

3-phase input DIN-rail track mounting Switching Power Supply with capacities up to 40A

- 3 phase 400 VAC input
- 10, 20, 40A; 24 VDC output
- High stability, low ripple and noise level
- Compact and attractive design, easily mounted to DIN-rail track (for 10, and 20A types)
- Natural ventilation, no fan for easy maintenance
- Conform to EN61000-3-2
- All types can be used for Parallel & Serial operation



Ordering Information

■ S8PE

Input voltage	Power rating	Output voltage	Output current	Model number
400 VAC 3 phase	240 W	24 V	10 A	S8PE-F24024CD
	480 W	24 V	20 A	S8PE-F48024CD
	960 W	24 V	40 A	S8PE-F96024C

■ Model Number Legend

S8PE -

1 2 3 4

1. Input voltage

F: 400 VAC 3-phase

2. Power Rating

240: 240 W
480: 480 W
960: 960 W

3. Output voltage

24: 24V

4. Configuration

C: Covered type with Front-mounting bracket
CD: Covered type with DIN-rail track mounting bracket

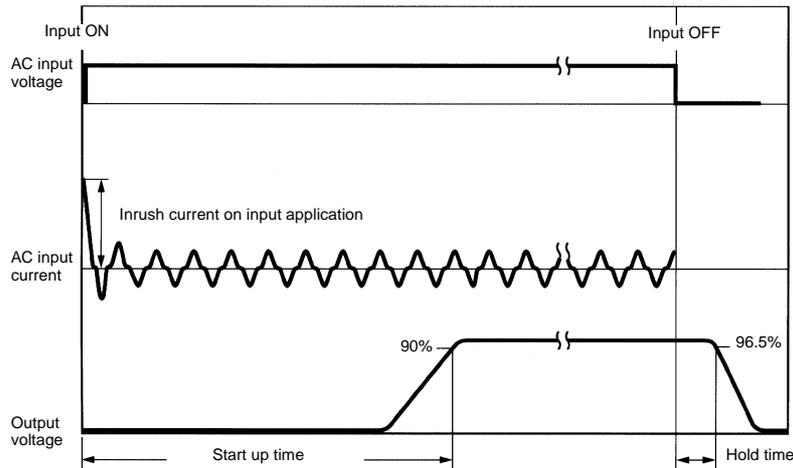
Specifications

Item		10 A (240 W)	20 A (480 W)	40 A (960 W)
Efficiency (see note 1)		87% min		89% min
Input	Voltage	400 VAC 3-phase (320 to 480 VAC)		
	Frequency	50/60 Hz		
	Current (see note 2)	0.8 A max	1.2 A max	2.2 A max
	Power factor (see note 1)	0.55 min	0.88 min	
	Leakage current (see note 1)	1 mA max	2 mA max	2.5 mA max
	Inrush current (see note 1 and 3)	30 A max	40 A max	50 A max
	Protection	Fuses for all 3 lines (non-replaceable)		
Output	Voltage adjustment range	22.5 to 26.3 V min		
	Tolerance voltage accuracy	± 0.5% max		
	Ripple & noise (see note 1)	200 mV max		
	Load variation influence	± 2% max		
	Input variation influence	± 0.5% max		
	Temperature variation influence (see note 1)	0.01%/°C typical		
	Start up time (see note 2)	2 s max	1 s max	0.1 s max
	Hold time (see note 2)	10 ms min	4 ms min	6 ms min
	Protection	- Over load protection - Over voltage protection		
Additional function	Parallel operation	Yes		
	Serial operation	Yes		
Others	Heat radiation	Natural air cooling		
	Ambient temperature	- 10 to 60 °C (de-rating: 2% per degree for 50-60 °C) See the de-rating curve in the Engineering Data page		
	Ambient humidity	25 to 85% RH		
	Dielectric strength	3 KVAC 50/60 Hz (Input-output) 2.5 KV 50/60 Hz (Input-P.E.)		
	Insulation resistance	500 VDC: P.E. - output		
	Output indicator	Yes (Green LED)		
	EMC	EN55011 class B, EN55022 class B, EN50081-1, EN50082-2, EN61000-3-2 class A		
	Approved standards	EN60950		
	Life expectancy (typical) (see note 4)	10 years		
	Weight	1.0 kg	2.5 kg	4.75 kg
	Mounting bracket	DIN-rail track mounting	DIN-rail track (or front) mounting	Front mounting

- Note:**
1. Defined with 100% load and the rated input voltage (400 VAC).
 2. Defined with 100% load and the minimum input voltage (320 VAC).
 3. Measured at 25 °C, and cold start condition.
 4. Under the ambient temperature of 40 °C, and a load rate of 50%.

Engineering Data

■ Definition of Inrush Current, Start up Time and Hold Time



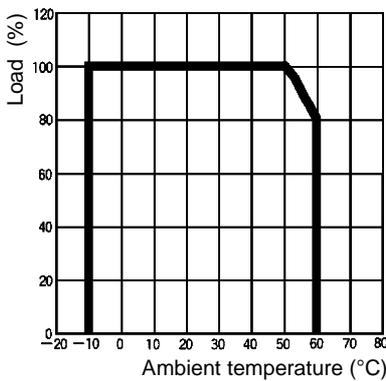
■ Over load Protection

The Power supply is provided with an overload protection function that protect the load and the power supply from possible damage by over current. When the output current rises above between 105 to 130% of the rated current, the protection function is triggered, decreasing the output voltage. When output current falls within the rated range, the overload protection function is automatically cleared.

■ Over voltage Protection

If output voltage exceed the rated voltage more than 20% (50% at maximum) by some reason, then the output voltage will be turned OFF automatically for safety. To restart the S8PE, turn OFF the input voltage, wait for a few seconds, then apply the input power again.

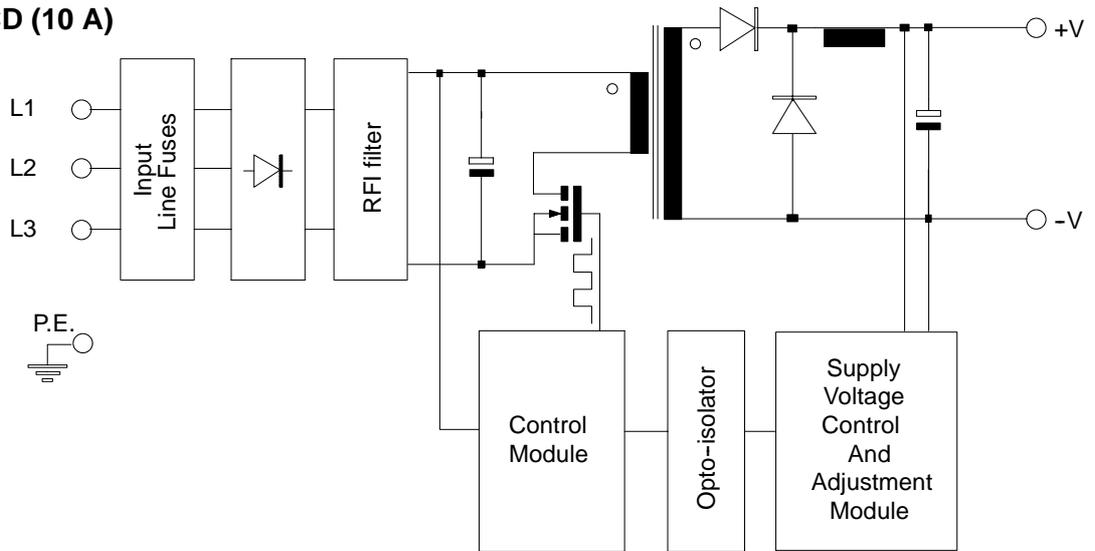
■ De-rating Curve



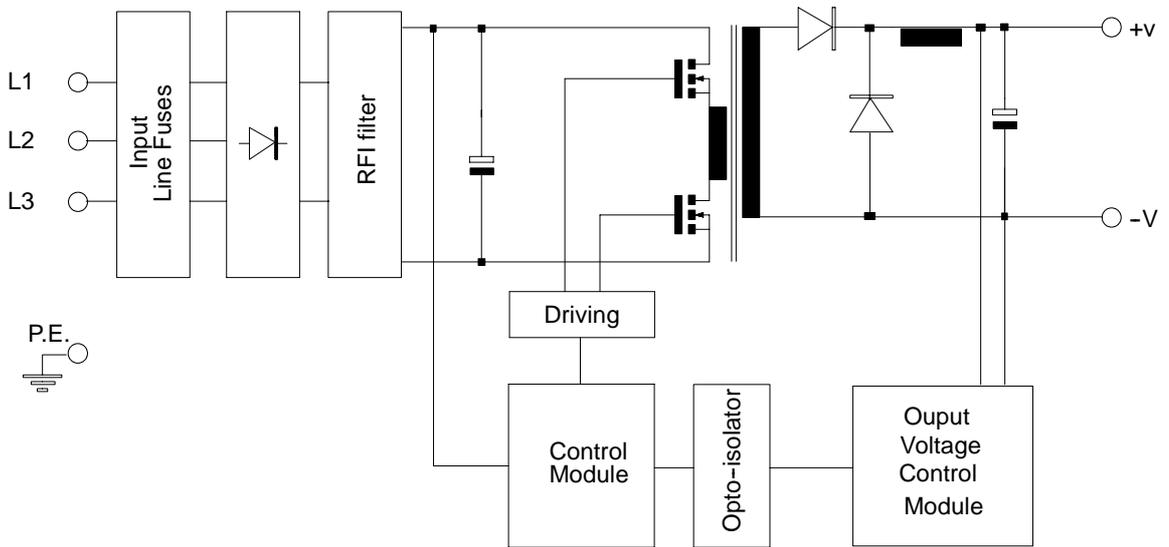
Operation

■ Block Diagram

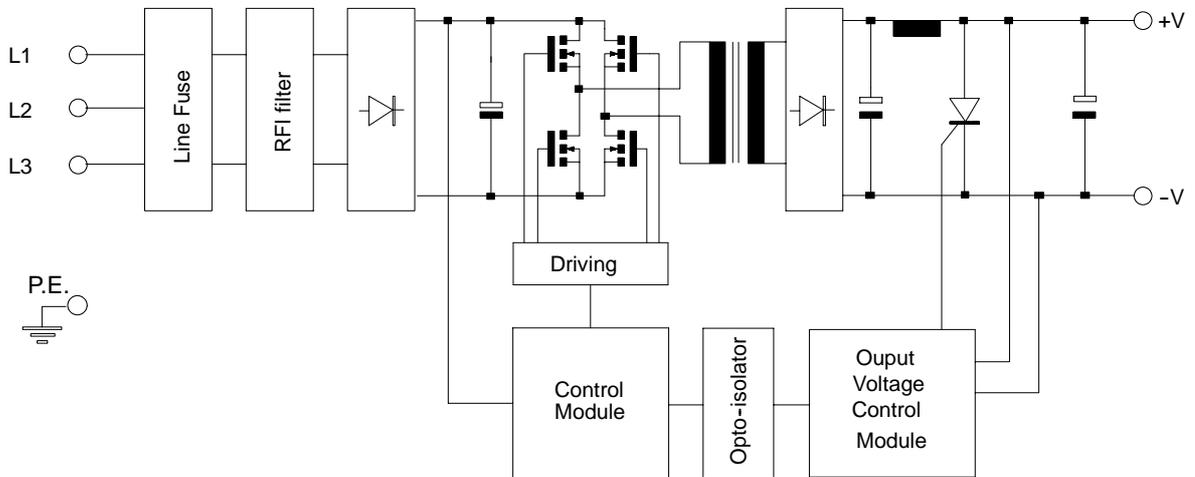
S8PE-F24024CD (10 A)



S8PE-F48024CD (20 A)



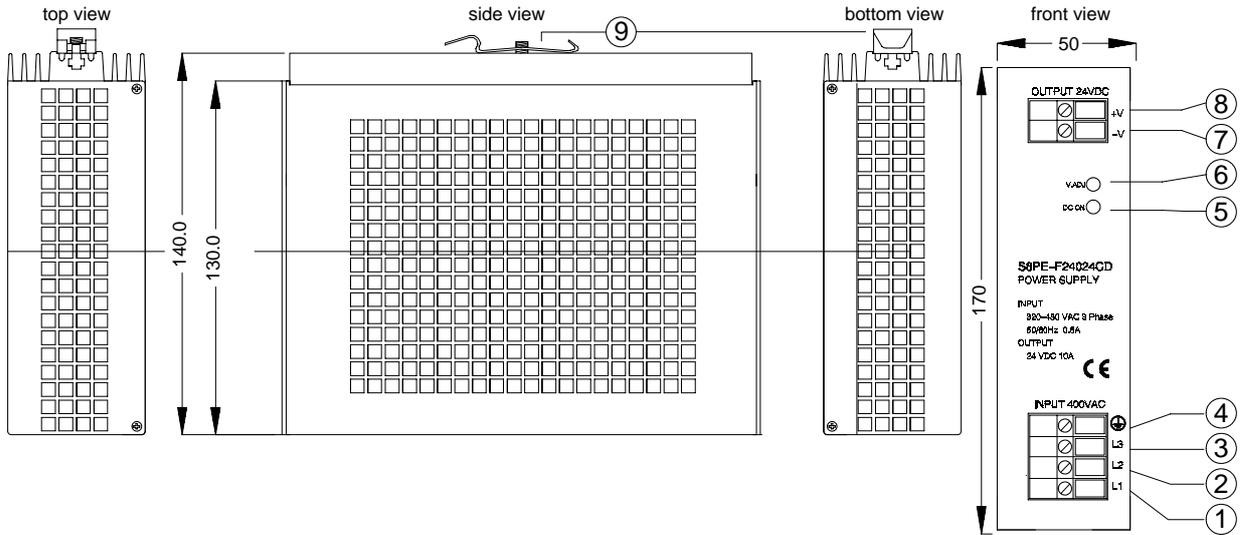
S8PE-F96024C (40 A)



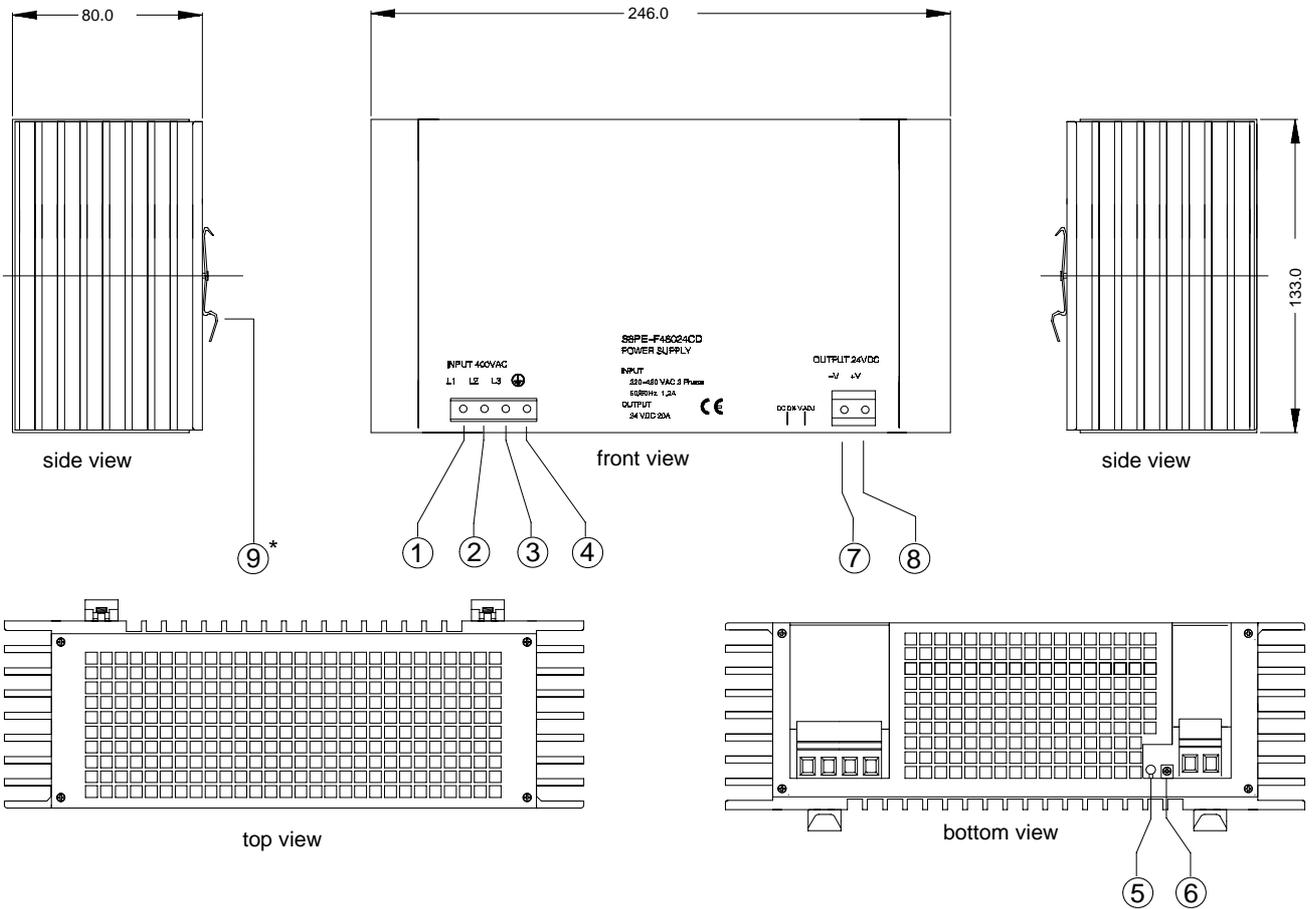
Dimensions and Installation

Note: All dimensions shown are in millimeters.

S8PE-F24024CD (10 A)



S8PE-F48024CD (20 A)

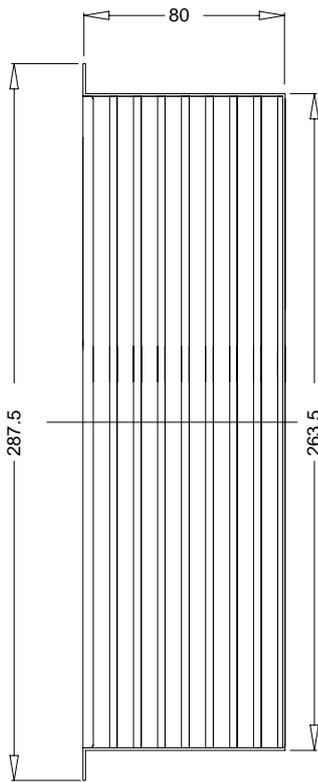


***Note:** Front mounting brackets (supplied with the product as accessories) can be used instead of DIN-rail track mounting.

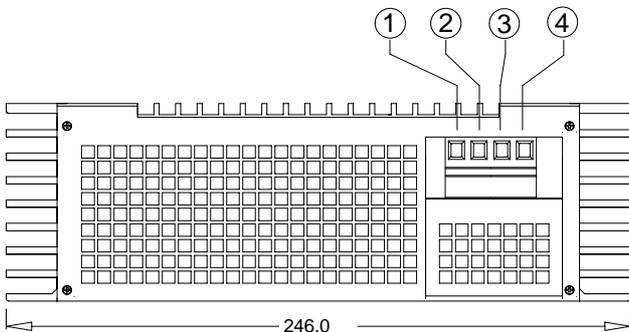
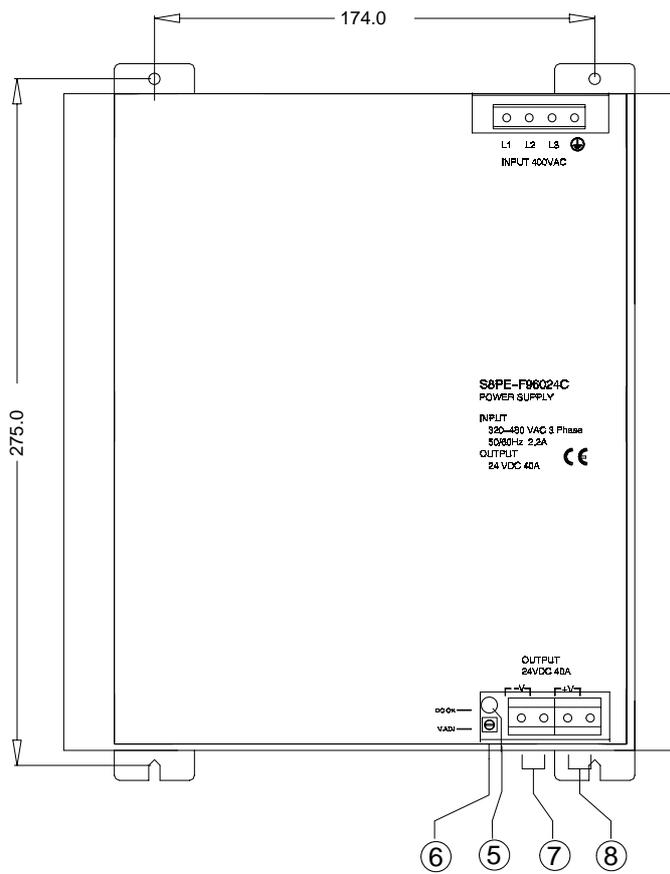
①	AC INPUT L1	④	Protective Earth (P.E.)	⑦	DC OUTPUT -V
②	AC INPUT L2	⑤	DC OUTPUT indicator	⑧	DC OUTPUT +V
③	AC INPUT L3	⑥	Output Voltage adjustment trimmer V.ADJ	⑨	35 mm DIN-rail attachment

S8PE-F96024C (40 A)

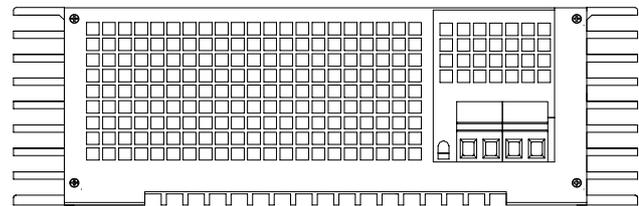
side view



front view



top view



bottom view

①	AC INPUT L1	⑤	DC OUTPUT indicator
②	AC INPUT L2	⑥	Output Voltage adjustment trimmer V.ADJ
③	AC INPUT L3	⑦	DC OUTPUT -V
④	Protective Earth (P.E.)	⑧	DC OUTPUT +V

Notice

Three phase input operation with one missing phase

The S8PE Power Supplies can also operate even if one of the 3 phases is missing.

Output Voltage will remain stable and also maximum output capacity will be available.

Conditions:

Above 350 VAC input Voltage the operation on 2 phases can be guaranteed with S8PE series.

(Below 350 VAC input Voltage the ripple and noise will become larger.)

It is not recommended to operate the Power Supply permanently on 2 phases (or for longer periods, for example over several days) as this will result in a reduced life period.

Three phase input switch off

In order to switch off the Power Supply completely: all 3 Phases need to be switched off.

Mounting

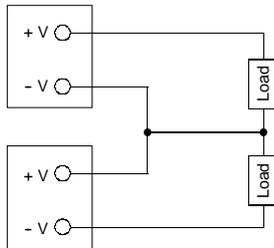
To improve and maintain the reliability of the Power Supply over a long period, adequate consideration must be taken to heat radiation.

The S8PE is designed to radiate heat by natural air cooling, therefore, mount the S8PE so that enough air flow takes place around the power supply.

If installing S8PEs closely, keep the minimum distance of 10 cm.

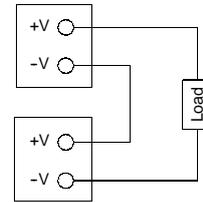
Generating (\pm) Output Voltage

An output of \pm can be generated by using as shown below, since the S8PE has a floating output.



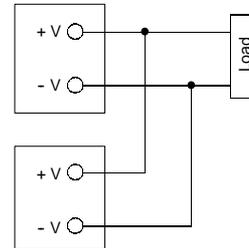
Serial Operation

As shown below, the output voltage from each S8PE can be added.



Parallel Operation

As shown below, The Power supply can use for parallel operation. All the output voltage of each S8PEs should be exactly the same. Also, make sure that the thickness and the length of all wires connected to the load are the same to ensure that the wires will have no voltage drop difference.



Safety Precautions

■ Safety Signal words

This document uses the following signal words to mark safety precautions for the S8PE. These precautions provide important information for the safe application of the product. You must be sure to follow the instructions provided with safety signal words.

**WARNING**

Indicates information that, if ignored, could possibly result in loss of life or seriously injury.

**CAUTION**

Indicates information that, if ignored, could result in relatively serious or minor injury, damage to the product, or faulty operation.

**WARNING**

Be sure to connect the grounding line. Not doing so may result in electric shock.

**CAUTION**

Do not attempt to disassemble the Power Supply or touch its internal parts while power is being supplied. Doing so may result in electric shock.
Do not touch the S8PE while the power is being supplied or immediately after the power is turned OFF. Otherwise, a skin burn may result from the hot Switching Power Supply.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. T200-E2-01 **In the interest of product improvement, specifications are subject to change without notice.**

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Printed in The Netherlands