PFE500SA SERIES

AC / DC Single Output: 500 Watts

HELIOS POWER SOLUTIONS
www.heliosps.com.au

Features

- Full brick AC/DC Power Module in one package
- Harmonic input correction: EN61000-3-2
- Universal input 85~264vac with PFC
- Wide baseplate temperature -40ºC to +100ºC
- OVP, OCP and Over temperature protection
- Safety UL60950, EN60950
- Fully isolated input-output
- External components required for operation, refer to instruction manual.
- PCB mounting

General Specifications

Input Voltage	85 ~ 264 VAC, 47 ~ 63Hz
Input Current	6.0A / 2.9A (100 / 200VAC)
Power Factor	0.95
Output Voltage	See table
Output Power	500 watts
Efficiency	Typically 88%
Output V Accuracy	±2%
Output Voltage Range	-20% to +20%
Ripple & Noise	12V / 120mV, 28V / 280mV, 48V/480mV
Regulation Line	±0.2%
Regulation Load	±0.2%
Over Current Protection	105% ~140% with auto recovery.
Over Voltage Protection	125 ~ 145% Inverter shutdown, recycle input to restart.
Over Temperature Protection	Yes
Parallel Operation	For increased power – NO For N+1 Redundancy - YES
Series Operation	Yes
Operating Temperature	-40ºC to +100ºC baseplate temperature
Humidity	20 ~ 95% RH No dewdrop
Cooling	Baseplate / Conduction, refer to manual
Tem. Coeff	0.02% / ºC
Isolation	Input-Output: 3.0KVAC Input-Baseplate: 2.5KVAC Output-Baseplate: 1.5KVDC
Vibration / Shock	10-55Hz (sweep for 1min) 196.1m / s²
Safety	Approvals UL60950-1, EN60950-1
Size & Weight	116.8 x 61 x 12.7mm 200g

Description

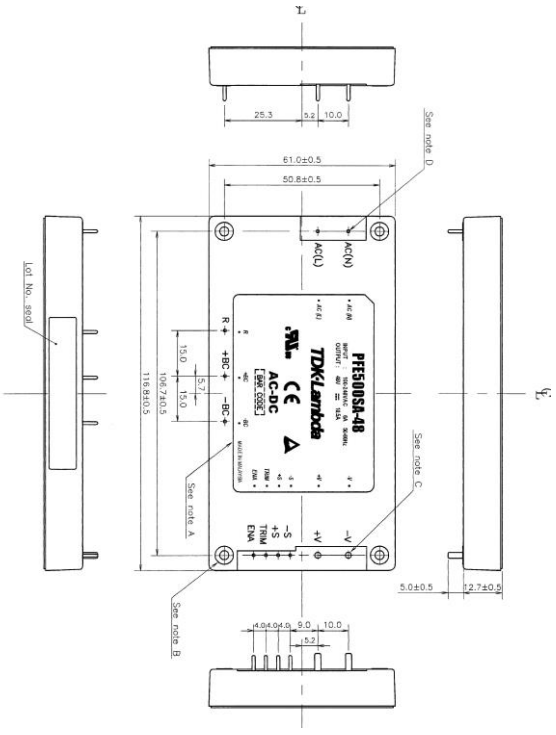
The **PFE500SA** series is a 2nd generation "Full Brick" AC input power supply module , capable of operating up to +100°C base plate temperature.

It offers a ***single device*** containing power factor correction, regulation and primary secondary isolation, offering up to 50% space savings over previous power module solutions. These power modules meet the needs of many industrial, datacom and telecom applications particularly where high operating temperatures are required and space is at a premium.

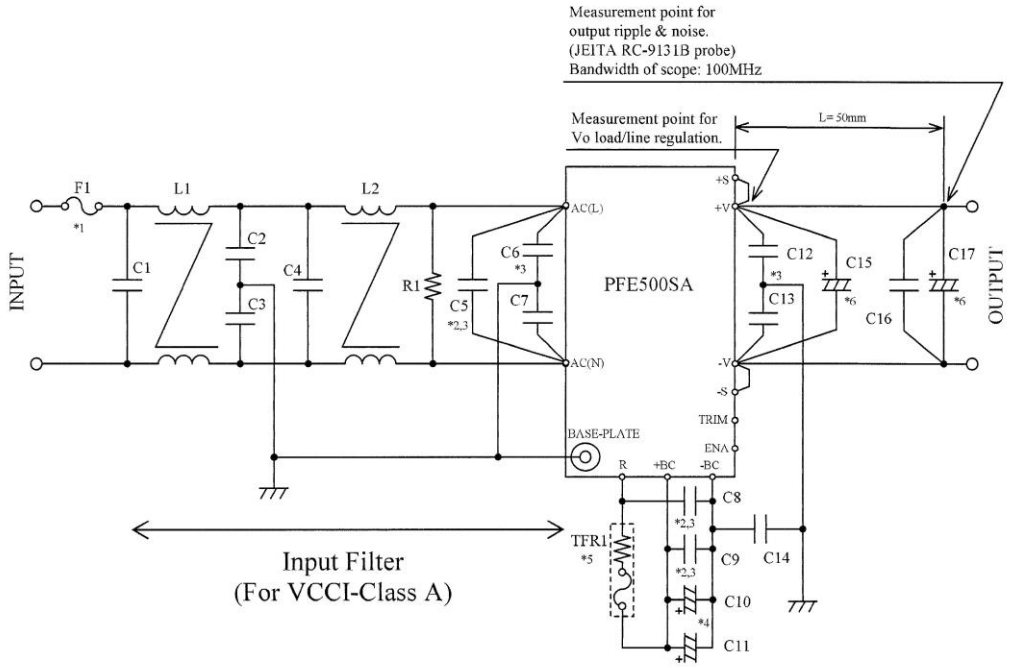
Fully regulated outputs in 12, 28 and 48 volt with ±20% adjustment.

- **For full application notes, contact our office.**

Model	Output V	Output A	Voltage Range	Power W
PFE500SA-12	12V	33.0A	9.6 ~ 14.4V	500W
PFE500SA-28	28V	18.0A	22.4 ~ 33.6V	500W
PFE500SA-48	48V	10.5A	38.4 ~ 57.6V	500W



BASIC CONNECTION



F1	AC250V 15A	C13	0.033uF
C1	AC250V 1uF (Film)	C14	1000pF
C2	4700pF	C15	12V: 25V 1000uF (Elec.)
C3	4700pF		28V: 50V 470uF (Elec.)
C4	AC250V 1uF (Film)		48V: 100V 220uF (Elec.)
C5	AC250V 1uF (Film)	C16	100V 2.2uF (Ceramic)
C6	1000pF	C17	12V: 25V 1000uF (Elec.)
C7	1000pF		28V: 50V 470uF (Elec.)
C8	450V 1uF (Film)		48V: 100V 220uF (Elec.)
C9	450V 1uF (Film)	R1	0.5W 470kΩ
C10	450V 390uF	TFR1	10Ω 139°C (Res., Thermal fuse)
C11	450V 390uF	L1	6mH
C12	0.033uF	L2	6mH

==NOTES==

*1. Use an external fuse of fast blow type for each unit.
*2. The allowable ripple current of capacitor must be more than 3A(rms).
*3. Put this capacitor near the terminal as close as possible.
*4. The maximum capacitance that can be used is less than 1200uF(Rated capacitance). Avoid the connection of capacitance which is more than above, else it will lead to module to damage.
*5. The inrush current at AC throw in can be suppressed by the external Resistor (Built-in thermal fuse) connected between the R and +BC terminals.
*6. If the ambient temperature is less than -20°C, use twice the recommended capacitor above.
*7. Refer to instruction manual for further details.