

# SPECIFICATION

MODEL NO: GPW181822

EDITION: V00

10KW water cooling Version

REV	DATE	Description	APPROVED
V00	2023/12/6	Basic functionality	Bao Yajun

拟 制	审 核	批 准
Jin Shaoting 2023/12/6	Xu Mengting 2023/12/6	年 月 日

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## 1. Introduction

GPW181822 is design for water cooling miners, it is a three-phase(L1, L2, L3, PE) voltage input and dual voltage output, high efficiency, high power factor power supply. The PSU has output short circuit protection, output over current protection, output over voltage protection, over temperature protection. The whole power supply is designed in strict accordance with safety regulations, in line with information technology equipment safety standards, product design in line with CE, FCC certification requirements.



## 2. Main specifications

Max output Power	Rated Input voltage	Output Voltage	Output Current	Regulation	Ripple & Noise (Max.)
10000W	380V—440Vac	20.5V	0—230A	±1%	600mVp-p
		20.5V	0—230A	±1%	600mVp-p
		11.5V-12.5V	0—1A	±1%	200mVp-p

## 3. Environmental Requirement

No	Items	Technical Index	Unit	Remark
1	Operating Temperature	-20—+50	℃	
2	Store Temperature	-40—+85	℃	
3	Humidity	0—90%		(non-&shy;condensing)
4	Altitude	≤2000	m	
5	Cooling Method	water cooling		

## 4. Electrical Specification

1 Input Electrical Characteristics				
No	Items	Technical Index	Unit	Remark
1.1	Normal voltage range	380-440	Vac	
1.2	Input Voltage range	350-480	Vac	
1.3	Inrush current (cold start)	≤50	A	220Vac, 25℃

1.4	Max input ac current	22			A	full load, per phase current
1.5	Power Factor	≥0.98				full load, per phase
1.6	Frequency range	47—63			Hz	
<b>2</b>	<b>Output Electrical Characteristics</b>					
No	Items	Technical Index			Unit	Remark
		Vo1	Vo2	Vo3		
2.1	Output Current	0—230	0—230	0—1	A	
2.2	Rated current	230	230	1	A	
2.3	Output Voltage Range	18-22	18-22	10-15	V	
2.4	Output Voltage Regulation	±1%	±1%	±1%	%	
2.5	Load Regulation	±1%	±1%	±1%	%	
2.6	Voltage regulation accuracy	±1%	±1%	±1%	%	
2.7	Capacitive load	≤5000	≤5000	≤1000	μF	
2.8	Intermodulation characteristics	±3%	±3%	±2%	%	
2.9	Efficiency	≥95%				Max efficiency
2.10	Ripple & Noise	≤600	≤600	≤200	mVp-p	1) Measurements shall be made with an oscilloscope with 20MHz bandwidth. 2) Outputs shall be bypassed at the connector with a 0.1uF ceramic capacitor and a 10uF electrolytic capacitor to simulate system loading
2.11	DC output voltage rise time	≤100			ms	The output voltages shall rise from 10% to 90% of their output voltage

2.12	DC Output Overshoot At Turn On & Turn Off	±5%				
2.13	Output Transient Response	Voltage Tolerance Limit	±5%		μS	25% to 50% load and 50% to 75% load
		Recovery time	Δt≤500			
		Slew Rate	≥0.5		A/μS	
2.14	Temperature coefficient	±0.02			%/°C	
2.15	Output Power Range	0—5000	0—5000	0—12		W
<b>3</b>	<b>Protection</b>					
No	Items	Technical Index			Unit	Remark
		Vo1	Vo2	Vo3		
3.1	Output Over Voltage Protection	22.5-26	22.5-26	16-20	V	Power supply restart
3.2	Output Over current Protection	280-320 Power supply latch into shutdown state	280-320 Power supply latch into shutdown state	≥1.5 Power supply restart	A	
3.3	Output Short Circuit Protection	Power supply latch into shutdown state	Power supply latch into shutdown state	Power supply restart		
3.4	Over-temperature protection	Power supply restart				

## 5. Isolation

### 5.1 Table

Input To Output	DC500V 50MΩmin (at 25 degree C)
Input To FG	DC500V 50MΩmin (at 25 degree C)
Output To FG	Non Isolated

### 5.2 Table

Input To Output	2000Vac 50Hz 1minute ≤10mA
Input To FG	2000Vac 50Hz 1minute ≤10mA
Output To FG	Non Isolated

Note: FG and Output connected internally.

## 6. Weight

**9Kg**

## 7. Package

### 1,packing

The product name, model number, manufacturer's identification, inspection certificate from the manufacturer's quality department, manufacturing date, etc. Attached list is found in the packing case.

### 2, transportation,

Suitable for vehicle, ship, aircraft transport, transport should be awning, sunscreen, civilized loading and unloading.

### 3, storage

Products should be stored in the packing box when not in use. The ambient temperature of the warehouse is  $-40^{\circ}\text{C}$  --  $+85^{\circ}\text{C}$ , and the relative humidity is 0% -- 95%. Harmful gases, inflammable and explosive products and corrosive chemicals are not allowed in the warehouse, and there is no strong mechanical vibration, impact and strong magnetic field effect. It should be at least 50cm away from the wall, heat source, window or air inlet, and the storage period under these conditions is generally 6 months. After 6 months, it should be re-inspected.

## 8. Dimension

