



America

CERTIFICATE

No. B 12 07 57396 153

Holder of Certificate: **XP Power LLC.**



1241 East Dyer Road, Suite 150
Santa Ana CA 92705
USA

Production Facility(ies): 61661, 77041

Certification Mark:



Product: DC converter
(DC / DC Converter)

Model(s): JHM03XXYZZ and JHM06XXYZZ Series
(Where XX is any number between 12 or 24,
Y can be S or D, ZZ can be 05 or 12 or 15).

Parameters: Rated Input Voltage:
JHM0312YZZ and JHM0612YZZ: 10-17 Vdc,
JHM0324YZZ and JHM0624YZZ: 20-30 Vdc
Rated Output Ratings: See attachment
Temperature, Ambient: 60°C max.
See attachment for additional information.

The product is intended to be powered by an isolated regulated secondary DC source and has not been evaluated for connection to supply Mains. Suitable separation shall be provided during final installation.

Tested according to: EN 60601-1:2006

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. It is not permitted to alter the certification mark in any way. In addition the certification holder must not transfer the certificate to third parties. See also notes overleaf.

Test report no.: S11206534-000

Date, 2012-07-20

Page 1 of 3

John





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**ATTACHMENT TO CERTIFICATE NO. B 12 07 57396 153
FOR XP POWER LLC**

DC / DC Converter

Product Description

Model JHM03 and JHM06 Series units are DC/DC Converters to be used as part of Medical Electrical Equipment, and are intended to provide Two MOPP between DC input circuits to DC output circuit. They have two input ranges: 10-17 VDC (12 VDC nominal) and 20-30 (24 VDC nominal).

The units are provided with top and bottom plastic enclosure. All components inside the unit are mounted on PWB.

Model Differences

Model JHM03XXYZZ Series:

The number "03" represents a maximum output of 3 W, while "XX" is the Nominal Input Voltage, 12 VDC or 24 VDC; and Y represents either S for single output or D for a dual output unit and where ZZ represents the output voltage: 05 = 5 VDC, 12 = 12 VDC, 15 = 15 VDC.

Model JHM06XXYZZ Series:

The number "06" represents a maximum output of 6 W, while "XX" is the Nominal Input Voltage, 12 VDC or 24 VDC; and Y represents either S for single output or D for a dual output unit and where ZZ represents the output voltage: 05 = 5 VDC, 12 = 12 VDC, 15 = 15 VDC.

All models within a series are identical except for transformer windings, inductance and MOSFETs, and output ratings.

Rated Outputs (60°C):

Output: Single Output Units:

- JHM0312S05: 5 VDC, 600 mA
- JHM0312S12: 12 VDC, 250 mA
- JHM0312S15: 15 VDC, 200 mA
- JHM0324S05: 5 VDC, 600 mA
- JHM0324S12: 12 VDC, 250 mA
- JHM0324S15: 15 VDC, 200 mA
- JHM0612S05: 5 VDC, 1200 mA
- JHM0612S12: 12 VDC, 500 mA
- JHM0612S15: 15 VDC, 400 mA
- JHM0624S05: 5 VDC, 1200 mA
- JHM0624S12: 12 VDC, 500 mA
- JHM0624S15: 15 VDC, 400 mA

Output: Dual Output Units:

- JHM0312D12: +/-12 VDC, 125 mA
- JHM0312D15: +/-15 VDC, 100 mA
- JHM0324D12: +/-12 VDC, 125 mA
- JHM0324D15: +/-15 VDC, 100 mA
- JHM0612D12: +/-12 VDC, 250 mA
- JHM0612D15: +/-15 VDC, 200 mA
- JHM0624D12: +/-12 VDC, 250 mA
- JHM0624D15: +/-15 VDC, 200 mA



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Conditions of Acceptability:

When installing the equipment, all requirements of the standards and the manufacturer's specifications must be met.

- The product was submitted and tested for use at the manufacturer's recommended ambient temperature (T_{mra}) of 60°C at Full Load.
- The output circuit has not been evaluated for connecting to Applied Parts.
- Consideration should be given to measuring the temperature on power electronic components and transformer windings when the power supply is installed in the end-use equipment.
- The end-product evaluation shall ensure that the requirements related to Accompanying Documents Clause 7.9 are met.
- End product Risk Management Process to include consideration of requirements specific to the Power Supply.
- End product Risk Management Process to consider the need for simultaneous fault condition testing
- End product to determine the acceptability of risk in conjunction to insulation to resistance to heat, moisture, and dielectric strength.
- End product to determine the acceptability of risk in conjunction to the Leakage of Liquids as part of the power supply.
- End product to determine the acceptability of risk in conjunction to the selection of components as it pertains to the intended use, essential performance, transport, storage conditions as part of the power supply.
- The products were tested using a DC source connected to a 20 A branch circuit. If used on a branch circuit greater than this, additional testing may be necessary.
- The units were evaluated for 2 MOPP from Input to Enclosure and 2 MOPP from Input to Output based on a maximum input voltage of 30Vdc. Additionally evaluated for 1 MOPP for 250 Vrms.
- Abnormal tests were conducted with the input provided with an external UL Listed fuses of the following values: 1.5 A for the 10-17 VDC (Nominal 12 VDC) Input units and 1.0 A for the 20-30 VDC (Nominal 24 VDC) Input units. Testing conducted with an isolated regulated secondary DC source.
- The need for Marking durability and label legibility to be determined as part of the end product evaluation.
- End product to determine the acceptability of risk in conjunction to the movement of components as part of the power supply.
- Overcurrent protection is not provided; the end-product evaluation shall consider compliance to Clause 8.11.5.

Rpt. Ref. No.: SI1206534-000

Page 3 of 3

2012-07-20