



America

CERTIFICATE

No. B 12 04 57396 142

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):

M3-MMMM-FFF-OO, M4-MMMM-FFF-OO, M5-MMMM-FFF-OO
(Where MM can be a combination of R, S, T, U or blank
and a number 1-11, F, G, Z or blank; where F can be a
combination of a letter E,F,M or blank and any number
3-5 or blank; where O can be any number 0-9; dashes
optional in model designation, "-" provided optionally)

Parameters:

Rated Input Voltage: 100-240 V AC,
Rated Frequency: 50/60 Hz
Rated Input Current: M3: 3.4 A
M4: 5.5 A
M5: 7.3 A
Rated Output Voltage: See attachment
Protection Class: Class I
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.: SI1204135-000

Date, 2012-04-13

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POWER SUPPLY

General Product information:

Product Description

The equipment is a modular ac to dc power supply for building-in. The power supply consists of an input power platform and various plug-in Output Modules. Each plug-in Output Module is 1 or 2 slot width.

Model Differences

All models provided with a power platform and maybe provided with various combinations of Output Modules.

M3-MMMM-FFF-OO, M4MMMM-FFF-OO, M5-MMMM-FFF-OO (Where MM can be a combination of R, S, T, U or blank and a number 1-11, F, G, Z or blank, designating Module type; where F can be a combination of a letter E,F,M or blank and any number 3-5 or blank, designating Fan Assembly type; where O can be any number 0-9; dashes optional in model designation, "-" provided optionally) Fan Assembly suffix FE3, FE4, FE5 models provided with an Appliance Inlet or Terminal Block.

Output Rating:

M3 Series: Max 250 W: up to 2 output modules provided.

M4 Series: Max 350 W: up to 2 output modules provided.

M5 Series: Max 450 W: up to 2 output modules provided.

Output Module Ratings (DC Voltage only):

Module SX Series, where X = 1-5, F, G, or Z:

S1: 2.5 V @ 50 A

S2: 3.3 V @ 50 A

S3: 5.0 V @ 50 A

S4: 12.0 V @ 20 A

S5: 15.0 V @ 17 A

SF: 8.0 V @ 31 A

SG: 10.0 V @ 25 A

SZ: 1.8 V @ 50 A

Module S@ Series, where @ = 6-9

S6: 24.0 V @ 10 A

S7: 28.0 V @ 9 A

S8: 36.0 V @ 7 A

S9: 48.0 V @ 5 A

Module UX Series, where X = 1-8:

U1: 5.0 V @ 40 A; 5.0 V @ 4.0 A

U2: 5.0 V @ 40 A; 12.0 V @ 4.0 A

U3: 5.0 V @ 40 A; 15.0 V @ 4.0 A

U4: 5.0 V @ 40 A; 24.0 V @ 2.5 A

U5: 3.3 V @ 40 A; 5.0 V @ 4.0 A

U6: 3.3 V @ 40 A; 12.0 V @ 4.0 A

U7: 3.3 V @ 40 A; 15.0 V @ 4.0 A



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U8: 3.3 V @ 40 A; 24.0 V @ 2.5 A

Module RX Series, where X = 1-6:

R1: 12.0 V @ 6 A; 12.0 V @ 6.0 A

R2: 15.0 V @ 5 A; 15.0 V @ 5.0 A

R4: 5.0 V @ 8 A; 24.0 V @ 3.0 A

R5: 12.0 V @ 6 A; 24.0 V @ 3.0 A

R6: 5.0 V @ 8 A; 12.0 V @ 6.0 A

Module TX Series, where X = 1-11:

T1: 5.0 V @ 20 A; 12.0 V @ 4.0 A; 12.0 V @ 4 A

T2: 5.0 V @ 20 A; 15.0 V @ 3.0 A; 15.0 V @ 3 A

T3: 3.3 V @ 20 A; 12.0 V @ 4.0 A; 12.0 V @ 4 A

T4: 3.3 V @ 20 A; 15.0 V @ 3.0 A; 15.0 V @ 3 A

T6: 12.0 V @ 10 A; 12.0 V @ 4.0 A; 5.0 V @ 4 A

T7: 24.0 V @ 4 A; 15.0 V @ 3.0 A; 5.0 V @ 3 A

T8: 5.0 V @ 20 A; 12.0 V @ 4.0 A; 5.0 V @ 4 A

T9: 24.0 V @ 4 A; 15.0 V @ 4.0 A; 5.0 V @ 4 A

T10: 12.0 V @ 10 A; 12.0 V @ 4.0 A; 15.0 V @ 3

T11: 24.0 V @ 4 A; 5.0 V @ 4.0 A; 5.0 V @ 4 A

Technical Considerations

- The product was not investigated to the following standards or clauses: Biocompatibility (ISO 10993-1), Clause 14, Programmable Electronic Systems, Electromagnetic Compatibility (IEC 60601-1-2)
- The degree of protection against harmful ingress of water is: Ordinary
- The mode of operation is: Continuous
- The product is suitable for use in the presence of a flammable anesthetics mixture with air or oxygen or with nitrous oxide: No
- The power supplies were evaluated for use in 50°C ambient at Full Rated Output and 50% of the Rated Output in 70°C ambient. See Enclosure - Miscellaneous 7-02.
- 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)
- 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

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Conditions of Acceptability

When installed in an end-product, consideration must be given to the following:

- This power supply was evaluated with Two MOPP between Primary and Secondary; One MOPP primary and Earth.
- This power supply has been evaluated as a 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 available voltage for the secondary outputs does not exceed 25 Vac or 60 Vdc, under normal and single fault conditions.
- The following secondary output circuits are at hazardous energy levels: All outputs
- Connectors are suitable for factory wiring only.
- The Dielectric Strength Test conducted on this power supply was based upon a maximum working voltage of: For Platform: Primary-Earthed Dead Metal: 412 Vpk, 316 Vrms; Primary-Secondary: 680 Vpk, 240 Vrms; For Modules: Primary-Earthed Dead Metal: 425 Vpk, 318 Vrms; Primary-Secondary: 603 Vpk, 252 Vrms.
- Chassis shall be suitably earthed as part of the end product.
- The products were tested on a 20 A branch circuit. If used on a branch circuit greater than this, additional testing may be necessary.
- Power Supply Models provided with Fan Assembly suffix FE3, FE4, FE5 shall provide a series fuse on the neutral side of the power supply in the end-product. Fuses shall be rated min. 250V, F5A for Fan Assembly suffix FE3; min. 250V, F6.3A for Fan Assembly suffix FE4 models; min. 250V, F10A for Fan Assembly suffix FE5.
- Platform was provided with an automatic resetting thermal cut-out that operated under abnormal cooling, but was not considered relied upon for safety. End product Risk Management to consider acceptability of risk associated with the use of an automatic resetting thermal cut-out.
- The maximum continuous power supply output for Models M3: 250 Watts; M4: 350 Watts; M5: 450 Watts relied on forced air cooling from two 1.32 W fans at 13.24 cfm applied to the input side of the power supply, 2.5 cm from power supply mains.

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Santa Ana CA 92705
USA

Production Facility(ies):

59319, 71712

Certification Mark:



Product:

**Power supply
(Power Supply)**

Model(s):

P3, P4, P5 Series

Parameters:

Rated Input Voltage: 100-240 V AC,
Rated Input Current: 3.4 A (P3 Series), 5.5 A (P4 series), 7.3 A (P5 series)
Rated input frequency: 50/60 Hz
Rated Output Ratings: See attachment
Protection Class: Class I at end use
Temperature, Ambient: 50°C with maximum output power,
70°C with half maximum output power
Elevation for use: 0-3048 m 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.

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POWER SUPPLY

Models covered in this report are modular ac to dc power supply for building –in. The power supply consists of an input power platform and various plug-in Output modules. Each plug-in output module is 1 or 2 slot width. The power supplies are open frame power supplies intended for building-in Class I end product.

The model numbers are consisted of the following sections :

Input platform	DC Output module 1	DC Output module 2	Fan Assembly Style	Parallel option
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Where

Input platform:P3, or P4 or P5 for different series;

Output module 1 and output module 2:

Output Module Name	Rating	Output Module Name	Rating
SZ	1.8V @50A	U3	5.0V @ 40A; 15.0V@4.0A
S1	2.5V @50A	U4	5.0V @ 40A; 24.0V@2.5A
S2	3.3V @50A		
S3	5.0V @50A	R6	5.0V @ 8A; 12.0V@6.0A
SF	8.0V @31A	R4	5.0V @ 8A; 24.0V@3.0A
SG	10.0V @25A	R1	12.0V @ 6A; 12.0V@6.0A
S4	12.0V @20A	R5	12.0V @ 6A; 24.0V@3.0A
S5	15.0V @17A	R2	15.0V @ 5A; 15.0V@5.0A
S6	24.0V @10A		
S7	28.0V @9A	T3	3.3V @ 20A; 12.0V@4.0A; 12.0V@4A
S8	36.0V @7A	T4	3.3V @ 20A; 15.0V@3.0A; 15.0V@3A
S9	48.0V @5A	T1	5.0V @ 20A; 12.0V@4.0A; 12.0V@4A
		T2	5.0V @ 20A; 15.0V@3.0A; 15.0V@3A
U5	3.3V @ 40A; 5.0V@4.0A	T8	5.0V @ 20A; 12.0V@4.0A; 5.0V@4A
U6	3.3V @ 40A; 12.0V@4.0A	T6	12.0V @ 10A; 2.0V@4.0A; 5.0V@4A
U7	3.3V @ 40A; 15.0V@4.0A	T10	12.0V @ 10A; 2.0V@4.0A; 15.0V@3A
U8	3.3V @ 40A; 24.0V@2.5A	T11	24.0V @ 4A; 5.0V@4.0A; 5.0V@4A
U1	5.0V @ 40A; 5.0V@4.0A	T9	24.0V @ 4A; 15.0V@4.0A; 5.0V@4A
U2	5.0V @ 40A; 12.0V@4.0A	T7	24.0V @ 4A; 15.0V@3.0A; 5.0V@3A

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Fan Assembly style:

Blank for U-Channel or FE3 or FE4 or FE5 for different fan styles.

Parallel Option:

Blank if not required or

01: single output model 1.8-15 V connected in parallel, or

02: single output model 24-48 V connected in parallel.

Note: “-” can be optionally used between different section of model number.

Additional output rating information:

P3 Series: Max 250 W, up to 2 output modules provided.

P4 Series: Max 350 W, up to 2 output modules provided.

P5 Series: Max 450 W, up to 2 output modules provided.

Conditions of Acceptability:

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

The models require:

- A suitable electrical and fire enclosure must be provided in the end use equipment.
- Proper bonding to the end-product main protective earthing terminal is required at end use .
- 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.
- All secondary output circuits are at hazardous energy level, additional compliance at end use.

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