BPEU2000
AC/DC Converter



The BPEU Series of AC/DC Converters is available with multiple outputs and output power from 1300 W up to 3000 W. All models incorporate active Power Factor Correction (PFC).

Other standard features include current and voltage monitoring, overvoltage, overtemperature as well as short circuit protection.

These power supplies were designed to power radio-frequency power amplifier (RFPA) applications in the Broadcasting industry.

Key Features & Benefits

- Output Power 2000 W
- Single-Phase 230 VAC Input
- Power Factor > 0.99
- Total Harmonic Distortion < 5%
- Main Output: +40 V to +50 V
  (+20 V to +50 V by remote control)
- Auxiliary Output: +12 V/500 mA
- Current and Voltage Monitoring
- Remote Enable

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D-2000-ST02_001

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TECHNICAL PARAMETERS

Input Specifications

PARAMETER	DESCRIPTION / CONDITION
Voltage	184 – 264 VAC Single-Phase
Frequency	47…63 Hz
Efficiency	> 90% @ full-load @ 230 VAC
Inrush Current	≤ 30 Apk @ 230 VAC
Power Factor	0,99 @ full-load @ 230 VAC
THD	≤ 5% @ Pout ≥ 1 kW

Output Specifications

OUTPUT	VOLTAGE SETTING BY TRIM (VDC)	VOLTAGE SETTING BY EXT. 0 ÷ 5VDC (VDC)	Inom (A)	Imax (A)	TOLERANCE %	RIPPLE %	POWER (W)
V1	+40 to +50 *	+20 to +50 **	40	45	< 2	≤ 2	2000
V2	12	N/A	0.5	1	≤ 5	< 5	6

* V1 adjustable manually by multi-turns trimmer set on board (see page 2 "+48 Vadj")

** See "VOLTAGE OUTPUT ADJUSTEMENT PROCEDURE" section at page 2

Protection

PARAMETER	DESCRIPTION / CONDITION
Over-load V1:	Constant current limiting (see curve)
Short-circuit V1:	hiccup mode (with auto recovery)
Over-voltage V1:	set point = 56V ± 5%, not automatic return to operation
Over-temperature:	automatic return to operation with hysteresis
General:	AC side thermal fuses (T)

Alarms / Signals / Controls

PARAMETER	DESCRIPTION / CONDITION
Output V1 Current monitor **IM**	Linear analogic signal 100 mV → 1A (Internal impedance 3 kΩ)
Output V1 Voltage monitor **VM**	Linear analogic signal 1 / 10 Vout (Internal impedance 2 kΩ)
High temperature alarm **OTA**	Open-Collector, max. sink 4 mA; alarm = low (on = 70°C; reset = 60°C tolerance ± 5%)
Over temperature alarm **OTP**	Open-Collector, max. sink 4 mA; alarm = low (on = 80°C; reset = 70°C tolerance ± 5%)
Under voltage input alarm **PWR FAIL**	Open-Collector, max. sink 4 mA; alarm = low (set point Vin < 180 VAC)
Output V1 Remote **ENABLE**	Connected to COM = power-on, not connected = power-off (minimum current sink 5 mA)

Thermal Characteristics

PARAMETER	DESCRIPTION / CONDITION
Operating Temperature:	-10 to +50°C @ full-load (forced air-cooling, see Thermal Protection)
Storage Temperature:	-20 to +85°C

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BPEU2000

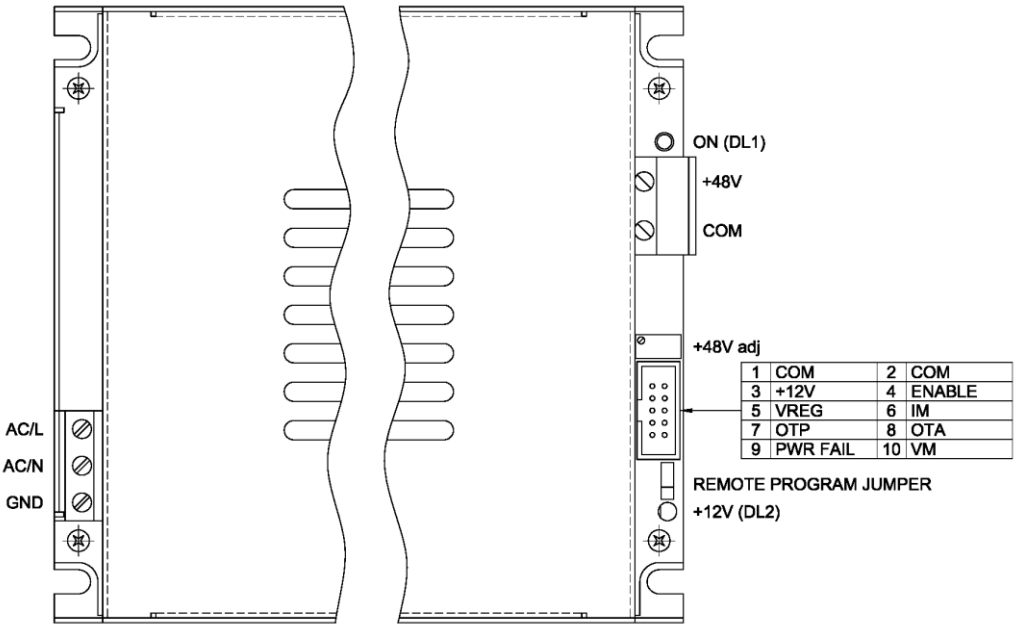
Standards / Regulations

PARAMETER	DESCRIPTION / CONDITION
Safety:	EN60950-1:2006+A11:2009 / EN60065:2002+A1:2006
EMC:	EN61000-6-4:2007
Harmonics Current:	EN61000-3-2 (class A)
CE Mark	

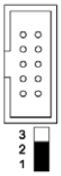
Connections

PARAMETER	DESCRIPTION / CONDITION
Input	3 pole screw type terminal block 24 A, 2.5 mm^2
Output V1	2 pole screw type terminal block 57 A, 16 mm^2
Signals / Controls / Output V2	Male FLAT type connector 10 pole DIL

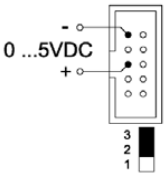
Figure 1 - Connections



VOLTAGE OUTPUT ADJUSTMENT PROCEDURE V1



Set the Jumper on pin 1 - 2 to adjust Vout by on board trimmer "+48 Vadj"



Set the Jumper on pin 2 - 3 to reduce linearly Vout set by trimmer by a 0 - 5 VDC external signal:

0 VDC → output V1 = voltage set by trimmer "+48 Vadj"
5 VDC → output V1 = voltage set by trimmer "+48 Vadj" -20 VDC

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Mechanical

PARAMETER	DESCRIPTION / CONDITION
Material	Case: Aluzinc 10/10 mm Cover: Aluzinc 10/10 mm
Fixing	N° 4 hole Ø 5 mm (see Dimensions)
Dimensions (W x H x D)	128 x 72 x 350 mm Notes: Tolerances 0.5 mm max

Figure 2 - Mechanical Drawing

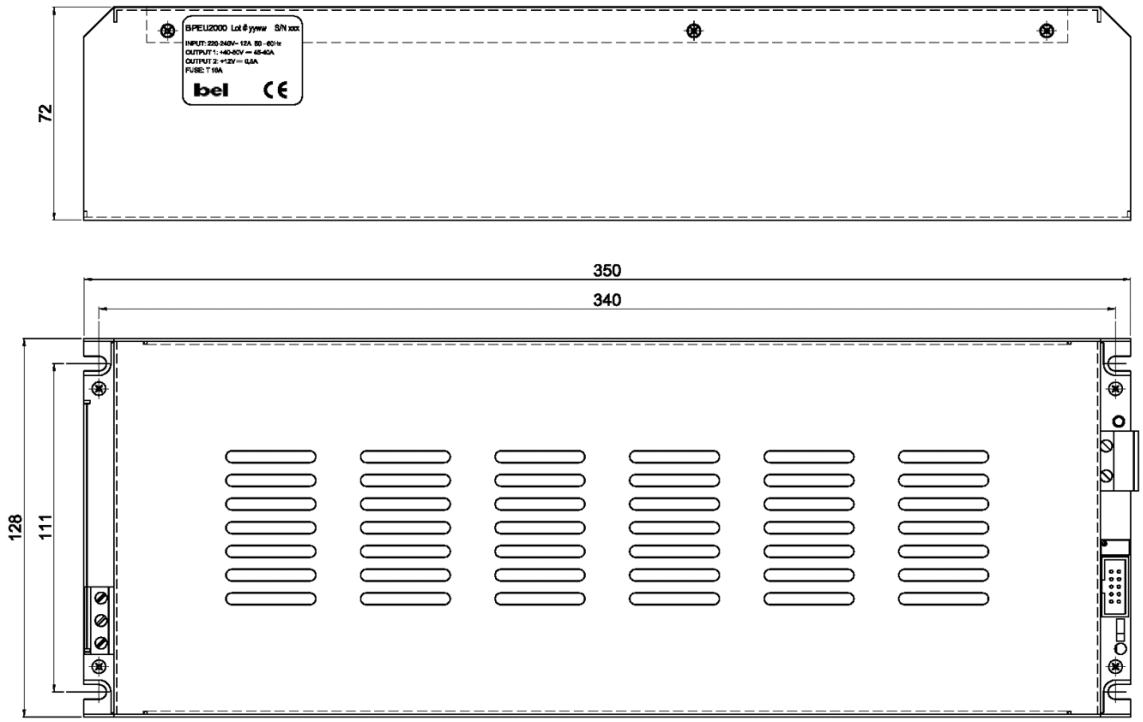
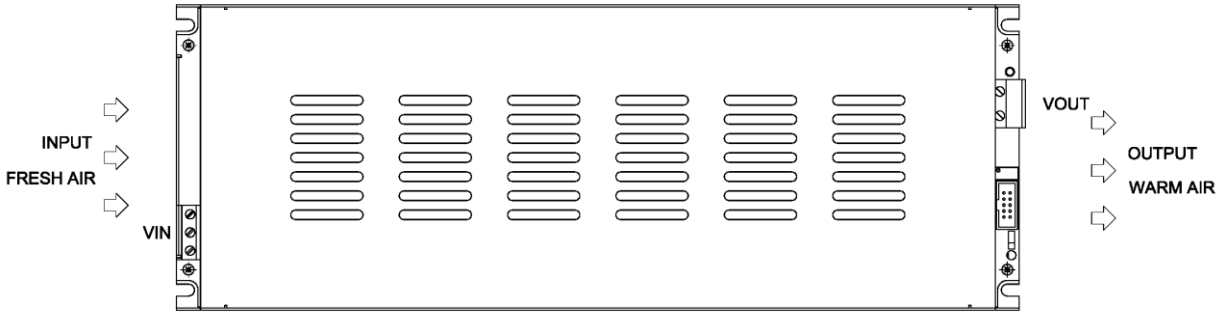


Figure 3 – Cooling Method



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Figure 4 – Output Characteristics

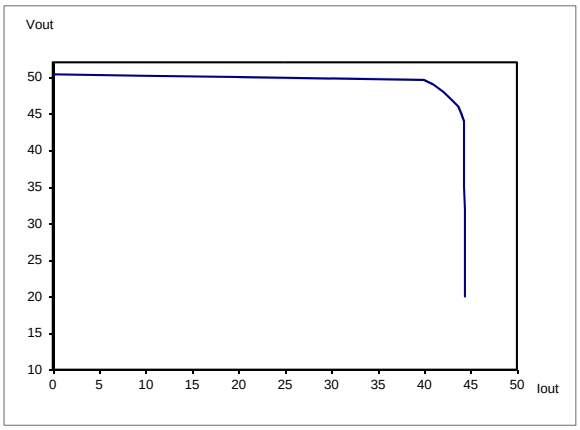


Figure 5 – Voltage Output Adjustments

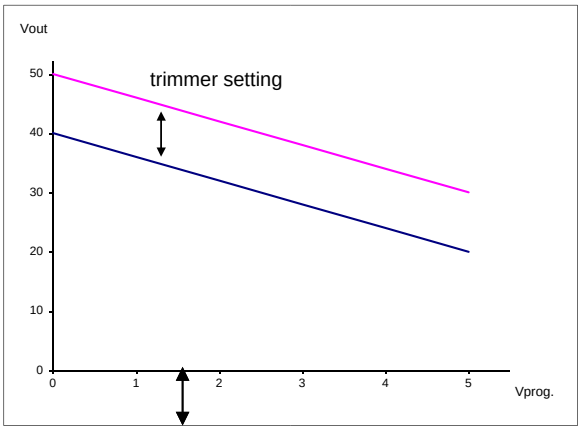


Figure 6 – Efficiency

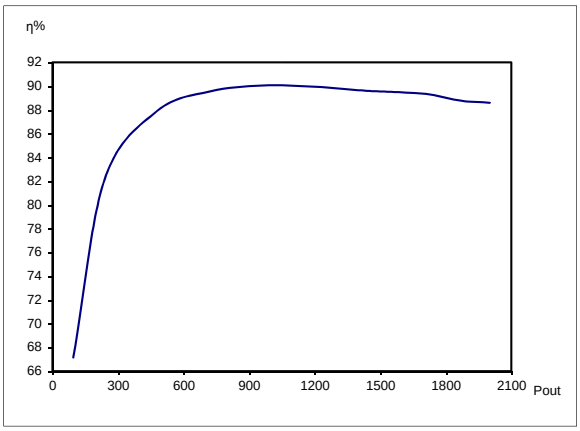


Figure 7 – Power Factor

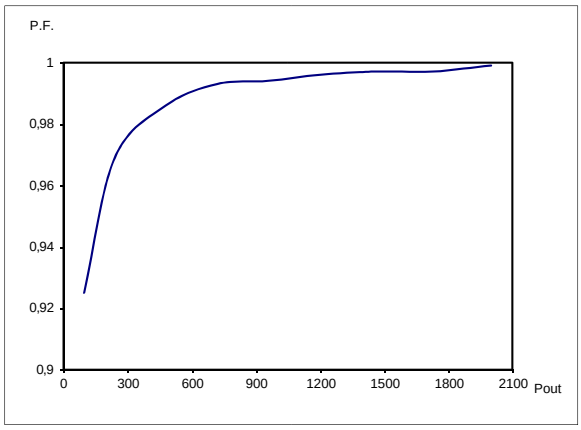
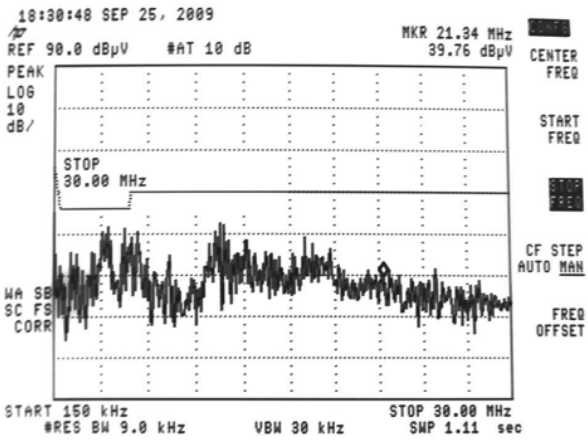


Figure 8 – Conducted Noise



For more information on these products consult: tech.support@psbel.com

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