

■ Product characteristics:

- Universal AC/DC input
- High efficiency, high power density
- Output built-in voltage stabilizing filter, low ripple
- Compact size: 49*36*22.5mm
- Overload protection/Short circuit protection/Overheat protection
- Built in EMC circuit Comply with EN55032 Class B
- Class II Isolation level
- Low power consumption
- Natural cooling of plastic shell
- Three years warranty



■ Product application:

- Industrial electrical equipment
- Mechanical equipment
- Industrial automation equipment
- handheld electronic devices
- Wireless network
- Telecommunications/data Communications
- Instruments and meters
- Intelligent field
- Charging pile

■ Input electrical specification:

Model Number	Vol range / Frequency	Input cur@110V	Input cur@220V	PF	Startup time
AP05N15-HV	85V~500VAC 100V~700VDC 50/60Hz	< 400mA	<150mA	<0.58	<200ms
AP06N15-HV					
AP09N20-HV					
AP12N20-HV					
AP15N20-HV					
AP20N20-HV					
AP24N20-HV					
Remarks	If not specified, all specifications are tested at input voltage of 220 VAC, full load and ambient temperature of 25 °C				

■ Output electrical specifications:

Model Number	Voltage	Current	Rated power	Efficiency (Typ)	Vol accuracy
AP05N15-HV	5V	3000mA	15W	80%	±1%
AP06N15-HV	6V	2600mA		82%	
AP09N20-HV	9V	2200mA	20W	84%	
AP12N20-HV	12V	1700mA		85%	
AP15N20-HV	15V	1300mA		85%	
AP20N20-HV	20V	1000mA		86%	
AP24N20-HV	24V	800mA		86%	
Remarks	If not specified, all specifications are tested at input voltage of 220 VAC, full load and ambient temperature of 25 °C				

■ EMC characteristic:

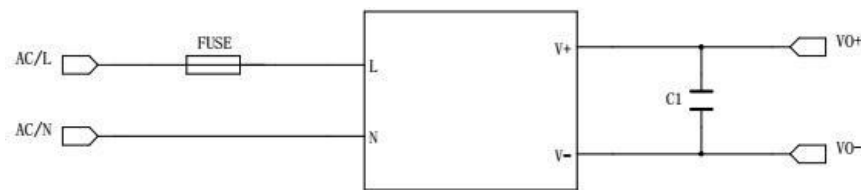
EMC characteristic	Test items	Testing standard
EMI	Conducted disturbance (CE)	EN 55032: 2015 CLASSB
	Radiation disturbance (RE)	EN 55032: 2015 CLASSB
	fluctuation & flicker	EN 61000-3-3:2013
EMS	Electrostatic discharge	EN 61000-4-2:2009 Contact ±4KV Air ±8KV
	Radiated immunity	EN 61000-4-3:2006 +A1: 2008+A2:2010
	Pulse group immunity	EN 61000-4-4:2012
	Surge immunity	EN 61000-4-5:2014
	CE immunity	EN 61000-4-6: 2014
	Voltage sags	EN 61000-4-11: 2017

■ General characteristics:

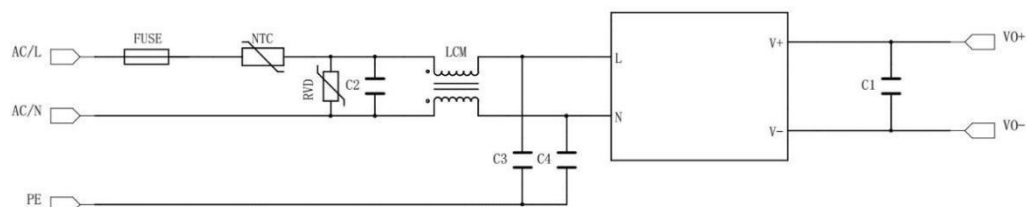
Item	Working Conditions @ Conclusion
Frequency	65KHz
Short circuit protection	Long-term short circuit, self-recovery
Overload protection	> Load150%, self-recovery
Overheat protection	Surface temperature > 90°C (±4°C)
withstand voltage test	Input-Output 3000VAC /1min
Working temperature	-40~70°C
Weight	76g(±2g)
Size	49*36*22.5mm
Shell material	High Temperature Resistant Plastic Shell
Cooling mode	Natural cooling
Safety grade	CLASS II

■ Design reference circuit:

1. Typical application circuit:



2. EMC enhanced recommendation circuit:



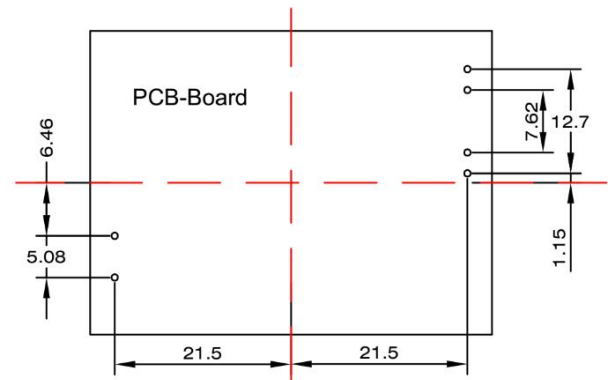
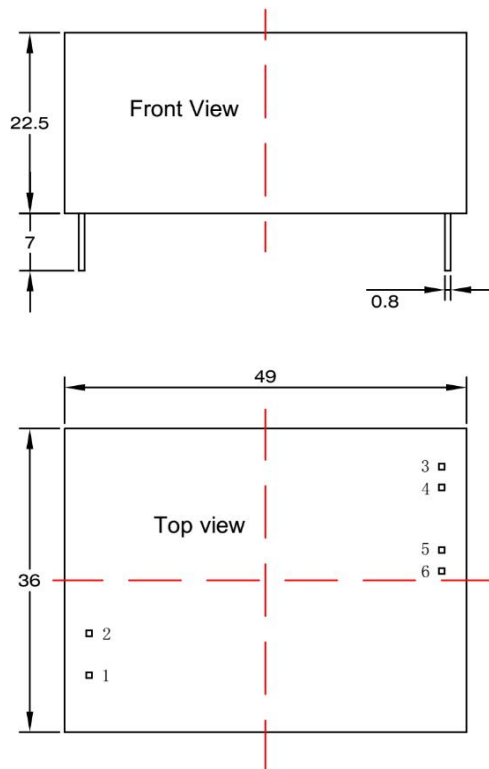
Peripheral component parameters

Model Number	FUSE	NTC	C2	RVD	LCM	C3, C4	C1
AP05N15-HV	2A/500VAC SLOW BLOW	10D-11	0.2uF 630VAC	14D751K	UU9.8 60mH	222M 250V	CBB CAP 104/50V
AP06N15-HV							
AP09N20-HV							
AP12N20-HV							
AP15N20-HV							
AP20N20-HV							
AP24N20-HV							

Reminder:

1. AC/DC power front-end input is high voltage. The power supply environment at the input end is relatively complex. Therefore, it is necessary to add EMC protection circuit to the input terminal.
2. The module has built-in EMC circuit. If it needs to be used in complex power supply environment, please refer to the technical manual to build the peripheral circuit, otherwise, the product may be damaged.

■ Pin wiring diagram & appearance dimension



Note: Welding pad hole greater than 0.8mm

Pin Function	
1	AC (N)
2	AC (L)
3、4	V_{O+}
5、6	V_{O-}

Unit: mm

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Thank you for choosing HIECUBE power module. Information can be obtained through the official website:

http://www.hiecube.com/application_file.php