

## DESCRIPTION

## PRODUCT COVERED:

USR, CNR - Power Supply, Model BWS4805, BWD4812, and BWS4815, may be followed by optional suffix "I."

## GENERAL CHARACTER:

The products covered by this Report are dc/dc converters intended to supply dc output power. They are provided with input and output connectors for connection to their nominal rated dc source of supply. All components are intended to be mounted on printed wiring board and completely enclosed in a thermoplastic enclosure.

## ELECTRICAL RATING:

Model	Input		Output	
	V	A	V	A
BWS4805	36 to 72	0.5	5.0	0.5
BWD4812	36 to 72	0.5	+12 -12	0.125 0.125
BWS4815	36 to 72	0.5	+15 -15	0.2 0.2

## ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

\*

**Use - For use only in (or with) complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.**

**Special Considerations - The following items are considerations that were used when evaluating this product.**

**USR/CNR indicates investigation to the U.S. and Canadian (Bi-National) Standard for Safety of Information Technology Equipment, Including Electrical Business Equipment, CAN/CSA C22.2, No. 60950-1 \* UL 60950-1, First Edition, which are based on IEC 60950-1: First Edition.**

Conditions of Acceptability - When installed in the end-use equipment, the following are among the considerations made:

1. The input to these dc/dc converters are intended to be supplied from an isolated secondary source rated 36 to 72 V dc.
2. This component provides operational insulation only.
3. The necessity to conduct the Leakage Current Test is to be determined during the end product evaluation.
4. The power supply shall be installed in compliance with the enclosure, mounting, spacing, casualty and segregation requirements of the ultimate application.
5. The input and output connectors are not acceptable for field connections and are only intended for connection to mating connectors of internal wiring inside the end-use equipment. The acceptability of these and the mating connectors relative to secureness, insulating materials and temperature shall be considered.
6. Abnormal and Component Failure Tests were conducted with the power supply input protected by a Listed 1 A, 250 V fuse. The need for repeating these tests in the end-use appliance shall be considered.
7. The Normal Temperature Test was conducted on a unit with the case temperature regulated not to exceed 85°C, with the ambient temperature on transformer T1 winding were 90.3°C. The transformer provides operational insulation and it employs insulating material rated 130°C.

# CERTIFICATE

No. B 05 04 24238 641



**Holder of Certificate:** Power-One, Inc.

740 Calle Plano  
Camarillo, CA 93012-8583  
USA

**Certification Mark:**



**Product:**

**Power supply  
DC / DC Converters**

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. See also notes overleaf.

**Test report no.:**

SI501644-103

*William A. Wenthold*

**Date,** 2005-04-27

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**CERTIFICATE**

No. B 05 04 24238 641

**Model(s):**

**BW Series**

**See Attachment for General Product Information**

**Parameters:**

Rated Input Voltage:	36 - 72 V DC
Rated Frequency:	DC
Rated Input Current:	0.5 A
Rated Output Voltage:	5.0 V DC See Attachment for additional models and ratings.
Rated Output Current:	0.5 A See Attachment for additional models and ratings.
Protection Class:	III

Note: Output of this converter may be controlled by software or hardware.

**Tested according to:**

EN 60950-1/A11:2004

**Production Facility(ies):**

24260, 41428, 41950

**Attachment to Certificate B 05 04 24238 641  
For Power-One Inc.**

**General product information:**

Special Considerations- The following items are considerations that were used when evaluating these products.

All models are intended for building-in, to be soldered onto a PWB or plugged in to special end-user socket.

Conditions of Acceptability – When installed in the end-use equipment, the following are among the considerations to be made:

1. All models are intended to be supplied from an isolated secondary circuit and have been evaluated for functional insulation between the input and output circuits.
2. The input and output connectors (pins) are suitable for factory wiring only.
3. The power supplies have been evaluated for use in a Pollution Degree 2 environment.
4. Abnormal and Component Failure Tests were conducted with the power supply input protected by a T0.5 A, 125Vdc fuse for 48 V input units except for units with 24V output uses 2A, 125V; 5A, 125Vdc for 5V input units; 3 A, 125Vdc for 12 V input and 1 A, 125 Vdc for 24 V input units. Additional testing may be required if fuse rating used is greater than the above ratings.
5. The power supply was submitted and tested for a manufacturer's recommended \*Tc maximum temperature of 85°C.  
  
\*Tc = is measured at the case.
6. These units are intended to be supplied from an isolated source of supply, such as a battery, or a source which meets the requirements for basic (ELV) or reinforced (SELV) insulation from primary (mains) circuitry, depending on output type desired.
7. If the input meets all of the requirements for ELV, the outputs may be considered ELV.
8. If the input meets all of the requirements for SELV, the outputs may be considered SELV. Output voltages remain within SELV limits, even with internally-generated non-SELV voltages, if any. Single Component Failure and Functional Insulation Bypass Tests were performed in the power supply.
9. The units were tested for the rated voltage with zero tolerance. If used outside this voltage range, additional testing may be required.
10. Special spacing consideration should be given to the end-use product as the spacings between the unit and mounting surface have not been evaluated.
11. Special enclosure consideration should be given to the end-use installation. Hazardous voltage is available on the surface of the PWB. The end-use product should be reviewed to determine whether accessibility requirements are met for the end-use product.



*William A. Wauthoff*

**Attachment to Certificate B 05 04 24238 641  
For Power-One Inc.**

NOMENCLATURE BREAKDOWN AND ELECTRICAL RATINGS:

Model Number	Vin (VDC)	Iin (A)	V1out (VDC)	I1out (A)	V2out (VDC)	I2out (A)	Power (W)
BWS480 5	36-72	0.5	5	0.5	-	-	3
BWS481 5	36-72	0.5	15	0.2	-	-	3
BWD481 2	36-72	0.5	12	0.125	-12	0.125	3



*William A. Wertholt*