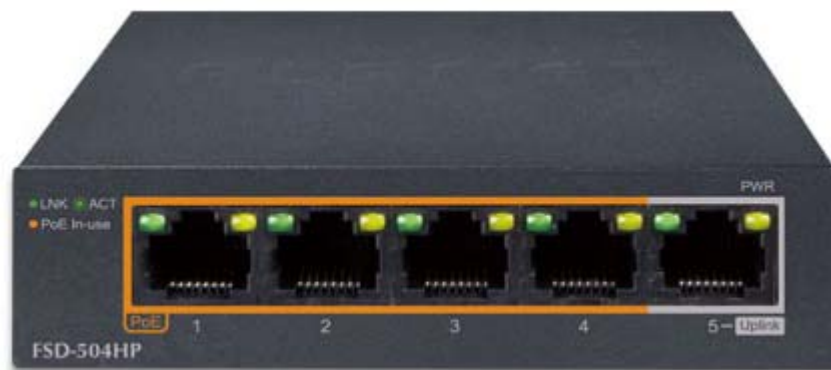| PoE Power Budget	60 watts
Number of PDs, 7 watts	4
Number of PDs, 15.4 watts	4
Number of PDs, 30 watts	2
Standard Conformance	
EMI Safety	FCC, CE
Standard Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3x Flow Control IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus
Environment	
Operating Environment	0 ~ 50 degrees C
Storage Environment	-10 ~ 70 degrees C
Operating Humidity	5 ~ 95%, relative humidity, non-condensing
Storage Humidity	5 ~ 95%, relative humidity, non-condensing

3.3 PHYSICAL SPECIFICATIONS:

➢   **Dimensions (W x D x H):**

100 x 100 x 26 mm

➢   **Weight:**

257g

➢   **Front Panel:**

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➢ **Rear Panel:**

➢ **LED Definition**

■ **System**

LED	Color	Function
PWR	Orange	**Lights** to indicate the Switch has power.

■ **Per 10/100Mbps Port**

LED	Color	Function
PoE	Orange	**Lights** to indicate the port is providing 51V DC in-line power to remote PoE PD.
LNK/ACT	Green	**Lights** to indicate the link through that port is successfully established at 10/100Mbps. **Blinks** to indicate that the Switch is actively sending or receiving data over that port.

3.4 ENVIRONMENTAL SPECIFICATIONS

➢ **Operating:**

Temperature: 0°C ~ 50 degrees C

Relative Humidity: 5% ~ 95% (non-condensing)

➢ **Storage:**

Temperature: -10°C ~ 70 degrees C

Relative Humidity: 5% ~ 95% (non-condensing)

3.5 ELECTRICAL SPECIFICATION

DC Power Input Voltage:		DC 51V, 1.25A.
Power Consumption (System on):	110V	**1.1** watts/3.8 BTU
	220V	**1.2** watts/4.1 BTU
Power Consumption (steady) **(Ethernet Full Loading):**	110V	**1.4** watts/4.8 BTU
	220V	**1.2** watts/4.1 BTU
Power Consumption (operating) **(Ethernet Full Loading):**	110V	**1.4** watts/4.8 BTU
	220V	**1.3** watts/4.4 BTU
Power Consumption **(PoE Full Loading + Ethernet Full Loading):**	110V	**98** watts/334 BTU
	220V	**97** watts/331 BTU

3.6 REGULATORY COMPLIANCE

FCC Part 15 Class B, CE

3.7 RELIABILITY

MTBF > 50,000 hrs @ 25 degrees C

3.8 BASIC PACKAGING

- ■ FSD-504HP x 1
- ■ User's Manual x 1
- ■ 51V DC Power Adapter x 1
- ■ Power Cord x 1
- ■ Foot Pad x 4

3.9 PACKING DIMENSIONS

Box Dimensions (W x D x H): 237 × 140 × 70 mm

Carton Dimensions (W x D x H): 491 × 380 × 330 mm

Total Weight: 1.4kg

Quantity: 20pcs. in one carton