1300W Common Redundancy Power Supply (CRPS)

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General Description

This document defines the functional requirements for 1300W AC-TO-DC and DC-TO-DC POWER SUPPLY MODULE with assembly, intended for worldwide use in electronic data processing equipment. The power supply unit shall contain fan(s) for forced air-cooling. The power supply may be used singly or in redundant configurations up to 4 power supply units. All specifications are applicable under all operating conditions when installed in the User System, unless otherwise stated.

Features

* 80 PLUS® Platinum
* Holdup Time: >10ms
* AC Input Range 90Vac – 132Vac
  180Vac – 264Vac
* DC Input Range 164Vdc – 300Vdc
* Output Voltage 12 VDC
* N+M (<= 4) Redundant power supply with Hot plug, current sharing and remote sensing
* IEC/EN 62368-1 design compliance
* Up to 5000 meters operating altitude (note #4)
* PMBus Compliant 1.2
* High reliability

Electrical Specification

Model Name	RPG1300-12AS			
Output				
Rated power	800W (90Vac-132Vac)		1300W (180Vac-264Vac)	
Rated voltage	12.2V	12Vsb	12.2V	12Vsb
Rated current	66A	2.5A	106A	2.5A
Ripple & Noise(max.) (note #2)	120mV	120mV	120mV	120mV
Line & load regulation	±5%	±5%	±5%	±5%
Hold-up time(typ.)	10ms			
Timing: AC ON delay / rising (max.)	3 sec / 50ms			
Input				
Rated voltage range	100~240Vac			
Operated voltage range	90~264Vac, 300Vac for 1min; 164~300Vdc.			

Current range (max.)	10A/100Vac
Inrush current	Cold start: <35 Warm start: <55A.
Frequency range	50-60Hz
Leakage current (max.)	<0.875mA at 240Vac/60Hz.
Average efficiency (min.)	80 PLUS® Platinum
Protection Function	
Over voltage (max.)	+12VDC: <15V, the+12VDC in latch off mode protection. +12VSB: <15V, the +12VDC and +12VSB in hiccup mode protection.
Over current (max.)	OCP1: 125% of rated current, latch off mode protection. OCP2: 135% of rated current, latch off mode protection.
Short circuit at O/P	No damage, latch off mode protection.
Over temperature	No damage, latch off mode protection.
Others	
MTBF (min.) (note#3)	200K hours @ rated load
Environment	
Temperature (note#4)	(operating) -5~55°C / (storage) -40~85°C
Humidity	(operating) 5~85% RH non-condensing / (storage) 5~95% RH
Altitude (max.) (note#4)	5000 meters
Mechanical	
Dimension	73.5(L)*185(W)*40mm(H)
Vibration	10~500 Hz, 5G 20min./1cycle per axis for all axes (X, Y, Z)
Weight (typ.)	870g±30g
Safety	
Standard	CB/IEC62368-1 3rd,TUV62368-1:2020+A11, UL62368-1 3rd Ed 2021-10-22, EN62368-1, CCC GB4943.1, BSMI CNS15598-1
Withstand voltage	Input-Output: 4242VDC
Isolation resistance(min.)	Input-Output: 30Mohm @ 500VDC, 25°C, 70%RH
EMC	
EN55032 (CISPR32)	Conducted EMI: class A / Radiated EMI: class A
FCC	Conducted EMI: class A / Radiated EMI: class A
EN61000-3-2	Harmonic distortion: Class D
EN61000-4-2	ESD: ±8KV contact discharge / ±15KV contact discharge
EN61000-4-3	Radiated RF immunity: 10V/m

EN61000-4-4	EFT: ±0.5KV (AC port)
EN61000-4-5	Surge: ±1KV DM / ±2KV CM
EN61000-4-6	Conducted RF immunity: 10V/m
EN61000-4-8	Magnetic field immunity: 3A/m
EN61000-4-11	Voltage dip immunity

Notes

#1: All specification defined at 230Vac/50Hz, rated power and 25℃ambient temperature if not mentioned specifically.

#2: Periodic and Random Deviation ripple / noise is measured with a resistor load (not an electronic load). Measurement is made with a “SMB to BNC Male Coaxial Cable, 50 Ohm, 1m” connected across the decoupling capacitance and with a 20MHz bandwidth setting in oscilloscope. The decoupling capacitors are low ESR ceramic capacitor 0.1uF and tantalum capacitor 10uF.

#3: Calculated by Telcordia SR332 at 230Vac/50Hz, rated power and 55° C ambient temperature.

#4: The output power shell follow altitude power derating.

Mechanical Specification