

Open Frame Series – UPF600-1xx

Medical and ITE Grade 600 Watt Dual Output Power Switcher

Product Description

The **Digital Power Open Frame Series** switching power supplies incorporate advanced component and circuit technologies to deliver the smallest 600 watt switchers in the industry. Designed to meet 1U height considerations, the devices' U-Frame packages measure only 6.80 x 3.86 x 1.50". Each model offers universal AC input (85–265 VAC) with active power factor correction (PFC), optional 48 VDC input, flexible output configurations, and compliance with worldwide safety and EMC standards.

Key Features

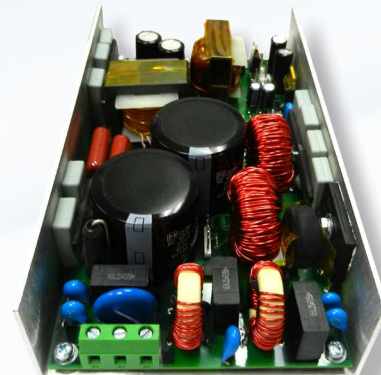
- High efficiency operation of up to 90%
- Universal AC input (85–265 VAC) with active PFC for EN6100-3-2 compliance
- 350–600 watts
- Power density of 22 W/in.³
- Digital PFC for accurate input power metering and inrush current control for AC and DC systems
- O'ring diodes/FETs for redundant operation
- Single wire current share
- I²C interface provides for firmware uploads, status monitoring, and product data retrieval
- Optional 36–72 VDC input range
- Low profile 1U height
- L x W x H: 6.80 x 3.86 x 1.50" (17.27 x 9.80 x 3.81 cm)

INPUT

• AC Input Voltage	85–265 VAC wide range
• Input Inrush Current	< 50 A @ 250 VAC cold start
• Input Reflected Ripple	FCC 68 part 15 Class B with external line filter
• Power Factor Correction	>0.98 typical @ 110/220 VAC input @ full load
• Input Line Protection	10 A 250 VAC SLO BLOW IEC type
• Hold-up Time	16 ms @ full load

OUTPUT

• Line Regulation	± 0.1% for Vin (min.) to Vin (max.)
• Transient Response	±5% max. deviation for load change of 25% to 75% at slew rate of 1A/usec, recovery time to 1% within 500 usec
• Over-Voltage Protection	120% typical latched shut-down
• Load Regulation	(V1) ± 0.5% maximum
• Load Regulation	(V2) ± 5% maximum
	V3 and V4: ±5% maximum
• Min Load Requirement	None
• Turn-On Delay	1 sec. maximum
• Initial setting Accuracy	± 0.5% maximum
• Ripple/Noise	1% p-p maximum
• Overload Protection	Hiccup mode, 110% typical of maximum output load



ENVIRONMENTAL CONDITIONS

• Operating Temperature	–25°C to 50°C (–13°F to 122°F); De-rate of 2.5% per 1°C to 70°C (34°F to 158°F)
• Temperature Protection	Shutdown (internal heat-sink temp. >95°C/203°F) with auto recovery
• Storage Temperature	–25°C to 95°C (–13°F to 203°F)
• Cooling	300 W free convection cooling, 600 W forced air cooling
• Humidity	Up to 95% RH non-condensing
• Shock & Vibration	0.75 G peak 5 Hz – 500 Hz
• MTBF	>300,000 hours

STATUS AND CONTROL

• Remote Inhibit	ACTIVE low-output shut down
• Power OK	ACTIVE low and ACTIVE high with internal 3.3V reference voltage, indicates when main output voltage drops more than 10%
• AC Fail	ACTIVE low 10 ms before loss of power with internal 3.3V reference voltage
• Current Share	Single wire, ±10% accuracy
• Remote Sense	Compensates for < 500 mV drop
• Auxiliary Output	5 V / 500 mA

ELECTROMAGNETIC COMPATIBILITY

• Electrostatic Discharge	EN61000-4-2, ±4 KV contact / ±8 KV air discharge
• Radiated Susceptibility	EN61000-4-3, 80 –1000MHz, 3 V/m, 80% AM
• EFT/Bursts	EN61000-4-4, ±1 KV
• Surges	EN61000-4-5, ±2 KV line-earth, ±1 KV line-line
• Conducted Immunity	EN61000-4-6, 0.15-800 MHz, 10V, 80% AM
• Voltage Dips	EN61000-4-11, 30% dip for 10 ms, 60% dip for 100 ms
• Voltage Interruptions	EN61000-4-11, 95% reduction for 5,000 ms
• Fluctuations & Flicker	EN61000-3-3

SAFETY AND EMISSIONS

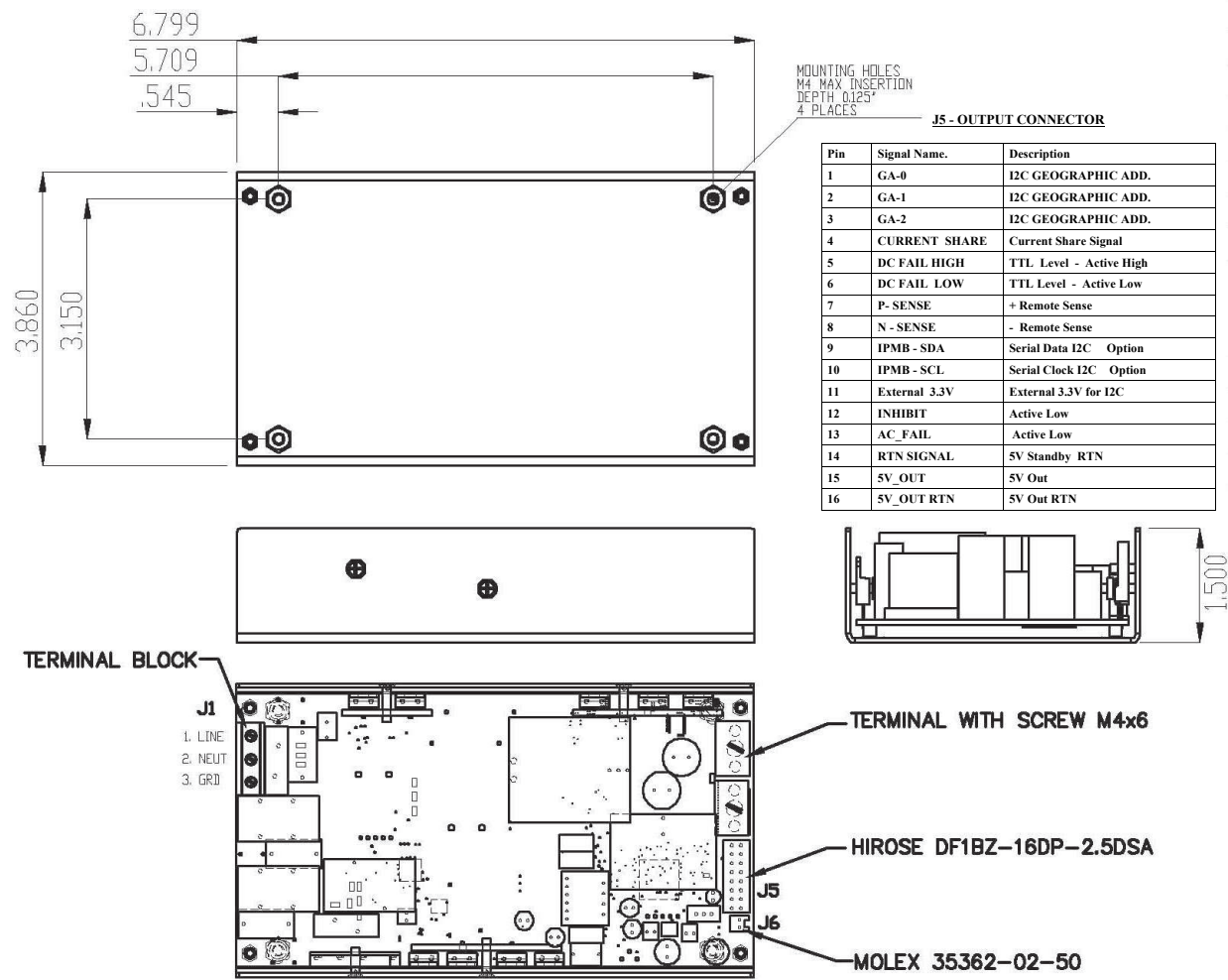
• Safety Approvals	IEC/EN/UL/cUL 60950-1 & 60601-1, CE Mark (LVD)
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Model Selection Guide

Model	Input	Output Power	Output Voltage	Output Current	Efficiency
UPF600-112	85 – 265 VAC	600 W	12 VDC	50 A	90% typical at 230 VAC, 85% typical at 115 VAC
UPF600-124	85 – 265 VAC	600 W	24 VDC	25 A	
UPF600-148	85 – 265 VAC	600 W	48 VDC	12.5 A	



INPUT

INPUT VOLT.	FREQUENCY	MAX. INPUT CURRENT	PHASE	PWR FACTOR COR.
90-250VAC	47-63Hz	10 AMPS	SINGLE	>0.99 @ Po = 600W

J1-INPUT CONNECTOR

1	LINE
2	NEUTRAL
3	GROUND

J6-OUTPUT CONNECTOR

1	12V/1.5A
2	12V RETURN

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