

PET2000-12-074xA

AC-DC Front-End Power Supply

PET2000-12-074xA is a 2000 Watt AC to DC, power-factor corrected (PFC) power supply that converts standard AC power into a main output of +12 VDC.

PET2000-12-074xA utilizes full digital control architecture for greater efficiency, control and functionality.

This power supply meets international safety standards and displays the CE-Mark for the European Low Voltage Directive (LVD).



Key Features & Benefits

- Best-in-class, 80 PLUS Certified "Platinum" Efficiency
- Auto-Selected Input Voltage Ranges: 90 - 140 VAC, 180 - 264 VAC
- AC Input with Power Factor Correction
- 2000 W Continuous Output Power Capability
- Always-On 12 V Standby Output
- Hot-Plug Capable
- Parallel Operation with Active Current Sharing
- Full Digital Controls for Improved Performance
- High Density Design: 42.1 W/in³
- Small Form Factor: 73.5 x 40.0 x 265 mm
- PMBus® Communication Interface for Control, Programming and Monitoring
- Status LED with Fault Signaling

Applications

- Networking Switches
- Servers & Routers
- Telecommunications

Disclaimer: PMBus is a registered trademark of SMIF, Inc.

1. ORDERING INFORMATION

PET	2000	-	12	-	074	x	A	
Product Family	Power Level	Dash	V1 Output	Dash	Width	Airflow	Input	AC Inlet ¹
PET Front-Ends	2000 W		12 V		74 mm	N: Normal R: Reverse	A: AC	Blank: C14 C: C16 A: Saf-D-Grid®

2. OVERVIEW

The PET2000-12-074xA AC/DC power supply is a fully DSP controlled, highly efficient front-end power supply. It incorporates resonance-soft-switching technology to reduce component stresses, providing increased system reliability and very high efficiency. With a wide input operational voltage range the PET2000-12-074xA maximizes power availability in demanding server, network, and other high availability applications. The supply is fan cooled and ideally suited for integration with a matching airflow path. The PFC stage is digitally controlled using a state-of-the-art digital signal processing algorithm to guarantee best efficiency and unity power factor over a wide operating range. The DC/DC stage uses soft switching resonant techniques in conjunction with synchronous rectification. An active OR-ing device on the output ensures no reverse load current and renders the supply ideally suited for operation in redundant power systems. The always-on standby output provides power to external power distribution and management controllers. It is protected with an active OR-ing device for maximum reliability. Status information is provided with a front-panel LED. In addition, the power supply can be controlled and the fan speed set via the I2C bus. The I2C bus allows full monitoring of the supply, including input and output voltage, current, power, and inside temperatures. Cooling is managed by a fan controlled by the DSP controller. The fan speed is adjusted automatically depending on the actual power demand and supply temperature and can be overridden through the I²C bus.

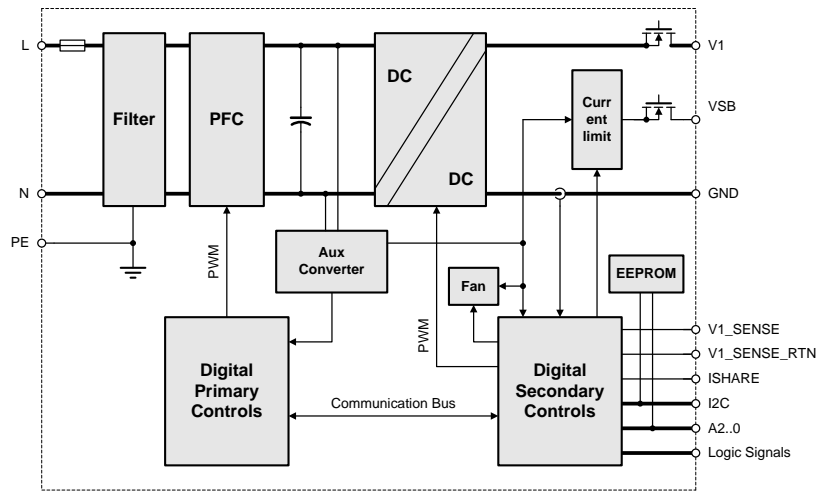


Figure 1. PET2000-12-074xA Block Diagram

3. ABSOLUTE MAXIMUM RATINGS

Stresses in excess of the absolute maximum ratings may cause performance degradation, adversely affect long-term reliability and cause permanent damage to the supply.

PARAMETER	CONDITIONS / DESCRIPTION	MIN	MAX	UNITS
<i>V_{i maxc}</i>	Maximum Input		264	VAC

¹ C14 = IEC 60320-C14 type, C16 = IEC 60320-C16 type, Saf-D-Grid® = Anderson Saf-D-Grid®