

SPECIFICATION

MODEL NO: GPW20

EDITION: V00

REV	DATE	Description	APPROVED
V00	2024/09/24	Basic function	2024/09/24

Draft	Review	Approve
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1. Introduction

GPW20 is an special power supply designed for air cooling miners, with single high-voltage input, high efficiency, and high power factor. 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 input Power	Input Voltage range	Output Voltage	Output Current	Regulation	Ripple & Noise (Max.)
5200W	200V—300Vac	12V-16V	0—420A	± 1%	≤200mVp-p
		11.5-12.5	0—18A	± 1%	≤200mVp-p

3. Environmental Requirement

No	Items	Technical Index	Unit	Remark
1	Operating Temperature	-20—+45	℃	
2	Store Temperature	-40—+85	℃	
3	Humidity	0—90%		(non-­condensing)
4	Altitude	≤2000	m	
5	Cooling Method	forced - air cooling		

4. Electrical Specification

1 Input Electrical Characteristics				
No	Items	Technical Index	Unit	Remark
1.1	Normal voltage range	220-277	Vac	
1.2	Input Voltage range	200—300	Vac	
1.3	Inrush current (cold start)	≤50	A	220Vac, 25℃
1.4	Max input ac	30	A	full load condition

	current				
1.5	Power Factor	≥ 0.98		full load condition	
1.6	Frequency range	47—63		Hz	
2	Output Electrical Characteristics				
No	Items	Technical Index		Unit	Remark
		Vo1	Vo2		
2.1	Output Current	0—420	0—18	A	
2.2	Rated current	420	18	A	$V_{o1} \geq 13V$
		300			$V_{o1} < 13V$
2.3	Output Voltage Range	12—16	11.5—12.5	V	
2.4	Output Voltage Regulation	$\pm 1\%$	$\pm 1\%$	%	
2.5	Load Regulation	$\pm 1\%$	$\pm 1\%$	%	
2.6	Voltage regulation accuracy	$\pm 1\%$	$\pm 1\%$	%	
2.7	Capacitive load	≤ 5000	≤ 1000	μF	
2.8	Intermodulation characteristics	$\pm 3\%$	$\pm 2\%$	%	
2.9	Efficiency	$\geq 95\%$			Max efficiency, No fans
2.10	Ripple & Noise	≤ 200		mVp-p	1) Measurements shall be made with an oscilloscope with 20MHz bandwidth. 2) Outputs shall be bypassed at the connector with a 0.1 μF ceramic capacitor and a 10 μF electrolytic capacitor to simulate system loading
2.11	DC output voltage rise time	≤ 20		ms	The output voltages shall rise from 10% to 90% of their output voltage
2.12	DC Output Overshoot At Turn On & Turn Off	$\pm 2\%$			
2.13	Output Transient Respons	Voltage Tolerance Limit	$\pm 1\%$		25% to 50% load and 50% to 75% load

	e	Recovery time	$\Delta t \leq 500$		μS	
		Slew Rate	≥ 0.5		A/ μS	
2.14	Temperature coefficient		± 0.02		%/ $^{\circ}\text{C}$	
2.15	Output Power Range		0—5000	0—200	W	Forced air cooling
3	Protection					
No	Items	Technical Index		Unit	Remark	
		Vo1	Vo2			
3.1	Output Over Voltage Protection	18-20	15	V	Power supply restart	
3.2	Output Over current Protection	≥ 462 Power supply latch into shutdown state	≥ 20 Power supply restart	A		
3.3	Output Short Circuit Protection	Power supply latch into shutdown state	Power supply restart			
3.4	Over-temperature protection	Power supply restart				

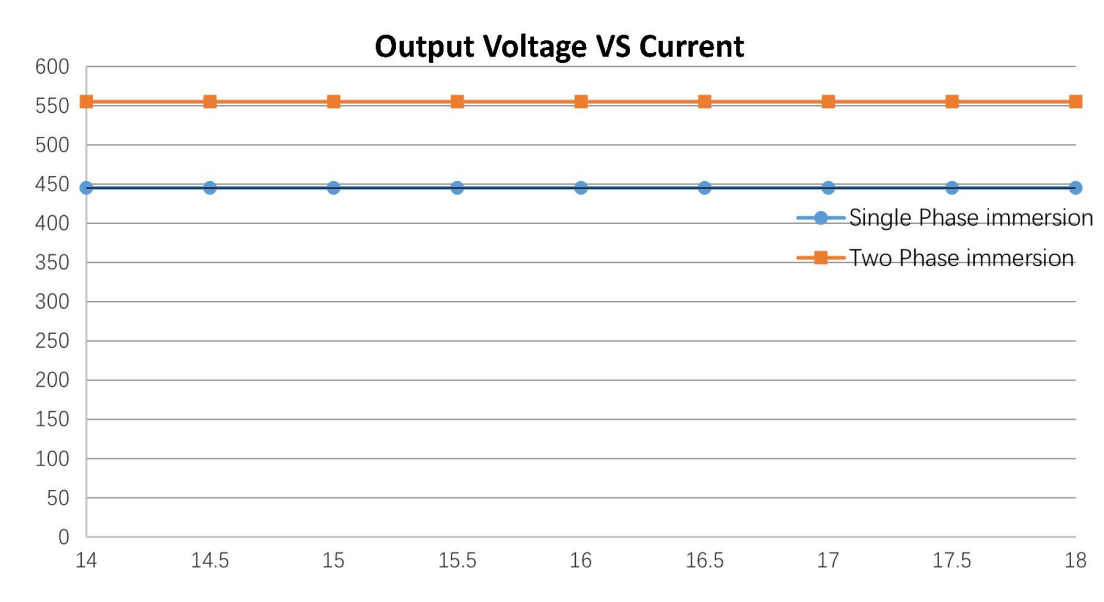
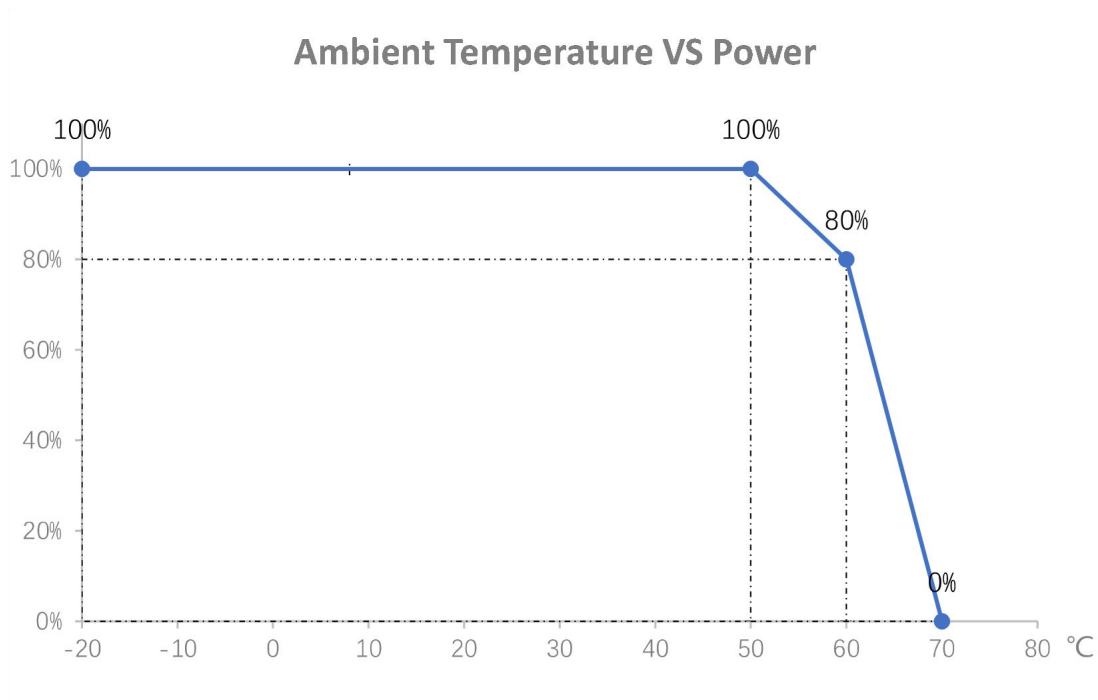


Table 2

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

3.6Kg

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°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 2 years. After 2 years, it should be re-inspected.

8. Dimension

1、254*249*63mm

