

# 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

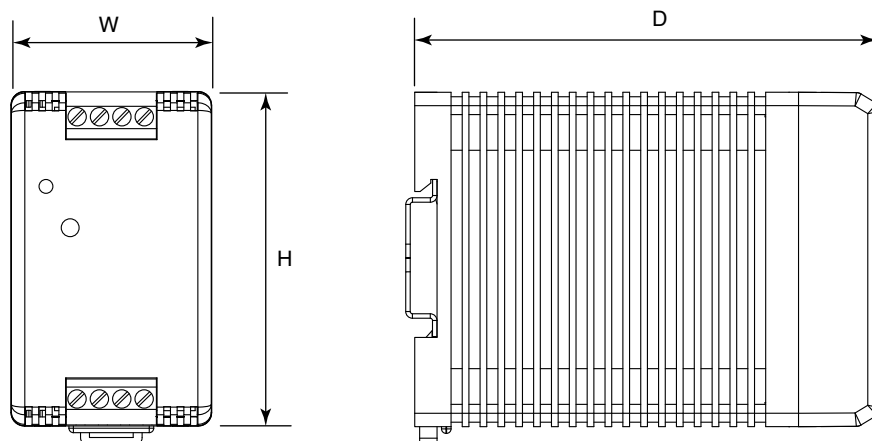
- Up to 91.5% efficiency (FP-PS24-060E)
- Current limiting and Short circuit save
- High power density with minimal losses
- Wide ambient temperature range from -10°C to +70°C, without performance loss
- Safety Standards Approved (IEC60950, UL60950, CSA22.2-60950, EN60950) tested by CSA
- Protection 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: ±1.6mm; 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  | ±1% over the complete load and input voltage range   |  |   |
|                            | Adjustable range with potentiometer   | 23V – 29V  |  |   |
|                            | Output capacity (max.)  | 1A continuous at 24V<br>1.25A (25% above nominal load)<br>Dynamic for 7s, max.<br>1.5A (50 % above nominal load) dynamic for 2.5s, max.  | 2.5A continuous at 24V<br>3.15A (25% above nominal load)<br>Dynamic for 7s, max.<br>3.75A (50 % above nominal load) dynamic for 2.5s, max. | 5.0A continuous at 24V<br>6.25A (25 % above nominal load) dynamic for 7s, max.sec.<br>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 @ Tu = 50°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, U1 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



You can find further information on our homepage: [www.panasonic-electric-works.com](http://www.panasonic-electric-works.com)

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