



**BBU**

**Battery Backed-Up**

**Power Supply**



The connectPower® BBU combines with our power supplies and a customer supplied battery pack to form a scalable UPS system. This enables you to put together a UPS system uniquely tailored to your application.

This full featured unit has all the diagnostics needed for applications where it is critical to know the status of the power system.

- 12 and 24Vdc versions available
- Universal AC input
- 3A charge current on 12Vdc unit
- 2A charge current on 24Vdc unit
- 15A max load current
- Form C relay output for fault and battery status
- Inputs for Drain Cycle Activation, Drain Reset and Enable
- LED's for Battery Open, Battery Low, Battery Reverse Polarity, AC Fault and Charge State (Charging or Full Charge)

Please refer to [www.connectpwr.com](http://www.connectpwr.com) for more details on this product.

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## BBU - Battery Backed-Up Power Supply

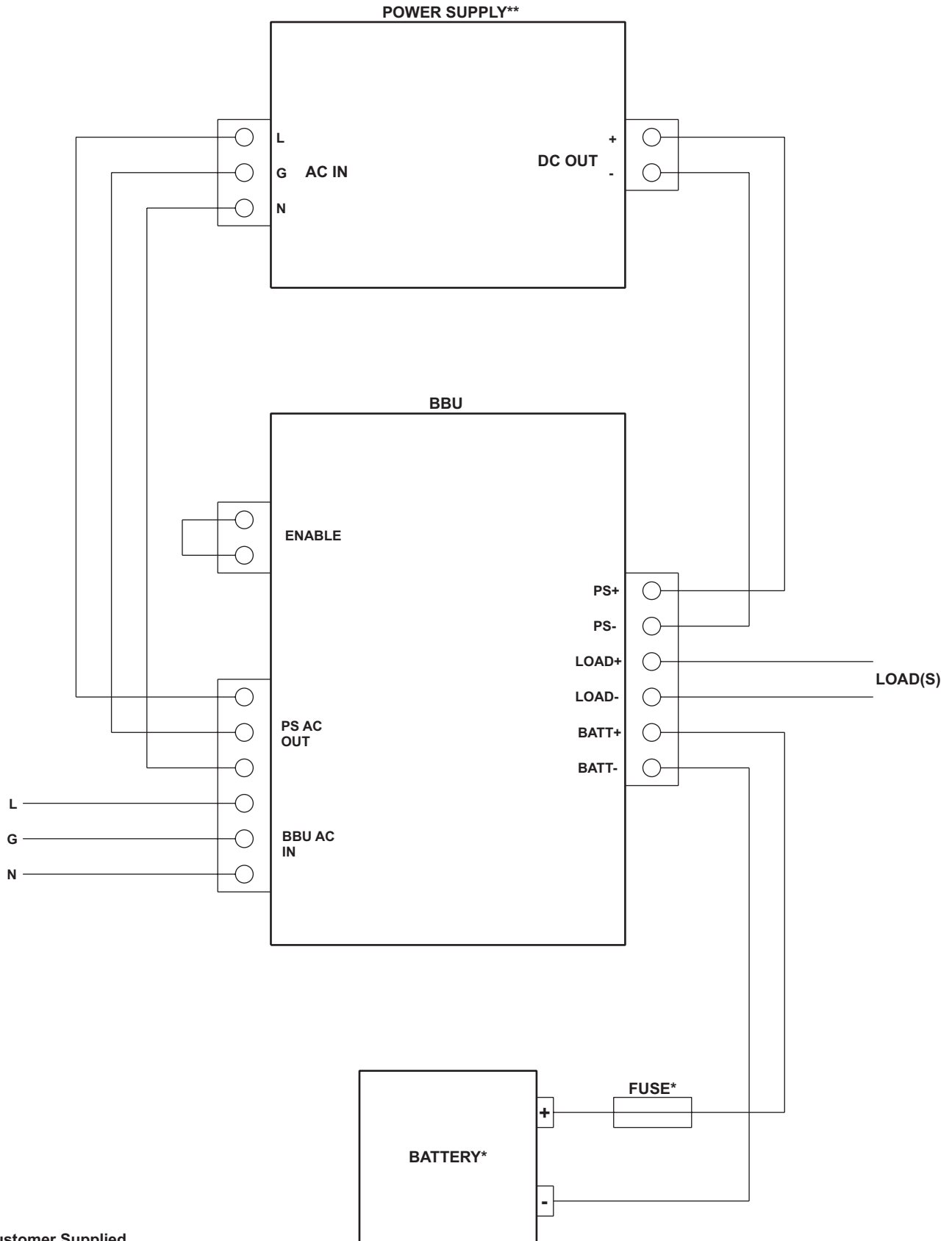
### BBU Operation (12/24V):

#### Diagnostic LEDs, control inputs and relay outputs

Specifications	
"Full Charge" LED (Green):	On when battery voltage is 14.75 / 29.5V or greater. "Bat Status" relay is energized. Once fully charged the BBU drops the charge voltage to 13.65 / 27.3V ("float" voltage).
"Battery Low" LED (yellow):	On when battery voltage is <11 / 22Vdc. "Bat Status" relay is de-energized. If the battery voltage drops below 9.3 / 18.3V the load is switched off.
"Charging" LED (yellow):	On when BBU is charging the batteries. Off when the "Full Charge" LED is on.
"Fault" LED (red):	On when AC fails. On when external power supply voltage is <11 / 22V. On when batteries not connected. On when battery voltage is <9.3 / 18.3V Fault relay de-energizes for the above conditions.
"Battery Reverse" LED (red):	Batteries connected in reverse. Fault relay de-energizes and fault LED turns on. Internal fuse opens to prevent damage to BBU or batteries.
"Battery Open" LED (red):	No batteries connected - takes approx. 60 seconds to detect after turning on BBU. "Fault" LED is on and Fault relay is de-energized.
"Drain" input	A temporary short between the "Drain" and "COM" terminals switches the load to the batteries until the battery voltage reaches 11 / 22V. At this point the AC power is returned to the power supply and the BBU starts recharging the batteries.
"Drain Reset"	A temporary short between the "Drain Reset" and "COM" terminals disables the Drain cycle to the batteries.
"Enable" input	A connection between the "Enable" and "COM" terminals enables the BBU. If terminals are open circuit (Disabled) the BBU functions as a battery charger only. In the event of AC failure the batteries are not connected to the load via the BBU. The BBU is factory preset as Enabled.

Catalog Number		991628 0012	991628 0024	Notes
Input Voltage	minimum typical maximum	85Vac 115-230Vac, +/- 10% 265Vac	85Vac 115-230Vac, +/- 10% 265Vac	
Input Current	@ 115Vac @ 230Vac	0.80A 0.50A	1.0A 0.60A	
AC Current Output for ext PS		10A max.	10A max.	Vac (out): Maximum AC current to external Power Supply
Input Protection	fuse inrush current overvoltage	2A slow blow (internal) 40A maximum 275V	2A slow blow (internal) 40A maximum 275V	Thermistor Limited Varistor Limited
Battery Current Burden	AC off	120-200mA	120-200mA	Depends on the Battery Voltage
Switching Time		<0.5mS	<0.5mS	Time to switch from external Power Supply to battery
Protection	Battery Polarity Protection Battery Over Voltage Battery Under Voltage  BBU Over Temperature  Charger Short Circuit Load Short Circuit	Limited by 4.0A O/P fuse 16V 9.3V  120°C +/-10%  Continuous Continuous	Limited by 4.0A O/P fuse 32V 18.3V  120°C +/-10%  Continuous Continuous	Fuse is blown if battery polarity is reversed Switches AC input voltage off Disconnects load from battery  BBU can turn off if internal temperature is within this range  Auto-restart Auto-restart
Hold Time	115Vac Input 230Vac Input	46ms 226ms	24ms 190ms	
Temperature Range	storage operating	-20 .... +85 Degrees C -20 .... +50 Degrees C	-20 .... +85 Degrees C -20 .... +50 Degrees C	
Humidity	storage operating	20 to 90% 20 to 85% non-condensing	20 to 90% 20 to 85% non-condensing	
Galvanic Isolation	input to output input/output to rail input to ground output to ground	3KV 3KV 1.5KV 500V	3KV 3KV 1.5KV 500V	
Wire Size	Power Connections  Control inputs / relay outputs	26-12 AWG (0.1-4mm <sup>2</sup> )  28-14 AWG (0.5 - 1.5mm <sup>2</sup> )	26-12 AWG (0.1-4mm <sup>2</sup> )  28-14 AWG (0.5 - 1.5mm <sup>2</sup> )	Wire gauge must be sized in accordance with CEC/NEC
Dimensions (mm)	length x width x depth	127.5 x 72.5 x 161.0	127.5 x 72.5 x 161.0	Add 22mm to height for connector and foot
Weight		950g	950g	
Control inputs	Enable	dry contact/open collector	dry contact/open collector	Connect to COM (enables battery back-up mode). When disabled the unit functions as a battery charger.
Status outputs	Drain	dry contact/open collector	dry contact/open collector	Momentary input (min. 50mS). Load switches to batteries until battery voltage drops to battery low level then switches back to normal operation.
	Drain Reset	dry contact/open collector	dry contact/open collector	Momentary input (min. 50mS). Disables the Drain cycle and switches back to normal operation.
	Battery Status	Form C Relay and LED	Form C Relay and LED	Relay and green LED on when battery is fully charged.
	Fault	Form C Relay and LED	Form C Relay and LED	Relay is energized and red LED is off when system OK.
Battery Charger	Charge Current Full Charge Battery Reverse Battery Open Battery Low	3.0A Regulates to 13.65V LED LED Yellow LED on below 11V	2.0A Regulates to 27.3V LED LED Yellow LED on below 22V	O/P fuse protected, red LED on when reversed  Red LED on when open  approximately 90% of battery voltage
Output	Voltage Nominal	12Vdc	24Vdc	
	Current	15A max	15A max	Current is not limited by BBU. An external current limiting device must be used to protect battery from short circuit and exceeding the max. allowable load current.
	Surge Current from no load	20A max for 300mS 30A max for 100mS	20A max for 300mS 30A max for 100mS	Timing changes depending on load before surge.
Approvals/Certifications		CSA, UL Listed, and CE	CSA, UL Listed, and CE	
Battery Capacity	Minimum	3AH	2AH	Batteries must be sized based on load requirements and length of down time needed.
	Maximum	not restricted	not restricted	
Miscellaneous	Mounting	TS35 DIN rail	TS35 DIN rail	Factory installed mounting foot.
	Optional Mounting	direct panel mount	direct panel mount	User installed mounting brackets (DIN rail foot is removed and replaced with brackets). Chassis Mounting kit catalog number: 7920560000
	Connections	plug and socket	plug and socket	

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\*Customer Supplied  
\*\*Ordered Separately