



KPW-300T, KPW-1000T

1U Rack Mountable Switching

Power Supply for PoE/PoE+ applications

User's Guide



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TRADEMARKS

Ethernet is a registered trademark of Xerox Corp.

FCC NOTICE

This device complies with Class A Part 15 the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received including the interference that may cause.

CE NOTICE

Marking by the symbol indicates compliance of this equipment to the EMC directive of the European Community. Such marking is indicative that this equipment meets or exceeds the following technical standards:

EMC Class A

EN55022: CISPR22 Class A

EN61000-3-2

EN61000-3-3

EN 55024:

IEC 61000-4-2

IEC 61000-4-3

IEC 61000-4-4

IEC 61000-4-5

IEC 61000-4-6

IEC 61000-4-8

IEC 61000-4-11

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Model Definition



KPW-300T-xx Front Panel



KPW-1000T-xx Front Panel



KPW-300T-xx KPW-1000T-xx Rear Panel

Model Options	Input	Output
KPW-300T-48	AC 100~240V	+48VDC / 6.25A, 300W
KPW-300T-52	AC 100~240V	+52VDC / 5.77A, 300W
KPW-300T-54	AC 100~240V	+54VDC / 5.56A, 300W
KPW-1000T-48	AC 100~240V	+48VDC / 20.8A, 1000W
KPW-1000T-52	AC 100~240V	+52VDC / 19.2A, 1000W
KPW-1000T-54	AC 100~240V	+54VDC / 18.5A, 1000W

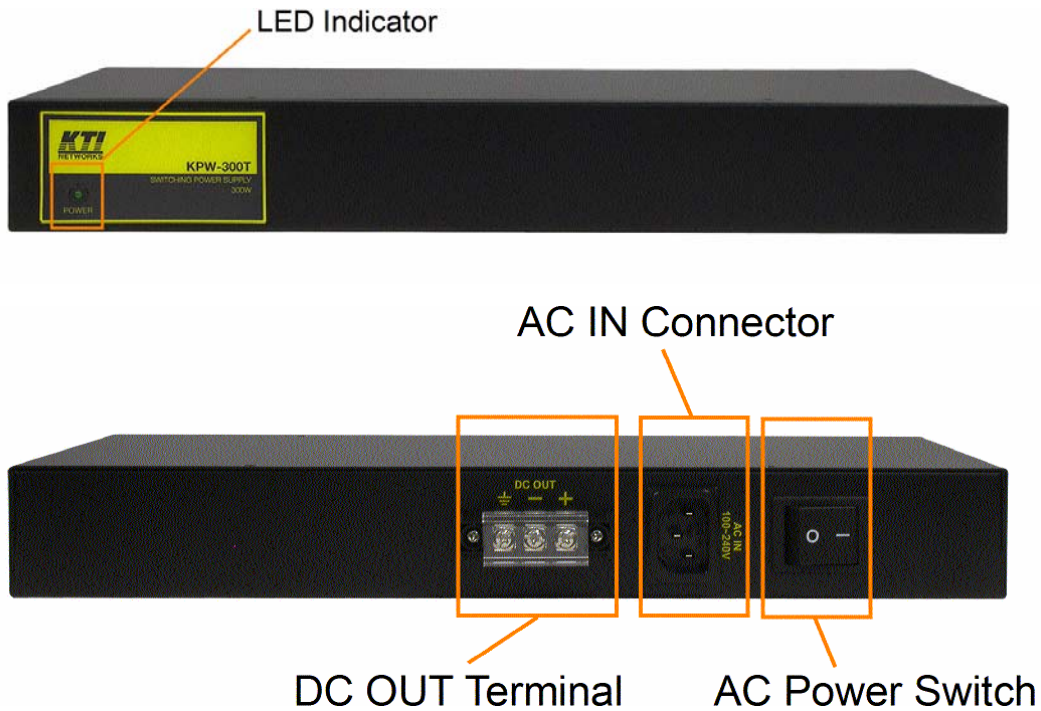
Features:

- Full range of AC input with IEC320 AC socket for universal installation
- Built-in active PFC function, PF>0.95
- High efficiency up to 89%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in constant current limiting circuit
- Industrial terminal block connector for DC output
- Wide range of operating temperature
- Support 19" rack mounting

Applications:

- External power supply for typical PoE & high power PoE+ switches or systems
- General power supply for critical temperature environments
- General power supply for 19" rack-mount systems

Specifications



AC Input

Models	KPW-300T-xx	KPW-1000T-xx
AC voltage rating	100 ~ 240VAC	100 ~ 240VAC
Frequency range	47 ~ 63Hz	47 ~ 63Hz
AC current (Typ.)	5A/115VAC 2.5A/230VAC	12A/115VAC 6A/230VAC
Inrush current (Typ.)	35A/115VAC 70A/230VAC	25A/115VAC 40A/230VAC
Efficiency (Typ.)	89%	90%

- AC IN Connector IEC320 C14 socket
- DC Voltage Options +48VDC, +52VDC, +54VDC (+/- 1%)
- DC OUT Connector Terminal block 3P: Vout+ / Vout- / FG
- LED Indicator DC out OK
- Protection

Models	Short circuit	Over load	Over voltage	Over temperature
KPW-300T-xx	✓	105~135%	58 ~ 67VDC	95°C (+/-5°C)
KPW-1000T-xx	✓	105~125%	57 ~ 66VDC	75°C (+/-5°C)

Environment

Models	Operating Temperature	Storage Temperature	Relative Humidity
KPW-300T-xx	-40°C ~ +64°C	-40°C ~ +85°C	10% ~ 95%
KPW-1000T-xx	-20°C ~ +60°C	-40°C ~ +85°C	10% ~ 95%

Power Rating

Suggested maximal consumed power at different working temperatures

Models	+50°C	+60°C	+70°C
KPW-300T-xx	300Watts	225Watts	150Watts
KPW-1000T-xx	1000Watts	600Watts	-

Air Flow

Models	Air Flow
KPW-300T-xx	Still air @ -40°C ~ 64°C
KPW-1000T-xx	For US: Still air @ -20°C ~ 30°C Forced air 10CMM @ 30°C ~ 60°C For EU: Still air @ -20°C ~ 60°C

Fan Cooling

Yes

Mounting Support

Desktop, 19" Rack, Enclosure

Dimensions

325 x 210 x 43 mm (WxDxH)

MTBF

>176K Hours for KPW-300T-xx, >117K Hours for KPW-1000T-xx

Power Module

UL60950-1, TUV EN60950-1 Certified

Approval

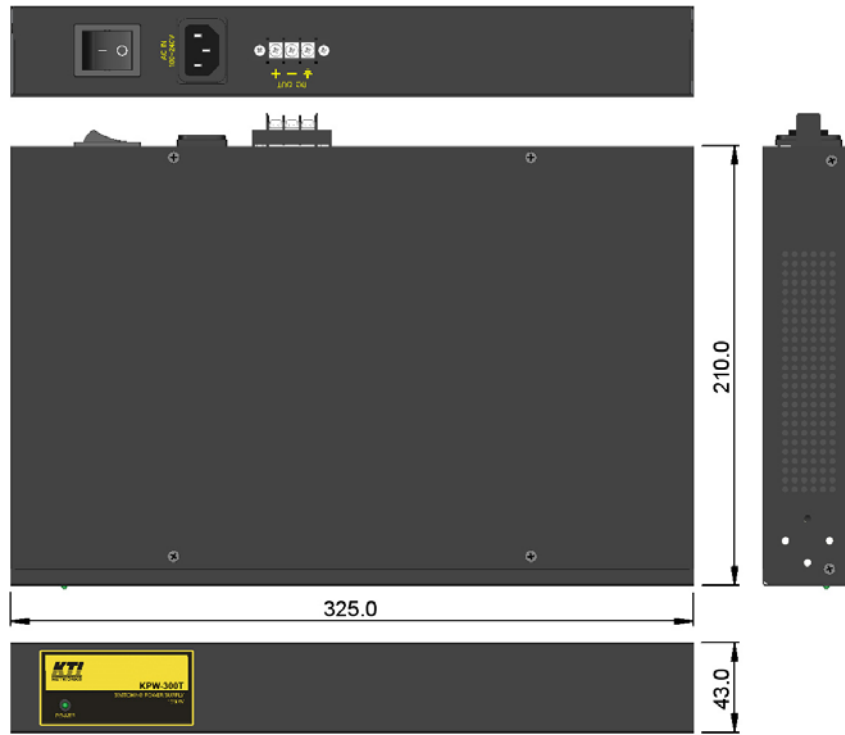
FCC Part 15, CE Mark, LVD

IEC60950-1 safety

EN 55022 emission

EN 61000-3-3

EN 61000-6-2 immunity for industrial environment



Safety Cautions

To reduce the risk of bodily injury, electrical shock, fire and damage to the product, observe the following precautions.

- Do not service any product except as explained in your system documentation.
- Opening or removing covers may expose you to electrical shock.
- Only a trained service technician should service components inside these compartments.
- If any of the following conditions occur, unplug the product from the electrical outlet and replace the part or contact your trained service provider:
 - ✓ The power cable, extension cable, or plug is damaged.
 - ✓ An object has fallen into the product.
 - ✓ The product has been exposed to water.
 - ✓ The product has been dropped or damaged.
 - ✓ The product does not operate correctly when you follow the operating instructions.
- Do not push any objects into the openings of your system. Doing so can cause fire or electric shock by shorting out interior components.
- Make sure that there is proper heat dissipation from and adequate ventilation around the power supply.

Mounting the Power

Desktop Mounting

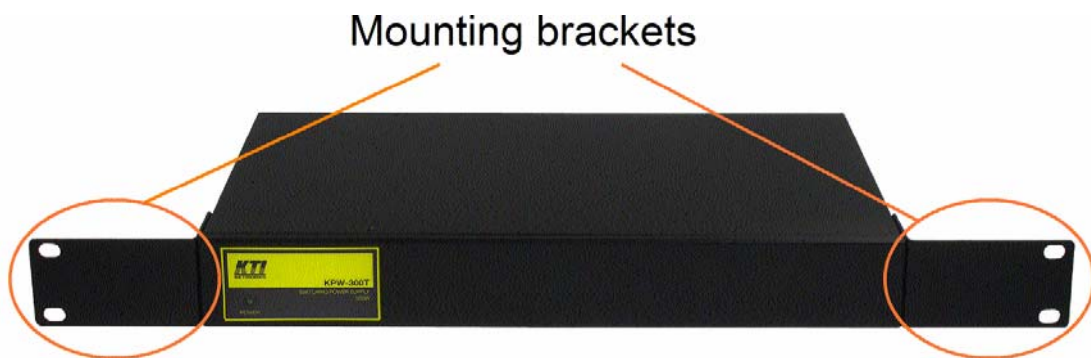
The power supply can be mounted on a desktop or shelf. Make sure that there is proper heat dissipation from and adequate ventilation around the power. Do not place heavy objects on the power.

19" Rack Mounting

Two 19-inch rack mounting brackets are supplied in the power package for 19-inch rack mounting.

The steps to mount the power onto a 19-inch rack are:

1. Turn the AC power off.
2. Install left and right brackets with supplied screws onto the power as shown in figure below.



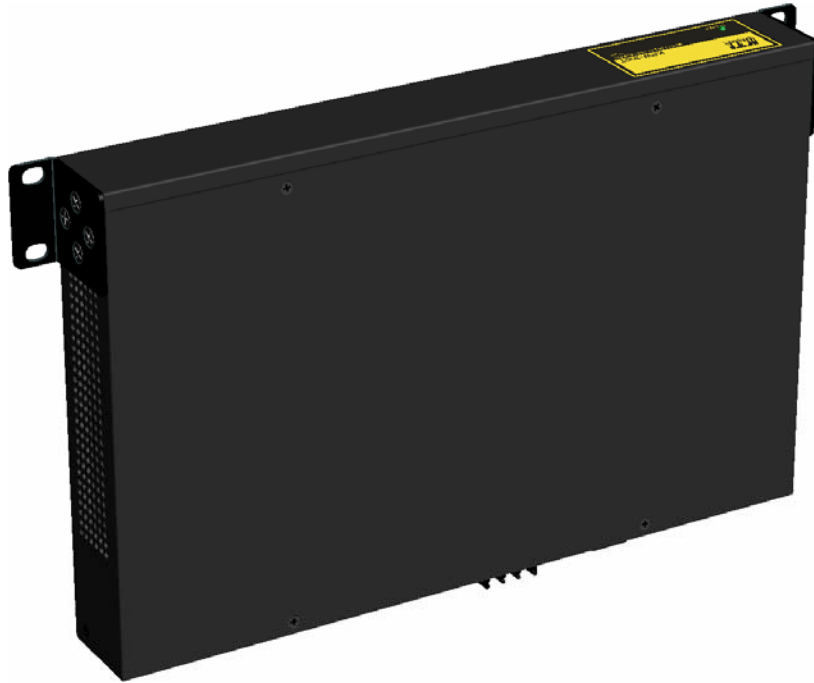
3. Mount the power onto 19-inch rack with rack screws securely.



4. Turn the power to the switch on.

Wall Mounting

The product also supports wall mounting by installing optional wall-mount brackets as shown below:



Consult the agent where the product was purchased for the wall-mount brackets.

Applying Power

Applying AC Power Input



If the purchased product is with AC power input, one AC power cord which meets the specification of your country of origin was supplied in package. Before installing AC power cord to the product, make sure the AC power is OFF and the AC power to the power cord is turned off.

AC power input specifications

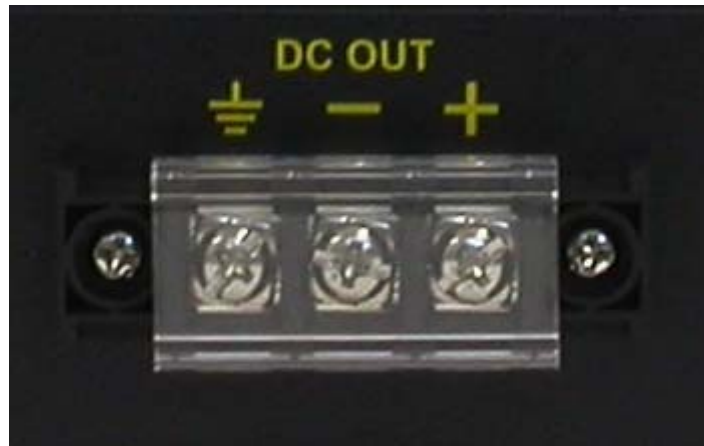
Connector: IEC320 type

Power Rating: 100 ~ 240VAC, 50/60Hz

Notice

An approved AC power supply cord should be used and not lighter than IEC 60227, H03VV-F, 3G, 0.75mm² or alternatively IEC 60245, H05RR-F, 3G, 0.75mm².

Applying DC Power Output



Receptacle: Screw-type terminal block

Operating Voltages: +48/+52/+54VDC (model dependent)

Power Wire gauge: 12AWG

Terminal Contacts

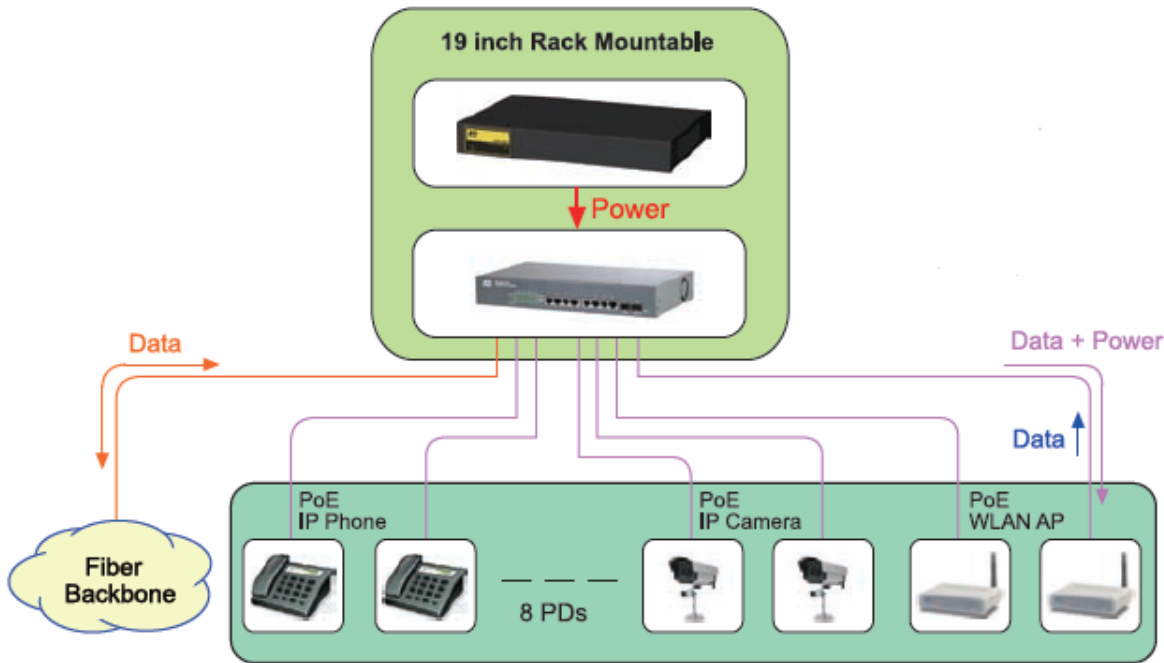
+	Vout+ (Isolated to FG)
-	Vout- (Isolated to FG)
⏏	FG (Frame ground, Protective Earth)

Note

1. Both Vout+ and Vout- contacts are isolated to FG contact and chassis.
2. The device to the system, the user should pay attention to not come into contact the hazardous energy.

Application Example

The power can be used as an external power supply for typical Power over Ethernet (PoE) PSE switches or injectors as illustrated below:



Typical PoE Information

Technology	PoE	PoE+ (High Power)
Standard	IEEE 802.3af	IEEE 802.3at
Max. power delivered at PSE end	15.4W	34.2W
Voltage range at PSE	44 ~ 57VDC	50 ~ 57VDC
Max. current	350mA	600mA

Note: Above information are typical data by IEEE standard. The exact ratings and limits among different PoE devices might differ according to the implementation of each device respectively. Consult the user's guide of the PoE device you are using.

By number of PoE PSE ports, the maximal PoE power required is calculated as follows:

Number of PSE Ports	1	8	16	24
PoE standard	15.4W	123W	247W	370W
PoE+ standard	34.2W	274W	548W	821W