



America

# CERTIFICATE

No. B 12 01 57396 125

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



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

Production Facility(ies):

59319, 71712

Certification Mark:



Product:

Power supply  
(Power Supply)

Model(s):

ECM40USXX-W, ECM60USXX-W, ECM60USXX-W (3X5)  
(where XX can be number 05 to 48 to indicate the main output voltage, may be also followed by suffix "SF" for single fuse option)

Parameters:

Rated Input Voltage: 100-240 V AC,  
Rated Frequency: 50/60 Hz  
Rated Input Current: 1.0 A (ECM40USXX-W),  
1.5 A [ECM60USXX-W,  
ECM60USXX-W (3X5)]  
Rated Output Voltage: See attachment  
Protection Class: End product dependant  
(could be used for Class I or Class II end products)  
Temperature, Ambient: 50°C at 100% load,  
70°C at 50% load.  
See attachment for further information.

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.: 095-1200071-000

Date, 2012-01-12

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ATTACHMENT TO CERTIFICATE NO. B 12 01 57396 125  
FOR XP POWER LLC

POWER SUPPLY

Approved models and output ratings:

Model Number	Output		Maximum Power (W)
	Voltage (V)	Current (A)	
ECM40US05	5.0	8.0	40 W
ECM40US07	7.0	5.7	
ECM40US09	9.0	4.4	
ECM40US12	12.0	3.5	
ECM40US15	15.0	2.7	
ECM40US18	18.0	2.2	
ECM40US24	24.0	1.7	
ECM40US33	33.0	1.2	
ECM40US48	48.0	0.9	
ECM60US05	5.0	12.0	
ECM60US07	7.0	8.6	
ECM60US09	9.0	6.7	
ECM60US12	12.0	5.0	
ECM60US15	15.0	4.0	
ECM60US18	18.0	3.3	
ECM60US20	20.0	3.0	
ECM60US24	24.0	2.5	
ECM60US33	33.0	1.8	
ECM60US48	48.0	1.25	

**Model Differences:**  
 Model ECM40USXX-W Series and Model ECM60USXX-W Series are identical with exception to input and output ratings.  
 All models in Model ECM40USXX-W and Model ECM60USXX-W series are identical with exception to the Mains Transformer, T1, and minor secondary components that allow for different output voltage ratings.  
 Model ECM60USXX-W Series is identical to Model ECM60USXX-W (3X5) with exception to Model ECM60USXX-W (3X5) being provided on a 3 by 5 in. printed wiring board.

(continued)



America

## ATTACHMENT TO CERTIFICATE NO. B 12 01 57396 125 FOR XP POWER LLC

### Conditions of Acceptability:

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

### The models require:

- Suitable Fire/Mechanical/Electrical enclosure shall be provided as part of the end product.
- When installed into end product, sufficient clearance and creepage distance shall be provided between power supply and accessible conductive parts .
- Temperature, Leakage Current, Protective Earthing, Dielectric Voltage Withstand, and Interruption of the Power Supply tests should be considered as part of the end product evaluation.
- The output circuits have not been evaluated for direct patient connection (Type B, BF or CF).
- The output connectors are not acceptable for field connections, they are only intended for connection to mating connectors of the end use equipment. .
- The power supplies have not been evaluated for use in the presence of flammable anesthetic mixture with air, oxygen or nitrous oxide.
- Proper bonding to the end-product main protective earthing terminal is required when the power supply is installed in the Class I end product.
- Power supply has single fuse option, the need for additional fusing to be determined as part of the end product.
- Scope of Power Supply evaluation defers the following clauses to the be determined as part of the end product:
  - Clause 7.5 (Safety Signs),
  - Clause 7.9 (Accompanying Documents),
  - Clause 9 (ME Hazard),
  - Clause 10 (Radiation),
  - Clause 14 (PEMS),
  - Clause 16 (ME Systems)



America

# CERTIFICATE

No. B 12 01 57396 131

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



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

**Production Facility(ies):**

59319, 71712

**Certification Mark:**



**Product:**

Power supply  
(Power supply)

**Model(s):**

ECM60UDxx, ECM60UTxx, ECM40UDxx, ECM40UTxx, ECC60UDxx, ECC60UTxx, ECC40UDxx, ECC40UTxx, ECM60UDxx (3X5), ECM60UTxx (3X5), where xx can be 21-22 or 31-37, ECM60UT31>2449, all models maybe followed by "W".

**Parameters:**

Rated Input Voltage:	100-240 V AC
Rated Input Current:	1.5 A max.
Rated Input Frequency:	50/60 Hz
Rated Output Ratings:	See attachment
Protection Class:	Can be installed in Class I or Class II end product
Temperature, Ambient:	See attachment
See attachment for further information.	

**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.:** 095-1200232-000

**Date,** 2012-01-18

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ATTACHMENT TO CERTIFICATE NO. B 12 01 57396 131  
FOR XP POWER LLC

POWER SUPPLY

Approved models and Rated Outputs:

Model Number	Output 1	Output 2	Output 3	Maximum Power
	V(V)/I max(A)	V(V)/I max (A)	V(V)/I max (A)	
ECM40UD21	+5.0V/6.0A	+12.0V/2.0A		40 W
ECM40UD22	+5.0V/6.0A	+15.0V/1.5A		
ECM40UT31	+5.0V/6.0A	+12.0V/2.0A	-12.0V/0.5A	
ECM40UT32	+5.0V/6.0A	+24.0V/1.0A	-12.0V/0.5A	
ECM40UT33	+5.0V/6.0A	+15.0V/1.5A	-15.0V/0.5A	
ECM40UT34	+3.3V/6.0A	+5.0V/1.5A	+12.0V/0.5A	
ECM40UT35	+5.0V/6.0A	+3.3V/1.5A	+12.0V/0.5A	
ECM40UT36	+5.0V/6.0A	+12.0V/2.0A	+24.0V/0.5A	
ECM40UT37	+5.0V/6.0A	+24.0V/1.0A	+12.0V/0.5A	
ECM60UD21	+5.0V/8.0A	+12.0V/3.0A		
ECM60UD22	+5.0V/8.0A	+15.0V/2.5A		
ECM60UT31	+5.0V/8.0A	+12.0V/3.0A	-12.0V/0.5A	
ECM60UT32	+5.0V/8.0A	+24.0V/1.5A	-12.0V/0.5A	
ECM60UT33	+5.0V/8.0A	+15.0V/2.5A	-15.0V/0.5A	
ECM60UT34	+3.3V/8.0A	+5.0V/3.0A	+12.0V/0.5A	
ECM60UT35	+5.0V/8.0A	+3.3V/1.5A	+12.0V/0.5A	
ECM60UT36	+5.0V/8.0A	+12.0V/1.5A	+24.0V/0.5A	
ECM60UT37	+5.0V/8.0A	+24.0V/1.5A	+12.0V/0.5A	
ECM60UT31>2449	+5.0V/2.5A	+12.0V/3.0A	-12.0V/1.0A	

Model Differences:

All models are identical except output electrical ratings, designation and may be provided with either dual or triple outputs. Models with designation UD represent dual outputs and UT represents triple outputs. Models rated 40 W are identical in construction to Models rated 60 W. ECM models are identical to ECC models and differ in designation only.

Model ECM60UT31>2449 is custom make model, it is identical to Model ECM60UT31 in construction with exception to changes to components: Optical Isolator, U3, and Capacitors, C2, C3, C22, C29.

Models ECM60UDxx (3X5) and ECM60UTxx (3X5) are identical to Models ECM60UDxx and ECM60UTxx respectively except the PWB size is larger (3X5 inches) and trace layout differences.

Models followed by "W" are provided with two Y1 bridging capacitors (C22 and C22A) and provide 2 MOPP between primary and secondary. Models without the "W" are provided with one Y1 bridging Capacitors (C22) and provide 1 MOPP between primary and secondary.

(Continued)



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## ATTACHMENT TO CERTIFICATE NO. B 12 01 57396 131 FOR XP POWER LLC

### 40W Models:

Tma = 60°C at 100% load (40W), Convection cooling,  
Tma = 70°C at 75% load (30W), Convection cooling,  
Tma = 70°C at 100% load (40W), External forced air cooling,  
Tma = 80°C at 75% load (30W), External forced air cooling,

### 60W Models:

Tma = 50°C at 100% load (60W), Convection cooling,  
Tma = 70°C at 50% load (30W), Convection cooling,  
Tma = 60°C at 100% load (60W), External forced air cooling,  
Tma = 80°C at 50% load (30W), External forced air cooling.

Forced air cooling consists of an external fan blowing 132 lfm over the power supply input to output.

### Conditions of Acceptability:

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

### The models require:

- Suitable Fire/Mechanical/Electrical enclosure shall be provided as part of the end product.
- When installed into end product, sufficient clearance and creepage distance shall be provided between power supply and accessible conductive parts.
- Temperature, Leakage Current, Protective Earthing, Dielectric Voltage Withstand, and Interruption of the Power Supply tests should be considered as part of the end product evaluation.
- The output circuits have not been evaluated for direct patient connection (Type B, BF or CF).
- The input/output connectors are not acceptable for field connections, they are only intended for connection to mating connectors of the end use equipment. .
- The power supplies have not been evaluated for use in the presence of flammable anesthetic mixture with air, oxygen or nitrous oxide.
- Proper bonding to the end-product main protective earthing terminal is required when the power supply is installed in the Class I end product.
- The product was not investigated to the following standards or clauses: Electromagnetic Compatibility (EN 60601-1-2) Clause 14, Programmable Electronic Systems, Biocompatibility (ISO 10993-1), additional evaluation shall be conducted at end use.

(Continued)



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## ATTACHMENT TO CERTIFICATE NO. B 12 01 57396 131 FOR XP POWER LLC

- Scope of Power Supply evaluation defers the following clauses to be determined as part of the end product:
  - Clause 7.5 (Safety Signs),
  - Clause 7.9 (Accompanying Documents),
  - Clause 9 (ME Hazard),
  - Clause 10 (Radiation),
  - Clause 14 (PEMS),
  - Clause 16 (ME Systems)
- Scope of Power Supply evaluation excludes the following:
  - Patient applied parts clauses: 4.6, 7.2.10, 8.3, 8.5.2, 8.5.5, 8.7.4.7-8.7.4.9, 8.9.1.15
  - Battery related clauses: 7.3.3, 15.4.3
  - Hand Control related clauses: 8.10.4
  - Oxygen related clauses: 11.2.2
  - Fluids related clauses: 11.6.2 – 11.6.4
  - Sterilization clause: 11.6.7
  - Biocompatibility Clause: 11.7 (ISO 10993)
  - Motor related clauses: 13.2, 13.3, 13.4
  - Heating Elements related clause: 13.2
  - Flammable Anaesthetic Mixtures Protection: Annex G



America

# CERTIFICATE

No. B 12 07 57396 157

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



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

Production Facility(ies):

59319, 71712

Certification Mark:



Product:

Power supply  
(Power Supply)

Model(s):

ECM60USxx, ECM40USxx, ECC60USxx, ECC40USxx,  
where xx can be number between 05 and 48 designating  
the output voltage. Maybe followed by 3X5  
(see attachment for detailed model information)

Parameters:

Rated Input Voltage: 100-240 V AC,  
Rated Frequency: 50/60 Hz  
Rated Input Current: 1 A (ECM40USxx, ECC40USxx),  
1.5 A (ECM60USxx, ECC60USxx)

Output: See attachment for output ratings and conditions of acceptability

Protection Class: Class I or Class II at end use  
Temperature, Ambient: Tma = 50°C at 100% load, Convection cooling,  
Tma = 70°C at 50% load, Convection cooling,  
Tma = 80°C at 50% load, 5 CFM Forced air cooling.

Elevation for use: 0 - 3048m

Tested according to: EN 60950-1/A12:2011

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.: SI1206743103-000

Date, 2012-07-11  
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ATTACHMENT TO CERTIFICATE NO. B 12 07 57396 157  
FOR XP POWER LLC

POWER SUPPLY

**DC Output Ratings:**

Model Number	Output		Maximum Power (W)
	Voltage (V)	Current (A)	
ECM40US05	5.0	8.00	40 W
ECM40US07	7.0	5.70	
ECM40US09	9.0	4.40	
ECM40US12	12.0	3.50	
ECM40US15	15.0	2.70	
ECM40US18	18.0	2.20	
ECM40US24	24.0	1.70	
ECM40US33	33.0	1.20	
ECM40US48	48.0	0.90	
ECM60US05	5.0	12.00	
ECM60US07	7.0	8.60	
ECM60US09	9.0	6.70	
ECM60US12	12.0	5.00	
ECM60US15	15.0	4.00	
ECM60US18	18.0	3.30	
ECM60US20	20.0	3.00	
ECM60US24	24.0	2.50	
ECM60US33	33.0	1.80	
ECM60US48	48.0	1.25	

**Model Differences**

All Models are identical except for output ratings, number of turns of secondary winding in the main output transformer and corresponding minor differences in the secondary circuit components. Models rated 40 W are identical in construction to Models rated 60 W. Models ECC are identical to Models ECM except for designation.

Models with suffix 3X5 are identical to other models except the physical size of the PWB and the addition of a functional earth trace to the PWB layout.



America

## ATTACHMENT TO CERTIFICATE NO. B 12 07 57396 157 FOR XP POWER LLC

### Conditions of Acceptability:

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

### These models require:

When installed in an end-product, a suitable main disconnect device shall be provided in the end product.

Proper fire and electrical enclosure are required at end-product.

The power supplies approved are provided with fuse in the neutral of the primary circuit. The proper warning to service persons should be marked on the end product when it is applicable.

### For CLASS I Installation:

The power supply shall be mounted in manner that provides sufficient clearance and creepage distance between the power supply and protectively earthed accessible conductive parts when installed in a Class I end product.

The protective bonding terminal of the power supply shall be reliably bonded to the main protective earthing terminal of the end product when installed in a Class I end product.

### For CLASS II Installation:

The power supply shall be mounted on insulating posts that provide sufficient clearance and creepage distance between the power supply and accessible conductive parts when installed in a Class II end product.



America

# CERTIFICATE

No. B 12 07 57396 161

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



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

**Production Facility(ies):** 71712, 59319

**Certification Mark:**



**Product:** Power supply  
(Power Supply)

**Model(s):** ECM60UDxx, ECM60UTxx, ECM40UDxx, ECM40UTxx, ECC60UDxx, ECC60UTxx, ECC40UDxx, ECC40UTxx, where xx can be 21-22, 31-35. Maybe followed by 3X5, ECM60UT31>2449  
(see attachment for detailed model information)

**Parameters:**

Rated Input Voltage:	100-240 V AC
Rated Input Current:	1 A (40 W models) or 1.5 A (60 W models)
Rated Frequency:	50/60 Hz
Rated Output Voltage:	See attachment
Protection Class:	Can be installed in Class I or Class II end product
Temperature, Ambient:	See attachment
	See attachment for further information.

**Tested according to:** EN 60950-1/A12:2011

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.:** SI1206743104-000

**Date,** 2012-07-27

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ATTACHMENT TO CERTIFICATE NO. B 12 07 57396 161  
FOR XP POWER LLC.

POWER SUPPLY

Model Number	Output 1	Output 2	Output 3	Maximum Power
	V(V)/I max(A)	V(V)/I max (A)	V(V)/I max (A)	
ECM40UD21	+5.0V/6.0A	+12.0V/2.0A		40 W
ECM40UD22	+5.0V/6.0A	+15.0V/1.5A		
ECM40UT31	+5.0V/6.0A	+12.0V/2.0A	-12.0V/0.5A	
ECM40UT32	+5.0V/6.0A	+24.0V/1.0A	-12.0V/0.5A	
ECM40UT33	+5.0V/6.0A	+15.0V/1.5A	-15.0V/0.5A	
ECM40UT34	+3.3V/6.0A	+5.0V/1.5A	+12.0V/0.5A	
ECM40UT35	+5.0V/6.0A	+3.3V/1.5A	+12.0V/0.5A	
ECM40UT35	+5.0V/6.0A	+3.3V/1.5A	+12.0V/0.5A	
ECM60UD21	+5.0V/8.0A	+12.0V/3.0A		60 W
ECM60UD22	+5.0V/8.0A	+15.0V/2.5A		
ECM60UT31	+5.0V/8.0A	+12.0V/3.0A	-12.0V/0.5A	
ECM60UT32	+5.0V/8.0A	+24.0V/1.5A	-12.0V/0.5A	
ECM60UT33	+5.0V/8.0A	+15.0V/2.5A	-15.0V/0.5A	
ECM60UT34	+3.3V/8.0A	+5.0V/1.5A	+12.0V/0.5A	
ECM60UT35	+5.0V/8.0A	+3.3V/1.5A	+12.0V/0.5A	
ECM60UT31>2449	+5.0V/2.5A	+12.0V/3.0A	-12.0V/1.0A	

Models ECC are identical to Models ECM except for designation.

Additional Ratings Information:

Temperature,  
Ambient:

40W Models:

Tma = 60°C at 100% load (40W), Convection cooling,  
Tma = 70°C at 75% load (30W), Convection cooling,  
Tma = 70°C at 100% load (40W), Forced air cooling,  
Tma = 80°C at 75% load (30W), Forced air cooling,

60W Models:

Tma = 50°C at 100% load (60W), Convection cooling,  
Tma = 70°C at 50% load (30W), Convection cooling,  
Tma = 60°C at 100% load (60W), Forced air cooling,  
Tma = 80°C at 50% load (30W), Forced air cooling, ,

Forced air cooling consists of an external fan blowing 132 LFM over the power supply input to output, placed approx. 1 foot from power supply.



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## ATTACHMENT TO CERTIFICATE NO. B 12 07 57396 161 FOR XP POWER LLC.

**General Product information:****Product Description:**

Models covered in this report are component power supplies intended for use in Information Technology Equipment. They are open frame power supplies intended for building-in.

**Conditions of Acceptability:**

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

**These models requires:**

When installed in an end-product, a suitable main disconnect device shall be provided in the end product.

Proper fire and electrical enclosure are required at end-product.

The power supplies approved are provided with fuse in the neutral of the primary circuit. The proper warning to service persons should be marked on the end product when it is applicable.

The clearance and creepage distance between the unit and other circuits need to be evaluated at end system.

**For CLASS I Installation:**

The power supply shall be mounted in manner that provides at minimum 2.0 mm clearance and 4.0 mm creepage distance between the power supply and protectively earthed accessible conductive parts when installed in a Class I end product.

The protective bonding terminal of the power supply shall be reliably bonded to the main protective earthing terminal of the end product when installed in a Class I end product.

**For CLASS II Installation:**

The power supply shall be mounted on insulating posts that provide a minimum of 4.0 mm clearance and 5.0 mm creepage distance between the power supply and accessible conductive parts when installed in a Class II end product.

Rpt. Ref. No.: SI1206743104-000

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2012-07-27



America

# CERTIFICATE

No. B 13 06 57396 222

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



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

**Production Facility(ies):** 59319, 71712

**Certification Mark:**



**Product:** **Power supply  
(Power Supply)**

**Model(s):** **ECM80US56**

**Parameters:**

Rated Input Voltage:	100-240 V AC
Rated Frequency:	50/60 Hz
Rated Input Current:	1.65 A
Rated Output Ratings::	56 VDC, 1.43 A, 80 W max
Protection Class:	End product dependant (could be used for Class I or Class II end products)
Temperature, Ambient:	50°C max.

For further information, please see attachment.

**Tested according to:** EN 60950-1/A12:2011

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.:** SI1305205118-000

**Date,** 2013-06-06

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ATTACHMENT TO CERTIFICATE NO. B 13 06 57396 222  
FOR XP POWER LLC  
POWER SUPPLY

**Conditions of Acceptability:**

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

**The model requires:**

- When installed in an end-product, a suitable main disconnect device shall be provided in the end product.
- Proper fire and electrical enclosure are required at end-product.
- The protective bonding terminal of the power supply shall be reliably bonded to the main protective earthing terminal of the end product when installed in a Class I end product.
- When installed in end product, the clearance and creepage distance between the hazardous voltage parts and accessible parts shall meet the standard(s) requirements. Hi-pot test, touch current test and ground bond test shall be conducted at end product.



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# CERTIFICATE

No. B 11 02 57396 090

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



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

**Production Facility(ies):** 59319, 71712

**Certification Mark:**



**Product:** Switching power supply unit  
(Switching Power Supply)

**Model(s):** ECM100USXX, ECM100USXX\*, ECM100US33>2413,  
ECM100US12>2516, ECM100US12>2662 and  
ECM100USXX 3X5  
(where XX can be number between 03 and 48  
designating the main output voltage)

**Parameters:**

Rated Input Voltage:	100-240 VAC
Rated Frequency:	All Models except ECM100US12>2516 and ECM100US12>2662: 50/60 Hz
	Models ECM100US12>2516 and ECM100US12>2662: 50-60 HZ
Rated Input Current:	2.2 A
Rated Output Ratings:	See attachment
Protection Class:	Class I or Class II at end use
	See attachment for additional information

**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.:** 095-1100789-000

**Date,** 2011-02-14  
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**ATTACHMENT TO CERTIFICATE NO. B 11 02 57396 090  
FOR XP POWER LLC  
SWITCHING POWER SUPPLY**

Models covered in this report are component power supplies intended for use in Medical Electrical Equipment. They are open frame power supplies intended for building-in Class I or Class II end product.

ECM100USXX DC output ratings:

Model Number	Output voltage (V)	Output current maximum (A)	
		Convection cooled	5CFM
ECM100US03	3.3	16.0	20.0
ECM100US05	5.0	16.0	20.0
ECM100US07	7.0	11.0	14.3
ECM100US09	9.0	8.8	11.1
ECM100US12	12.0	7.5	8.3
ECM100US15	15.0	6.0	6.6
ECM100US18	18.0	5.0	5.5
ECM100US24	24.0	4.1	4.1
ECM100US33	33.0	3.0	3.0
ECM100US48	48.0	2.1	3.0

**Model Differences:**

Model ECM100USXX 3X5 is identical to model ECM100USXX except the PWB size is larger (3x5 inches) and changes to the trace layout and secondary circuitry.

Model ECM100USXX\* is identical to model ECM100USXX except for changes to the trace layout and secondary circuitry.

Model ECM100US33>2413 is identical to model ECM100US33 except the input and output connectors are reversed on the PCB.

Models ECM100US12>2516 is identical to Model ECM100US12 with exception to having an input frequency rating of 50-60Hz, instead of 50/60Hz.

Models ECM100US12>2662 is identical to Model ECM100US12 (3 X 5) with exception to having an input frequency rating of 50-60Hz, instead of 50/60Hz.

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## ATTACHMENT TO CERTIFICATE NO. B 11 02 57396 090 FOR XP POWER LLC

### Conditions of Acceptability:

- The component shall be installed in compliance with the Marking (clause 7) and Separation (clause 8) requirements of the end use application.
- 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 use product shall ensure that the power supply is used within its ratings.
- Leakage current testing should be conducted in the end product application.
- Grounding continuity should be conducted in the end product for Class I end-product applications.
- This power supply was evaluated with Two MOPP between primary and secondary; One MOPP primary and Earth; Operational insulation between secondary and Earth.
- This power supply has been evaluated as with a functional earth, continuous operation, ordinary equipment and has not been evaluated for use in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide. The output circuits have not been evaluated for direct patient connection (Type B, BF or CF).
- The end product should ensure that the requirements related to accompanying documents, clause 7.9, are met.
- The available voltage for the secondary outputs does not exceed 25 Vac or 60 Vdc, under normal and single fault conditions.
- The input/output connectors are not acceptable for field connections; they are only intended for connection to mating connectors of internal wiring inside the end-use machine.
- The power supply was tested with and without an externally powered 5 cfm fan.
- Heat sinks were considered floating live and should not be connected to earth in the end product.
- The power supply should be mounted on insulating posts when installed in a Class II end product.
- For Models ECM100USXX and ECM100USXX\*, the "floating" mounting hole near Capacitor (C1) shall be mounted on insulating post or properly earthed for Class I end product.
- The need for Marking Durability Testing to be considered as part of the end product installation.



America

# CERTIFICATE

No. B 12 01 57396 126

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



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

**Production Facility(ies):**

59319, 71712

**Certification Mark:**



**Product:**

Power supply  
(Power Supply)

**Model(s):**

ECM100UXXY Series  
(where XX can be D2, T3 or Q4 represent different outputs, Y can be 1-7 for output voltage variation; Model number can be followed with suffix (3X5) and/or W for PWB size and bridging capacitors option).

**Parameters:**

Rated Input Voltage: 100-240 V AC,  
Rated Frequency: 50/60 Hz  
Rated Input Current: 2.2 A  
Rated Output Ratings: See attachment  
Protection Class: Can be installed in Class I  
or Class II end product  
See attachment for further information.

**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.:** 095-1200068-000

Date, 2012-01-12  
Page 1 of 3





America

## ATTACHMENT TO CERTIFICATE NO. B 12 01 57396 126 FOR XP POWER LLC

### POWER SUPPLY

**Approved models and Rated Outputs:**

**ECM100UXXY Series DC output ratings**

Model Number	V1		V2		V3		V4	
	Vdc	A	Vdc	A	Vdc	A	Vdc	A
ECM100UD21	5	12	12	3				
ECM100UD22	5	12	15	3				
ECM100UT31	5	10	12	3	-12	0.8		
ECM100UT32	5	10	24	2	-12	0.8		
ECM100UT33	5	10	15	3	-15	0.8		
ECM100UT34	3.3	10	5	5	12	0.8		
ECM100UT35	5	10	3.3	5	12	0.8		
ECM100UT36	5	10	12	3	-5	0.8		
ECM100UT37	5	10	15	3	-5	0.8		
ECM100UQ41	5	10	3.3	5	12	0.8	-12	0.5
ECM100UQ42	3.3	10	5	5	12	0.8	-12	0.5
ECM100UQ43	5	10	24	2	12	0.8	-12	0.5
ECM100UQ44	5	10	24	2	15	0.8	-15	0.5
ECM100UQ45	5	10	12	3	-12	0.8	-5	0.5
ECM100UQ46	5	10	15	3	-15	0.8	-5	0.5

The maximum output with convection cooling is 80 W at maximum 50°C and 40 W at maximum 70°C;  
the maximum output with 5 CFM external forced cooling is 100 W at maximum 60°C and 50 W at maximum 80°C.

**Model Differences:**

All models are similar except the number of outputs (D2 represent dual output version, T3 represent triple output version, Q4 represent quad output version), output voltage/current rating and corresponding PWB population.

Models followed by "(3X5)" are identical base models with the different PWB size (3x5 in).

Models followed by "W" are provided with two Y1 bridging capacitors(C22 and C22A) and provide 2 MOPP between primary and secondary, Models without the W are provided with one Y1 bridging capacitors(C22) and provide 1 MOPP between primary and secondary.



America

## ATTACHMENT TO CERTIFICATE NO. B 12 01 57396 126 FOR XP POWER LLC

### Conditions of Acceptability:

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

### The models require:

- Suitable Fire/Mechanical/Electrical enclosure shall be provided as part of the end product.
- When installed into end product, sufficient clearance and creepage distance shall be provided between power supply and accessible conductive parts.
- Temperature, Leakage Current, Protective Earthing, Dielectric Voltage Withstand, and Interruption of the Power Supply tests should be considered as part of the end product evaluation.
- The output circuits have not been evaluated for direct patient connection (Type B, BF or CF).
- The input/output connectors are not acceptable for field connections, they are only intended for connection to mating connectors of the end use equipment. .
- The power supplies have not been evaluated for use in the presence of flammable anesthetic mixture with air, oxygen or nitrous oxide.
- Proper bonding to the end-product main protective earthing terminal is required when the power supply is installed in the Class I end product.
- Scope of Power Supply evaluation defers the following clauses to the be determined as part of the end product:
  - Clause 7.5 (Safety Signs),
  - Clause 7.9 (Accompanying Documents),
  - Clause 9 (ME Hazard),
  - Clause 10 (Radiation),
  - Clause 14 (PEMS),
  - Clause 16 (ME Systems)



America

# CERTIFICATE

No. B 12 07 57396 156

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



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

Production Facility(ies):

71712, 59319

Certification Mark:



Product:

Power supply  
(Power Supply)

Model(s):

ECM100USXX, ECM100USXX\*, ECM100USXX 3X5,  
ECM100US33>2413 (AC version)  
ECM100US48-DC 3X5 (DC version)  
(where XX can be a number between  
03 to 48 designating the output voltage)

Parameters:

Rated Input Voltage:	100-240 V AC (AC version) 106-333 VDC (DC version)
Rated Frequency:	50/60 Hz (AC version)
Rated Input Current:	2.2 A (AC version) 1.14 A (DC version)
Rated Output Voltage:	See attachment for output ratings and conditions of acceptability.
Protection Class:	I or II (except ECM100USXX* for Class I only)
Temperature, Ambient:	50°C
Elevation for use:	0 - 3048m
	See attachment for further information.

Tested according to: EN 60950-1/A12:2011

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.: S11206743-000

Date, 2012-07-16

Page 1 of 3





America

**ATTACHMENT TO CERTIFICATE NO. B 12 07 57396 156  
FOR XP POWER LLC**

**POWER SUPPLY**

**PRODUCT DESCRIPTION:**

Models ECM100USXX, ECM100USXX\*, ECM100USXX 3X5, ECM100US33>2413, ECM100US48-DC 3X5 (where XX can be a number between 03 to 48 designating the output voltage, see output ratings below) covered in this certification are component switch mode type power supplies for building-in. They are intended for use in Information Technology equipment applications.

**MODEL DIFFERENCES**

ECM100USXX\* models are identical to ECM100USXX models except for the PWB layout, minor secondary components (C43) an the following:

- a) Model ECM100USXX\* is intended for Class I installation only.
- b) Model ECM100USXX is intended for either Class I or Class II installation.

ECMUS100USXX 3X5 models are identical to ECM100USXX except for the physical size of the PWB and the addition of a functional earth trace to the ECMUS100USXX 3X5 PWB layout.

Model ECM100US33>2413 is identical to model ECM100US33 except that the PWB layout and the Primary and Secondary connectors are located on the opposite side of the PWB.

**OUTPUT RATINGS for ECM100USXX:**

Model Number	Output Voltage	Output Current Maximum	
		Convection cooled	With 5 CFM option
ECM100US03	+3.3 V	15.0 A	20.0 A
ECM100US05	+5.0 V	15.0 A	20.0 A
ECM100US07	+7.0 V	11.4 A	14.3 A
ECM100US09	+9.0 V	8.8 A	11.1 A
ECM100US12	+12.0 V	7.5 A	8.3 A
ECM100US15	+15.0 V	6.0 A	6.6 A
ECM100US18	+18.0 V	5.0 A	5.5 A
ECM100US24	+24.0 V	4.1 A	4.1 A
ECM100US28	+28.0 V	3.6 A	3.6 A
ECM100US33	+33.0 V	3.0 A	3.0 A
ECM100US48	+48.0 V	2.1 A	2.1 A
ECM100US48-DC 3X5	+48.0 V	1.5 A	1.5 A



America

## ATTACHMENT TO CERTIFICATE NO. B 12 07 57396 156 FOR XP POWER LLC

### CONDITIONS OF ACCEPTABILITY:

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

These models require:

When installed in an end-product, a suitable main disconnect device shall be provided in the end product.

Proper fire and electrical enclosure are required at end-product.

The power supply terminals and/or connectors are suitable for factory wiring only.

Heating test shall be conducted in the end-product.

Heatsinks are floating and considered live. They should not be accessible in the end-product.

The power supplies approved have a fuse in the neutral of the primary circuit. The proper warning to service persons should be marked on the end product.

Touch current test should be given in the end-product evaluation.

The evaluation was conducted on open frame component type unit, additional evaluation is required when fitted in a cover at end use.

### **For CLASS I Installation:**

The power supply shall be mounted in manner that provides sufficient clearance and creepage distances between the power supply and protectively earthed accessible conductive parts when installed in a Class I end product.

The protective bonding terminal of the power supply shall be reliably bonded to the main protective earthing terminal of the end product when installed in a Class I end product.

### **For CLASS II Installation:**

The power supply shall be mounted on insulating posts that provide sufficient clearance and creepage distance between the power supply and accessible conductive parts when installed in a Class II end product.





America

# CERTIFICATE

No. B 12 07 57396 160

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



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

**Production Facility(ies):** 59319, 71712

**Certification Mark:**



**Product:** Power supply  
(Power Supply)

**Model(s):** ECM100UXXY Series  
(where XX can be D2, T3 or Q4 represent different outputs, Y can be 1-7 for output voltage variation; Model number can be followed with suffix (3X5) or \* for PWB size or alternate trace layout).

**Parameters:**

Rated Input Voltage:	100-240 V AC
Rated Input Current:	2.2 A
Rated input frequency:	50/60 Hz
Rated Output Ratings:	See attachment
Protection Class:	Can be installed in Class I or Class II end product
Elevation for use:	0-3048m above sea level
See attachment for further information.	

**Tested according to:** EN 60950-1/A12:2011

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.:** SI1206743102-000

Date, 2012-07-26  
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America

ATTACHMENT TO CERTIFICATE NO. B 11 09 57396 160  
FOR XP POWER LLC

POWER SUPPLY

ECM100UXXY Series DC output ratings									
Model Number	V1		V2		V3		V4		
	Vdc	A	Vdc	A	Vdc	A	Vdc	A	
ECM100UD21	5.0	12.0	12.0	3.0					
ECM100UD22	5.0	12.0	15.0	3.0					
ECM100UT31	5.0	10.0	12.0	3.0	-12.0	0.8			
ECM100UT32	5.0	10.0	24.0	2.0	-12.0	0.8			
ECM100UT33	5.0	10.0	15.0	3.0	-15.0	0.8			
ECM100UT34	3.3	10.0	5.0	5.0	12.0	0.8			
ECM100UT35	5.0	10.0	3.3	5.0	12.0	0.8			
ECM100UT36	5.0	10.0	12.0	3.0	-5.0	0.8			
ECM100UT37	5.0	10.0	15.0	3.0	-5.0	0.8			
ECM100UQ41	5.0	10.0	3.3	5.0	12.0	0.8	-12.0	0.5	
ECM100UQ42	3.3	10.0	5.0	5.0	12.0	0.8	-12.0	0.5	
ECM100UQ43	5.0	10.0	24.0	2.0	12.0	0.8	-12.0	0.5	
ECM100UQ44	5.0	10.0	24.0	2.0	15.0	0.8	-15.0	0.5	
ECM100UQ45	5.0	10.0	12.0	3.0	-12.0	0.8	-5.0	0.5	
ECM100UQ46	5.0	10.0	15.0	3.0	-15.0	0.8	-5.0	0.5	

The maximum output with convection cooling is 80 W at maximum 50°C and 40 W at maximum 70°C;  
the maximum output with 5 CFM forced cooling is 100 W at maximum 60°C and 50 W at maximum 80°C.

**Model Differences:**

All models are similar except the number of outputs (D2 represent dual output version, T3 represent triple output version, Q4 represent quad output version), output voltage/current rating and corresponding PWB population.

3X5 version differs only by PWB size, mounting hole locations and additional ground trace between mounting pads.

\* version differs only by secondary circuit trace layout, not provided with Basic/supplementary insulation between secondary circuits to mounting pads.

**Conditions of Acceptability:**

- A suitable electrical and fire enclosure must be provided in the end use equipment.
- The protective bonding terminal of the power supply shall be reliably bonded to the main protective earthing terminal of the end product when installed in a Class I end product.
- When installed in end product, the clearance and creepage distance between the related circuitry of the power supply and accessible parts shall meet the standard(s) requirements. Hi-pot test, touch current test and ground bond test (for Class I end product) shall be conducted at end use