

24V DC Power Supplies

FP-PS24 Series



FP-PS24-120E
5.0A/24V DC

FP-PS24-060E
2.5A/24V DC

FP-PS24-024E
1.0A/24V DC

Features

- Up to 91.5% efficiency (FP-PS24-060E)
- Current limiting and Short circuit save
- High power density with minimal losses
- Wide ambient temperature range from -10°C to +70°C, without performance loss
- Safety Standards Approved (IEC60950, UL60950, CSA22.2-60950, EN60950) tested by CSA
- Protection class II, without grounding
- Easy mounting and wiring
- Extremely compact with optimal air cooling

FP-PS24 Power Supplies

Specifications

Item		FP-PS24-024E	FP-PS24-060E	FP-PS24-0120E
Ambient temperature		-10°C to +70°C, without needing cooling fans		
Storage temperature		-25 to +85°C		
Humidity		Max. 95%, no condensation		
Vibration		IEC 60068-2-27, 20g - 6ms, 10g - 11ms; 4 shocks/axis, 18 shocks total		
Shock		IEC 60068-2-6, 2-17.8Hz: $\pm 1.6\text{mm}$; 17.8 - 500Hz: 2g 2 hours/axis		
Primary side	Rated input voltage	100 – 240V AC/DC, 50 – 60Hz		
	Power supply voltage	85-264V AC, 47-63Hz (DC 100-375V), wide range power supply, switching ranges unnecessary		
	Input current	Fulfills the requirements of EN61000-3-2 (limits for harmonic current emissions)		
	Fuse	Internal in power supply T4AH/250V, not accessible		
Secondary side	Output voltage	24VDC nominal		
	Accuracy, output voltage	$\pm 1\%$ over the complete load and input voltage range		
	Adjustable range with potentiometer	23V – 29V		
	Output capacity (max.)	1A continuous at 24V 1.25A (25% above nominal load) Dynamic for 7s, max. 1.5A (50 % above nominal load) dynamic for 2.5s, max.	2.5A continuous at 24V 3.15A (25% above nominal load) Dynamic for 7s, max. 3.75A (50 % above nominal load) dynamic for 2.5s, max.	5.0A continuous at 24V 6.25A (25 % above nominal load) dynamic for 7s, max.sec. 7.5A (50 % above nominal load) dynamic for 3s, max.x. 3 sec
	Output capacity (min.)	0A		
	Current limiting (typ.)	2A continuous, 2A dynamic	2.7A continuous, 5A dynamic	5.3A continuous, 9.5A dynamic
	Ripple voltage (< 20MHz)	= 40mVSS measured at 20MHz, 50 Ohms terminated		
Efficiency	VAC = 230V	88.0%	91.5%	90.0%
	VAC = 115V	87.0%	90.0%	89.0%
	VAC = 100V	86.0%	88.0%	89.0%
Lifetime of the capacitors		All capacitors used are special 105°C long-life-types with a minimum lifetime of 50,000 hours @ $T_u = 50^\circ\text{C}$ (power supply-air flow temperature)		
Safety and function tests		100% testing		
Startup duration		Depends on the load, typically 5-10ms		
Safety	Output	Safety extra low voltage (SELV) EN 60950		
	Class of protection	Class II (with additional constructive measures)		
	Degree of protection	IP20		
	Leakage current	max. 0.25mA, 47-63Hz and max. 264V AC		
Protection and monitoring	Over-voltage protection	yes, U_1 limited to max. 35V		
	Short circuit save	yes, output is short circuit save		
	Current limiting::	In case of overload the output voltage will be reduced down to approx. 17V below this the power supply will enter hiccup mode to protect power supply and load from over temperature or burning.		
	No load operation	yes, indefinite no load safe		
	Overload protection	yes		
Dimensions (D x W x H)		105.5 x 30 x 75 mm	104.5 x 44.8 x 75 mm	105.5 x 70 x 85 mm
Weight		Approx. 170g	Approx. 250g	Approx. 500g

Dimensions

