

100 Watt – Dual Input Series, Industrial Grade Power Supply Product Specification

Product Description

This product is a 100 watt, single output, industrial grade power supply designed for electronic systems operating in demanding environments with adverse temperature conditions. This dual input power supply is designed for applications in need of operating from either a DC or AC voltage source.

Product Features

- Dual Source Input: DC Voltage or AC Voltage
- Operating Temperature Range: -40° to +85°C
- Baseplate Mounting, Conduction Cooled

DC Input

- DC Input Range: 36 to 72Vdc (48Vdc nominal)
- Typical DC Input Current: 2.4A at 48Vdc input, full load
- Optional 24Vdc Input (Consult factory)



AC Input

- Voltage Input Range: 90-264Vac
- Frequency Range: 47-440Hz
- Phase: Single Phase, 2 wire plus ground
- Typical Input Current: 1.0A at 115Vac input, full load
- Power Factor Correction: 0.95 min @ 115Vac, full load
- Input Transient Protection: Designed to meet MIL-STD-704A/D (80Vdc for 100mSec)
- Input Surge Protection: Designed to meet MIL-STD-1275A/D (100Vdc for 50mSec)

Output Selection Guide

Model #:	Voltage	Max Current	Regulation	Ripple
ID100-12	12Vdc	8.3 Amps	±3%	120mV pk-pk
DI100-15	15Vdc	6.6 Amps	±3%	150mV pk-pk
DI100-24	24Vdc	4.1 Amps	±3%	240mV pk-pk
DI100-28	28Vdc	3.6 Amps	±3%	240mV pk-pk
DI100-36	36Vdc	2.7 Amps	±3%	240mV pk-pk
DI100-48	48Vdc	2.1 Amps	±3%	240mV pk-pk

Note: Alternate output voltages are available, consult factory for availability.

DC Output Characteristics (floating)

- Output Power: 100 watts (maximum continuous power, may require derating for some low voltage outputs)
- Line Regulation: ±2.0% Typical
- Load Regulation: ±2.0% Typical (No load to full load; nominal input)
- Output Ripple/Noise: 1% Typical (pk-pk; nominal input; full load; 20MHz bandwidth)

- Set Point Accuracy: $\pm 1.0\%$ of Output Voltage (Nominal input; full load; 25°C)
- Transient Response: Output voltage returns to within 1% in less than 2.5mS for a 50% load change and the peak transient does not exceed 5%
- Overshoot: Turn-on and turn-off overshoot should not exceed 5% over nominal voltage
- Holdup Time: 16mS

Electrical Characteristics

- Switching Frequency: 300KHz Fixed
- Efficiency: 86% Typical (Measuring at 115Vac and at full load)
- Turn On Delay: 250 to 500mS (To nominal output voltage)
- Isolation Voltage:
 - Input to Output: 2000Vrms
 - Input to Chassis: 2000Vrms
 - Output to Chassis: 1000Vrms
- Isolation Resistance: 100Mohms (Input to output)
- Temperature Regulation: $\pm 2.0\%/^{\circ}\text{C}$ ($\pm 0.005\%/^{\circ}\text{C}$ max; over operating temp range)

Protection

- Over Current Limit: 115 to 130%. Auto-recovery after removal of overload condition
- Over-Voltage Setpoint: 108 to 125% of output voltage. Unit latched 1 minute, recycle AC input to reset
- Short Circuit: Auto-recovery after short circuit condition is removed
- Over Temperature Protection: The power supply is protected for over temperature conditions with thermal shutdown. Auto-Recovery when temperature returns to normal

Environmental

- Operating Temperature: -40° to +85°C (baseplate)
- Storage Temperature: -50° to 100°C
- Operating Humidity: 5% to 90% RH, Non-condensing
- Storage Humidity: 5% to 95% RH, Non-condensing
- Operating Altitude: Sea-level to 10,000 ft.
- Shock & Vibration: Designed to meet MIL-STD-810G
- EMC Radiated & Conducted EMI: Designed to meet EN55022 Level B, CISPR 22 Class B, FCC Part J Class B

Cooling

- Conduction Cooling: Baseplate not to exceed 85°C for full rated output

Mechanical

- Enclosure: Metal chassis, Aluminum baseplate and enclosure, non-finish.
- Outline Dimensions: 7.0" X 9.0" X 1.5" (W X L X H) – not including I/O connectors
- Weight: ~3.0 lbs. (~1360 grams)
- AC Input Connector (J1): D38999 or EQ.
- DC Input Connector (J2): D38999 or EQ.

- DC Output Connector (J3): D38999 or EQ.

Optional Features, Controls or Alarms

- Consult Factory

Note

- Product specifications subject to change without notice