



**TPWI3005V**

**Power Supply**

**Product Main Specification**

# 01

## APPEARANCE

Model : TPWI3005V



# 02

## Introduction

- The power supply features a compact size, high efficiency, stable operation, and high reliability. It includes input under-voltage protection, output current limiting, and short circuit protection. The use of a synchronous rectifier circuit significantly improves the efficiency of the power supply and reduces energy consumption. It also supports Electromagnetic Interference (EMC) protection.

# 03

## Product Main

Output Power (W)	Rated Input Voltage (Vac)	Rated Output Voltage (Vdc)	Output Current Range (A)	Precision	Ripple and Noise (mVp-p)
300	150-264	+5.0	0-60.0	±2%	≤150

## 04

## Environment condition

Item	Description	Tech Spec	Unit	Remark
1	Working temperature	-30 –50	°C	
2	Storing temperature	-40 –80	°C	
3	Relative humidity	10—90	%	No condensation
4	Heat dissipation method	Fan cooling		The power supply should be installed on the metal plate to dissipate heat
5	Air pressure	80—106	Kpa	
6	Height of sea level	2000	m	

## 05

## Electrical character

### 1. Input Character

Item	Description	Tech Spec	Unit	Remark
1.1	Rated Voltage Range	200-240	Vac	Refer to the diagram of input voltage and load relation
1.2	Input Frequency Range	47-63	Hz	
1.3	Efficiency	≥ 85.0	%	Vin=220Vac 25°C Output Full Load (at room temperature)
1.4	Efficiency factor	≥0.45		Vin=220Vac Rated input voltage, output full load
1.5	Max input current	≤3.5	A	
1.6	Dash Current	≤ 120	A	@220Vac Cold state test @220Vac

## 2. Output Character

Item	Description	Tech Spec	Unit	Remark
2.1	Output Voltage Rating	+5.0	Vdc	
2.2	Output Current Range	0—60.0	A	
2.3	Output voltage adjustable range	/	Vdc	
2.4	Output voltage range	$\pm 2$	%	
2.5	Load regulation	$\pm 2$	%	
2.6	Voltage stability accuracy	$\pm 2$	%	
2.7	Output ripple and noise	$\leq 150$	mVp-p	Rated input, output full load, 20MHz bandwidth, load side and 47uf / 104 capacitor
2.8	Start output delay	$\leq 5.0$	S	Vin=220Vac @25°C
2.9	Output voltage raise time	$\leq 50$	ms	Vin=220Vac @25°C
2.10	Switch machine overshoot	$\pm 5$	%	conditions: full load, CR mode
2.11	Output Dynamic	The voltage change is less than $\pm 10\%$ VO ; the dynamic response time is less than 250us	mV	LOAD 25%-50%-25% 50%-75%-50%

## 3. Protection Character

Item	Description	Tech Spec	Unit	Remark
3.1	Input under-voltage protection	140-175	VAC	Test conditions: full load
3.2	Input under-voltage recovery point	160-180	VAC	
3.3	Output current limiting protection point	72-90	A	HI-CUP hiccups self-recovery, avoid long-term damage to power after a short-circuit power.
3.4	Output short circuit protection	Self-Recovery	A	

#### 4. Other Character

Item	Description	Tech Spec	Unit	Remark
4.1	MTBF	≥40,000	H	
4.2	Leakage Current	<3.0(Vin=230Vac)	mA	GB8898-2001 test method

## 06

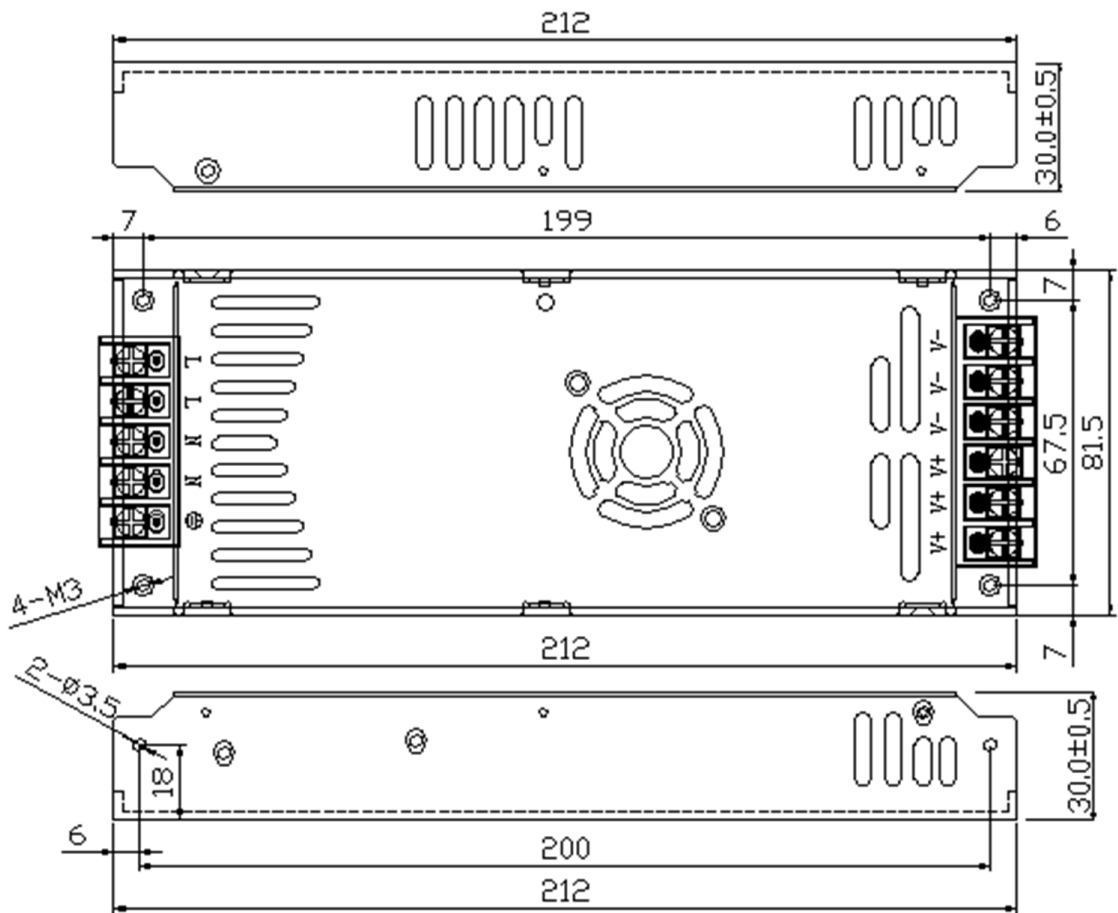
### Production Compliance characteristics

Item	Description	Tech Spec	Remark
1	Electric Strength	Input to output 3000Vac/10mA/1min	No arcing, no breakdown
2	Electric Strength	Input to ground 1500Vac/10mA/1min	No arcing, no breakdown
3	Electric Strength	Output to ground 500Vac/10mA/1min	No arcing, no breakdown

## 07

### The mechanical character and the definition of connectors (unit : mm)

1. Imensions: length × width × height= 212×81.5×30.5±0.5.
2. Assembly Holes Dimensions
3. Above is the top view of the bottom shell. The specifications of the screws fixed in the customer system are M3, totaling 4. The length of the fixed screws entering the power supply body should not exceed 3.5mm



## 08

## Attention For Application

1. Power supply to be safe insulation, any side of the metal shell with the outside should be more than 8mm safe distance. If less than 8mm need to pad 1mm thickness above PVC sheet to strengthen the insulation.
2. Safe use, to avoid contact with the heat sink, resulting in electric shock.
3. PCB board mounting hole stud diameter not exceeding 8mm
4. Need a L355mm\*W240mm\*H3mm aluminum plate as auxiliary heat sink.

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