



Key features

- Universal input :85-264vac 50/60 Hz
- EMC reaches level 4 (EN61000-6-2, grade A heavy industry standard)
- Low ripple and low noise
- Output overload and short circuit protection
- High efficiency, high power density, minimum size
- Lower power, RoHS , no-load loss < 0.1w
- 100% test and work
- 3 years product warranty

HP20 series --- a high stability, super small size modular switching power supply offered by Zhongyiguang. It features minute extension 、 high reliability、 high isolation voltage 、 higher cost performance etc.And it is mainly used in heavy industry environment instruments and other related equipment , such as applied to a relatively harsh environment electromagnetic compatibility must refer to the application circuit.

Electrical specifications

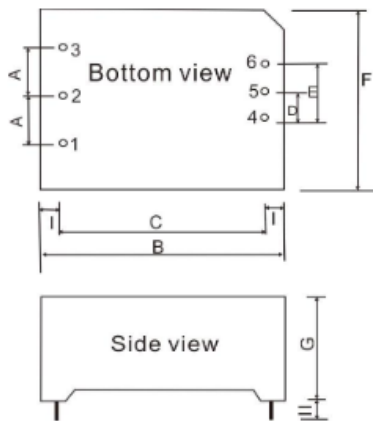
Model	Output voltage(V)	Output current(A)	Output power(W)	Efficiency(%)	Ripple (mv)
HP20-S03	3.3	4	13.2	74	50
HP20-S05	5	4	20	79	50
HP20-S09	9	2.2	20	81	50
HP20-S12	12	1.66	20	84	50
HP20-S15	15	1.33	20	85	100
HP20-S24	24	0.83	20	87	50

General features

Output	Output voltage accuracy	±2.0%	
	Source effect	±1.0%	
	Load effect	±1.0%	
	Starting time (TYP)	20ms/230VAC	50ms/115VAC at full load
	Output hold time (TYP)	40ms/230VAC	15ms/115VAC at full load
Input	Input voltage range	85 ~ 264VAC	70 ~ 370VDC
	Input frequency	47 ~ 440Hz	
	Input current (TYP)	340mA / 115VAC	210m A / 230VAC
	Inrush current (TYP)	cold boot 20 A / 115 VAC	40 A / 230 VAC
	Recommended values for External Fuses	T3.15A / 250Vac (disconnected slowly)	
	Leakage current (TYP)	< 0.3mA at 230VAC/50Hz	
Protection	Over-current and short circuit protection, automatic recovery after troubleshooting		
	Operating Temperature	—40 ~ +70 °C (≥50°C,According to 0.35W/°C derating)	

Work environment	Humidity	85% .RH max
	Storage Temperature	-40 ~ +85, 10 ~ 95% RH
	Temperature coefficient	0.03%/ (0~ 50°C)
	Vibration coefficient	10~500Hz,2G10min./1cycle, 60min.each along X,Y,Z axes
Safety and EMC (Note:3)	Safety Standard	Conform to UL1012,EN60950,UL60950
	I/O-Isolation voltage	I/P-O/P:3.0KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
	Isolation resistance	I/P-O/P,I/P-FG,O/P-FG:> 100M Ohms/500VDC 25°C 70% RH
	EMI / RFI conducted	EN55011, EN55022 (CISPR22)
	ESD	IEC/EN 61000-4-2 level 4 8kV/15kV (Note: See the application circuit for details)
	RF	IEC/EN 61000-4-3 (Note: See the application circuit for details)
	EFT	IEC/EN 61000-4-4 level 4 4kV (Note: See the application circuit for details)
Others	Surge	IEC/EN 61000-4-5 level 4 2kV/4kV (Note: See the application circuit for details)
	MTBF	200K hrs min. MIL-HDBK-217F(25)
	Dimensions	55*45*21mm (L*W*H)
	Weight	70g/piece, 8.67kg/case
	Pack	112piece
Notes	The size of the packing box	360*300*250mm
	<p>1. All parameters NOT specially mentioned are measured at 25 of ambient temperature ,humidity< 75%, 230VAC input and rated load test.</p> <p>2. Ripple & noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uf & 100uf electrolytic capacitor.</p> <p>3. The power supply is considered a component which will be installed into a final equipment.The final equipment must be re-confirmed that it still meets EMC directives .</p>	

Dimension



	Shell size	Pin	Pin function
A	17.5	1	FG
B	55.0	2	AC(N)
C	47.0	3	AC(L)
D	10.0		
E	20.0	4	-Vo
F	45.0	5	No Pin
G	21.0	6	+Vo
I	≥4.0		

Remark: unit of measurement:mm
Size of terminal section:1.00mm
Terminal to larence: ± 0.1mm
No to larence:± 0.5mm
Module weight:70g(typical value)

Block diagram