



Standard package



RoHS

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,The minimum volume
- Lower power, RoHS , no-load loss< 0.1W
- 100% test and work
- 3 years product warranty

HP40 series--- a high stability、super small volume 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
HP40-S05	5	7	35	77	50mVp-p
HP40-S12	12	3.3	39.6	80	50mVp-p
HP40-S15	15	2.6	39	81	50mVp-p
HP40-S24	24	1.66	40	84	50mVp-p
HP40-S48	48	0.83	40	87	50mVp-p

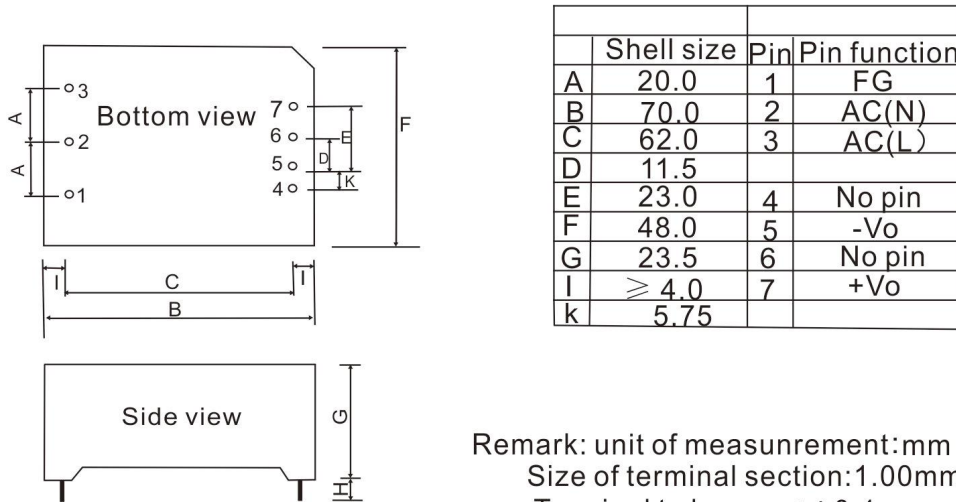
General features



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)	640mA / 115VAC 390mA / 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)	< 1mA at 230VAC/50Hz
Protection	Over-current and short circuit protection, automatic recovery after troubleshooting	
Work environment	Operating Temperature	—40 ~ +70 °C (≥40°C,According to 0.5W/°C temperature derating)
	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	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°C
	Dimensions	70*48*23.5mm (L*W*H)
	Weight	120g/piece, 14.3kg/box
	Pack	112piece
	The volume 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.	

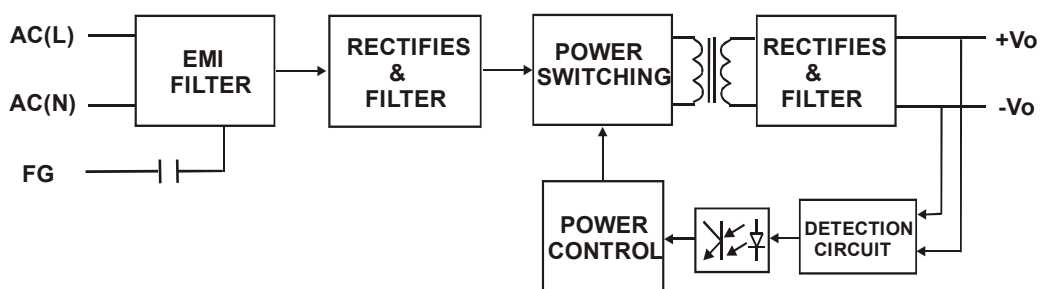
3. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives .

Dimension

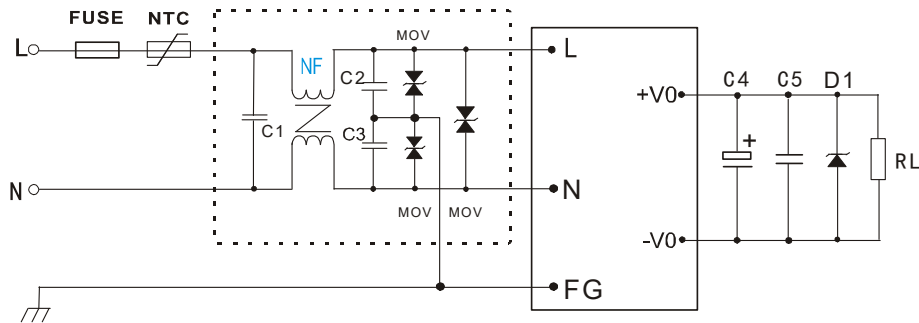


Remark: unit of measurement: mm
 Size of terminal section: 1.00mm
 Terminal tolerance: ± 0.1mm
 Length of the terminal: ≥ 4.00mm
 No tolerance: ± 0.5mm
 Module weight: 120g (typical value)

Block diagram



Typical application diagram



Remarks:

- 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 Model	FUSE	NTC	NF	MOV	C1	C2, C3	C4	C5	D1
HP40-S05	T3.15A/ 250V	Recommen ded external NTC thermistor, model: 10D-9	NF is a common mode inductance, the inductance value is 3-10mH,curr ent:0.5A.	MOV is a piezoelect ric resistor, recommen ded value is14D471K	C1is the safety X capacitor ,104K/27 5Vac	C2, C3 is the safety Y capacitor,1 02K/400Va c	470uF/16V	C5 is ceramic capacitor 104K/50V	P6KE16A
HP40-S12							120uF/16V		P6KE16A
HP40-S15							120uF/25V		P6KE20A
HP40-S24							100uF/35V		P6KE33A

Zhongyiguang Guangzhou Technology Ltd



✉: vice@zygkj.com

☎: +86(20) 3287 4481 / 2292 1551

📍: NO.2, building 4, NO.8, DouTang Road, YongHe Economic Zone, GuangZhou City, P. R. China