



PFD-SX-U

AC/DC Power Supply
Single-Output

120W

120W (Peak 240W)



The PFD-series is switcher designed to meet harmonic current distortion. The series has nominal 120 watts with a peak load of 240 watts during 10 seconds. The PFD is especially suitable for motor driven applications.

Features

Wide input voltage range: 85-264Vac
220-370Vdc
PFC 0.99@115Vac; 0.95@230Vac
High efficiency & reliability
Output voltage +/-10%
MTBF: 232'000 hours
Switching Frequency: 140kHz
Leakage Current: 0.75mA
Warranty: 2 years

Possible applications

Process control
Office equipment
Computer peripherals
Telecommunications
Industrial electronics&machines

Mechanical features

Dimensions (WxLxH): 95x220x55mm
Weight: 680g
Connector: Screw terminal
Closed or open frame type
Option: Cover (add -P)
Remote Control (add -RC)

Control features

Over voltage protection: Output shutdown
Over current protection: Current limiting, auto recovery
Remote control (RC)

Standards

Harmonics: IEC 61000-3-2
Safety: EN60950; UL60950; C-UL: CSA C22.2 No.60950;
IEC60950; VDE 805
EMI : EN 55022 ClassB; FCC Part 15-B ClassB; VCCI ClassB





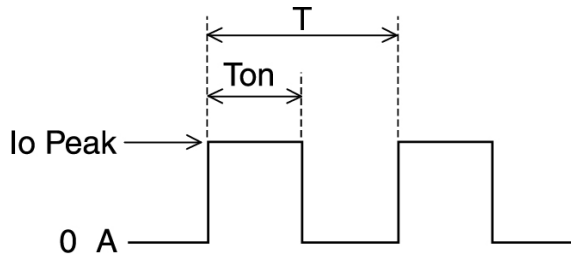
Specifications<AC/DC>	Model			
	PFD-12SX-U	PFD-24SX-U	PFD-36SX-U	PFD-48SX-U
PFD**SX-U 120WATTS(Peak 240)/SINGLE				
Input Characteristics				
Input voltage	AC100/230Vac			
Input range	85-264Vac (220-370Vdc)			
Input current	2.0-0.9A			
Input frequency	50/60Hz			
Input frequency range	47-63Hz			
Phase	Single			
Power factor correction	0.99 (typ.) at 100VAC / 0.95 (typ.) at 230VAC			
Inrush current *1	18A max. at 100VAC / 40A max. at 230VAC			
Efficiency [%] (typical) *2	76/80	79/82	80/83	83/85
Output Characteristics				
Output Voltage [V]	12V	24V	36V	48V
Output Current [A]	10A (Peak 20A)	5A (peak 10A)	3.4 (peak 6.7A)	2.5 (peak 5.0A)
Voltage adjust range	+/- 10% of range output voltage (at load within the input voltage)			
Ripple and Noise [mV-p](maximum) *3	300	300	300	300
a. Line Regulation [mV]max.	60	120	180	240
b. Load Regulation [mV]max.	120	240	360	480
c. Temperature coefficient *4	0.03%/°C			
d. Drift [mV] max. *5	75	135	195	255
e. Dynamic load regulation [mV](typical). *6	360	720	1080	1440
f. Recovery Time *6	0.5ms typ.			
Rise-Up Time	500ms max. at 25°C and rated input/output			
Hold up time	50ms min. at 25°C and rated input/output			
Functions				
Over Current Protection	Current limiting with automatic recovery			
Over Voltage Protection	output shutdown (to reset, leave 3minutes after shut-off)			
>115% of rated output voltage [V]	13.8	27.6	41.4	54.4
Remote sense	not available			
Remote On/Off	option			
Power fail detection	not available			
Parallel / series operation	not available			
Environmental				
Operating Temperature *7	-10 to +50°C (-30 to +70°C)			
Operating Humidity	20 to 85 [%RH] (non-condensing)			
Storage Temperature	-20 to +85 [°C]			
Storage Humidity	10 to 85 [%RH] (non-condensing)			
Withstanding voltage	Primary-Secondary 3000VAC for 1minute Primary-FG 2500VAC for 1 minute Secondary-FG 500VAC for 1minute			
Insulation resistance Primary-Secondary-Frame Ground	50MΩ (minimum) by 500VDC insulation tester			
Vibration	5 - 10Hz:10mm double amplitude, 10-55Hz: 19.6m/s ² , 20minutes per period for 60minutes each along X,Y,Z axes (non-operating)			
Shock	30 [G]			
Cooling	Convection			
Leakage current	0.75mA max. at 25°C, rated input/output and rated input frequency			
Line Harmonics Distortion	IEC61000-3-2			
Safety	UL: UL1950 C-UL:CSA C22.2No.950 VDE EN60950, IEC950, VDE805			
Weight	680 [g] (unit with cover 820g)			
MTBF	258'000 hours			
Switching frequency	140 [kHz] fix			

Conditions:

- *1 At cold start
- *2 At AC100 / 230V input, rated output and 25°C
- *3 Measured by a bayonet probe at the output connector at a 0 to 100 MHz bandwidth
- *4 At -10 to +45°C
- *5 For 7 hours warm-up at 25°C and rated input/output
- *6 When output current is changed from 50% to 150% of rated output current rapidly at rated input
- *7 Safety approved at 25°C (contact technical sales)



Peak Load Current



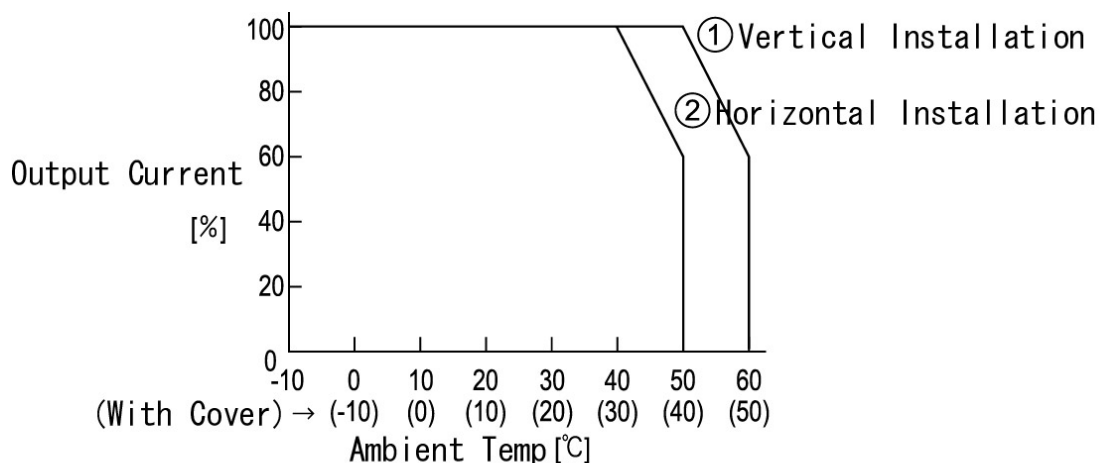
Peak Load Current to meet following three conditions;

- (1) Peak Load Current \leq Rated Peak Current
- (2) Peak Current \leq 10seconds
- (3) Duty cycle of Peak Current to follow the formula

$$I_o^2 \geq (I_o \text{ Peak})^2 \times (T_{on}/T)$$

$I_o \text{ Peak}$: Peak Current
 I_o : Rated Output Current
 T : Frequency
 T_{on} : Duration of Peak current

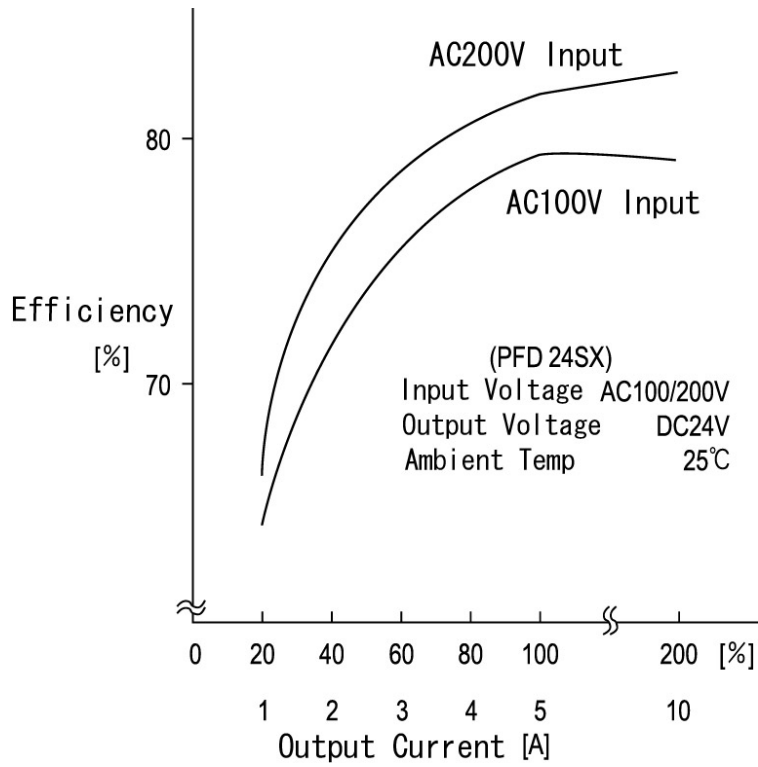
Derating



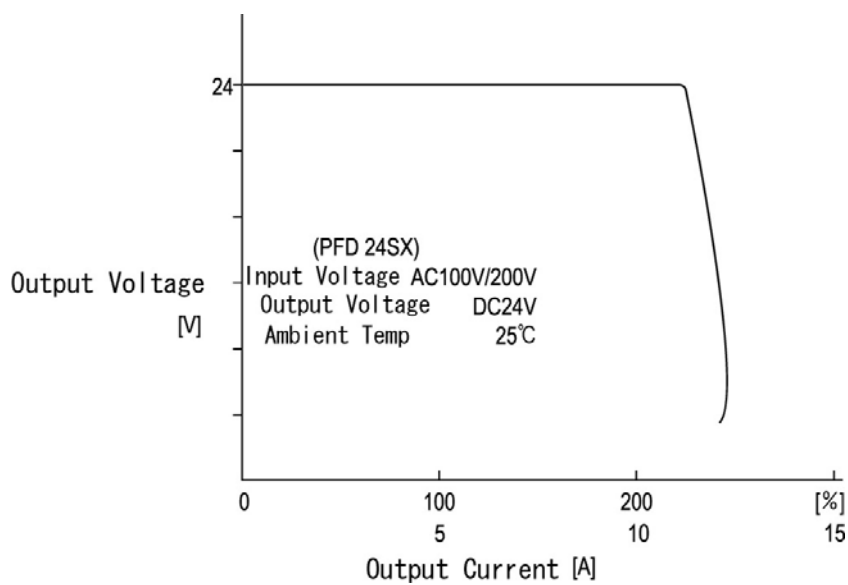
※ For safety specification, contact ETA Sales Representative



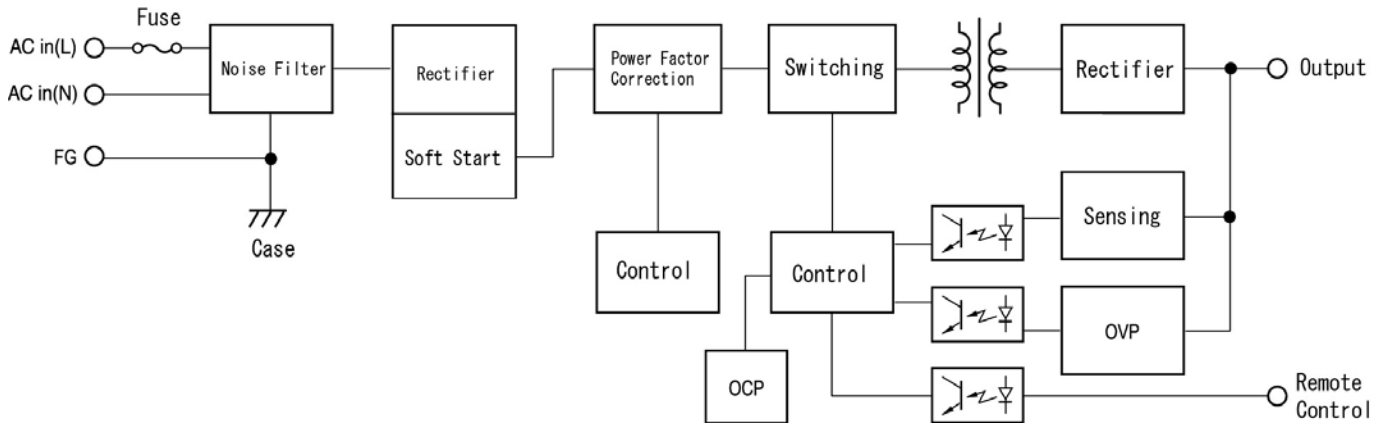
Efficiency



OCP



Block Diagram



Dimensions:

