Key features

- Universal input:85—264Vac 50/60 Hz
- EMC reaches level 4 （EN61000-6-2,A class heavy industry standard）
- Low ripple and noise
- Over load 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

CE

RoHS

HP30 series --- a high stability、super small size modular switching power supply offered by Zhongyiguang. features minute extension 、high reliability、high isolation voltage 、higher cost performance etc.And it is mainl used in heavy industry environment instruments and other related equipment， such as applied to a relativel harsh environment electromagnetic compatibility must refer to the application circuit.

Electrical specifications

Model	output voltage(V)	Output current range(A)	Output power(W)	Efficiency(%)	Ripple
HP30-S05	5	5	25	80	50mVp-p
HP30-S12	12	2.5	30	84	50mVp-p
HP30-S15	15	2	30	85	50mVp-p
HP30-S24	24	1.25	30	87	50mVp-p
HP30-S48	48	0.63	30	88	50mVp-p

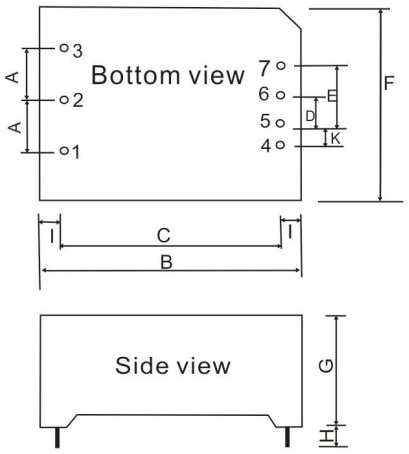
General features

Output	Output voltage accuracy	±2.0%

	Source effect	±1.0%
	Load effect	±1.0%
	Starting time (TYP)	40ms/230VAC 100ms/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)	490mA / 115VAC 300m 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)	< 0.5mA at 230VAC/50Hz
Protection	Over-current and short circuit protection, automatic recovery after troubleshooting	
Work environment	Operating Temperature	—40 ~ +70 ℃ (≧50℃,according to the 0.5W/ ℃derating)
	Humidity	85% .RH max
	Storage Temperature	–40 ~ +85, 10 ~ 95% RH
	Temperature coefficient	0.03%/ (0~ 50℃)
	Vibration coefficient	10~500Hz,2G10min./1cycle, 60min.each along X,Y,Z axes
Safety and EMC (Note:3)	Safety Standard	Conform toUL1012,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℃ 70% RH
	EMI / RFI conducted	Conform to 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)
	Surge	IEC/EN 61000-4-5 level 4 2kV/4kV (Note: See the application circuit for details)
Others	MTBF	200K hrs min. MIL-HDBK-217F @ 25℃
	Dimensions	70*48*23.5mm (L*W*H)

	Weight	120g/piece，14.3kg/case
	Pack	112piece
	The size of the packing box	360*300*250mm
Notes	1．All parameters NOT specially mentioned are measured at 25 of ambient temperature ,humidity<75%, 230VAC input and rated load test.	
	2．Ripple & noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uf & 100uf electrolytic capacitor.	
	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 .	

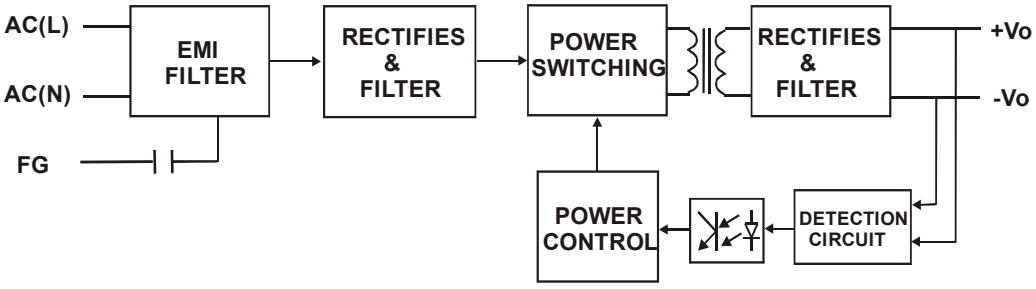
Dimension



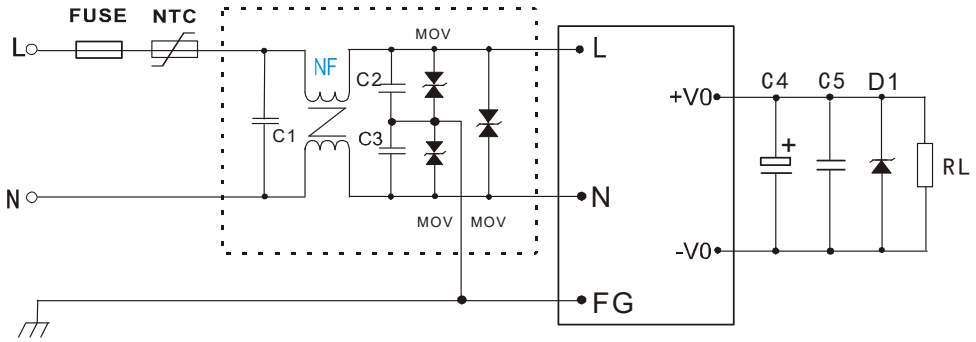
	Shell size	Pin	Pin function
A	20.0	1	FG
B	70.0	2	AC(N)
C	62.0	3	AC(L)
D	11.5		
E	23.0	4	No pin
F	48.0	5	-Vo
G	23.5	6	No pin
I	≥ 4.0	7	+Vo
k	5.75		

Remark: unit of measunrement:mm
Size of terminal section:1.00mm
Terminal to lerance: ±0.1mm
Leng of the terminal:≥4.00mm
No to lerance:± 0.5mm
Module weight:120g(typical value)

Block diagram



Typical application diagram



Remark:

1. The output filter capacitance C4 is the electrolytic capacitor. It is recommended to use the high frequency low resistance electrolytic capacitance, the capacity and the current of the flow please refer to the technical specifications provided by each manufacturer.Capacitance pressure reduction is greater than 80%. C5 is to remove high frequency noise. D1 is recommended for the TVS tube to protect the rear circuit (when the module is abnormal)
2. In the dotted line is the EMC filter to meet the higher EMC requirements, such as the general application, which can be omitted.
3. Our company to meet customer demand, the circuit within the dashed box to make the product, named as FA01, FA02, used as a customer support. See FA01, FA02 technical manual. If you need technical support, please contact our engineers.

Typical values for external circuit components

component / Mode	FUSE	NTC	NF	MOV	C1	C2，C3	C4	C5	D1
HP30-S05	T3.15A /250V	Recommended	NF is a common	MOV is a piezoelectri	C1 is the safety X	C2，C3 is the	470uF/16V	C5 is ceramic	P6KE16A

HP30-S12		external NTC thermistor, model: 10D-9	mode inductance, the inductance value is 3-10mH,current:0.5A.	c resistor, recommended value is14D471K	capacitor ,104K/275Vac	safety Y capacitor ,102K/400Vac	120uF/16V	capacitor 104K/50V	P6KE16A
HP30-S15							120uF/25V		P6KE20A
HP30-S24							100uF/35V		P6KE33A

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