



CRPS Power Module FSP2000-20HM (2000W)

DESCRIPTION

In response to the growing demand of Big Data/Cloud, Network Communication, Storage Server and Industrial Applications, as well as to the requirement of the new Safety 62368 Norm, FSP launches new CRPS 2.0 2000W high wattage module FSP2000-20HM with 80+ Titanium Efficiency and PMBus 1.2 Digital Communication with System.

APPLICATION

For standard, advanced workstation, bitcoin mining PC, gaming server and industrial power system

FEATURES

- * 2000W CRPS Power Module, 24/7 Continuous Operation
- * 80 Plus Titanium 96% High Efficiency at 50% Loading, 230Vac
- * New Safety Norm 62368-compliant
- * CRPS 2.0- compliant, 185*73.5*40 mm (L*W*H)
- * Well working performance at 55°C (24 hours running)
- * Multi-Inputs Selection (AC 90~264Vac) /HVDC (180~310Vdc)
- * Built-in Active PFC function (90-264VAC)
- * Support maximum 4 Modules using parallel connection
- * Support OTP, OVP, OCP, SCP and FFP protection
- * Load (current) sharing in normal operation
- * Hot Swap (module) without system shut-down
- * PMBus 1.2 for Digital Power Management
- * 100% Hi-Pot and burn-in at high ambient temperature

INPUT SPECIFICATIONS

Input Range:	90-264 Vac/180~310V HVDC, IEC 320 C14
Input Frequency:	47-63 Hz
Input Current:	max. 12A @115V / 11.4A @230V
Inrush Current:	shall not exceed 35A peak for up to 1/4 AC Cycle
Leakage Current:	max. 0.875mA @ 264Vac/50Hz
Hi-Pot	1800Vac with a trigger limit of 30mA

OUTPUT SPECIFICATIONS

Output Voltage/Current:	+12V(1000W)/80.5A, Input 90-120Vac +12V(2000W)/163.6A, Input 180-264Vac
Auxiliary Output (Standby)	+12Vsb, maximum continuous 3A
Ripple/Noise pk-pk	+12V 120mV +12Vsb 120mV
Dynamic Loading (N+1)	up to 3+1 +12V/372A with start up load 25A
Parallel mode redundancy	operate in a hot-swap up to 3+1 redundant Load Sharing 1+1 max. +12V/163A Load Sharing 2+1 max. +12V/326A Load Sharing 3+1 max. +12V/489A
Protection Circuits	OVP _{main} & OVP _{auxiliary} , OTP, FFP
Over / Undershoot:	max. 10% at turn on/off
Over Current Warning (OCW)	OCW will assert PSAlert# to throttle power
Over Current Protection (OCP)	OCP/OPP will protect PSU and to allow peak current to power the system w/o PSU shut-down
Over Power Protection (OPP)	

Over Current Protection

Specification	Description	MIN	Max	Min	Max.
OPP / Fast OCP 1	Over power protection (voltage foldback then hiccup mode)	Rating + 36A	Rating + 36A	100µsec	--
Slow OCP	Slow over current protection (shutdown and hiccup mode)	Rating + 10A	Rating + 36A	100µsec	100msec
Fast OCW 2	Fast over current warning (SMBAlert#)	Rating + 30A	Rating + 36A	100µsec	10msec
Slow OCW 3	Slow over current warning (SMBAlert#)	Rating + 6A	Rating + 36A	100µsec	15msec
OCPsb	Stand-by over current protection (shutdown, hiccup mode)	4A	--	100µsec	100msec

FSP2000-20HM



Dimension: 73,5 (W) x 40 (H) x 185 (L) mm

SAFETY STANDARD APPROVALS



UL 62368-1
CSA 62368-1



TÜV EN 62368-1



IEC 62368-1



GENERAL SPECIFICATIONS

Efficiency:	≥ 96% at 50% load of 230VAC
Signals:	Power Good (PG), pulled High
Load sharing Control:	active load sharing within (+/-10%)
Hot Swap Function:	inserting & extracting a module at power-on
In-System FW Update	Boot loader function supported
Smart Standby	Module turn on via cold redundant configuration as the load increases
MTBF:	This power supply offers at continuous operation of minimum 200,000 hours, according to Bellcore TR-332 at 25°C excluding the Fan MTBF, and at least 100,000 hours including the Fan MTBF
Emission (Europe)	EN55032
Immunity (Europe)	EN55024 - EN61000-4-2 Electrostatic Discharge - EN61000-4-3 Radiated RFI Immunity - EN61000-4-4, level 3 Perf Criteria B - EN61000-4-5, level 3 Pref Criteria B - EN61000-4-6, 10Vrms, Pref Criteria A - EN61000-4-8 Power Freq. Magnetic Field - EN61000-4-11 Voltage Dips and Interruptions
Harmonic Emissions	EN61000-3-2: 2000
Voltage Flicker	EN61000-3-3: 1995/A1:2001

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature:	0°C to +55°C
Storage Temperature:	-40°C to +70°C
Relative Operating Humidity:	5% ~ 95% RH, Non-condensing
Operating Altitude:	Sea level to 5000m
Vibration Operating:	0.01g ² at 5Hz, sloping to 0.02g ² /Hz at 20Hz, and maintaining 0.02g ² /Hz from 20Hz to 500Hz