

YAS130-24-N AC-DC Power Modules

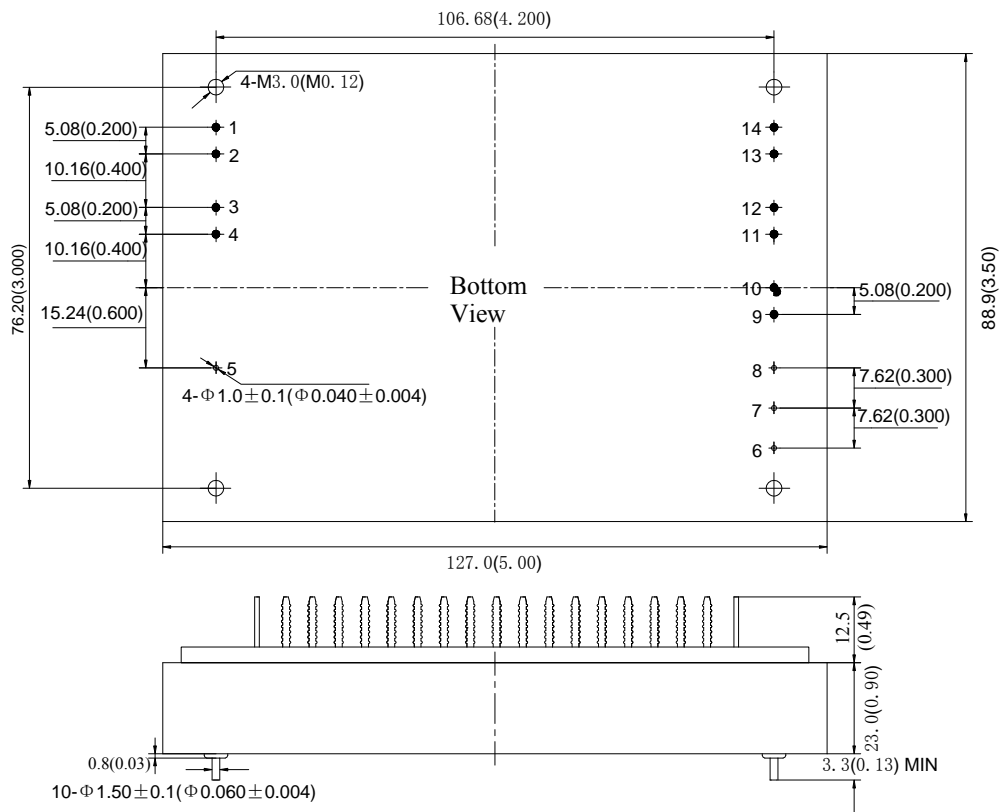
165Vac-265Vac Input, 24V/5.42A Output, Encapsulated Aluminum case

Features

- ◆ Industry Size 127.0mm×88.9mm×35.5mm
- ◆ Universal Input Range 165Vac to 265Vac
- ◆ 1500Vac Isolation Voltage (input to output)
- ◆ 125kHz Switching Frequency
- ◆ Short Circuit Protection , Auto Recovery
- ◆ Operating Case Temperature: -40 °C to +85 °C
- ◆ 100% Burn-in
- ◆ 2-year warranty
- ◆ Application: Mainly used in telecommunication, data interchange, power system, Industrial electronics & Control.



Outline Diagram



Pin.	Symbol	Description	Pin.	Symbol	Description
1、2	L	AC Input, Live Line	8	+S	Positive Remote Sense
3、4	N	AC Input, Neutral Line	9、10	NC	No Connection
5	FG	Safety Ground	11、12	-Vo	Negative Output Voltage
6	-S	Negative Remote Sense	13、14	+Vo	Positive Output Voltage
7	TRIM	Output Voltage Adjust			

Case material: Black, Aluminum Pins material: Copper, tin-cerium plating
 Notes: All dimensions in mm (inches) Tolerances: X.X±0.5 (X.XX±0.02) X.XX±0.25 (X.XXX±0.010)

Specifications

Unless otherwise specified, all tests are at room temperature and standard atmosphere, pure resistive load.

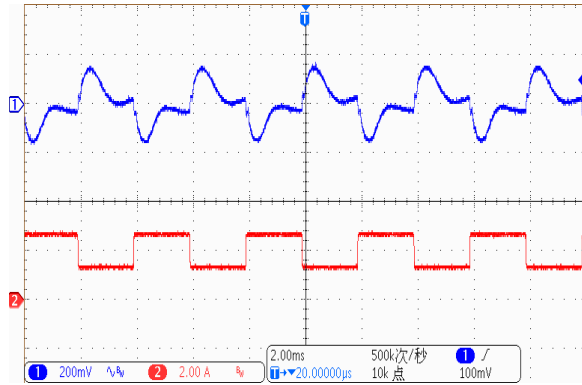
Model		YAS130-24-N
Max Output Wattage (W)		130
Input	Voltage (V)	AC: 165~265; DC: 200~375
	Frequency (Hz)	45~65
	Start-up Delay Time (ms)	50 max.
Output	Output Voltage (V)	23.76~24.24
	Output Current max.(A)	0.54~5.42
	Voltage Accuracy (V)	21.6~26.4
	Line Regulation (%)	±0.2 max.
	Load Regulation (%)	±0.5 max.
	Transient Response Recovery Time(μs)	400 max.
	Transient Response Voltage Deviation (mV)	±1200 max.
	Ripple and Noise (mV)	120 max.
	Capacitive Load (μF)	1000 max.
	Rise Time (ms)	10 max.
	Switching overshoot amplitude (%V _O)	±10 max.
Protection	Output Short-circuit Protection	Hiccup mode, automatic recovery
Isolation	Input- Output / Input- case / Output - case (Vac)	1500/1000/500
Environment	Operating Case Temperature (°C)	-40~+85
	Storage Temperature (°C)	-40~+105
	Humidity (%RH)	90 max.
	Temperature Coefficient (%/°C)	±0.1 max.
General	MTBF(h)	3×10 ⁵ Refer to BELLCORE TR-332, Tc=25°C
	Switching Frequency (kHz)	125 typ.
	Efficiency (%)	88 typ. (220 Vac, I _{O,nom})
	Isolation Resistance (MΩ)	100 min. (500Vdc, 90%RH)
	Manual Soldering (°C)	425 max., 5s max.
	Wave Soldering (°C)	260 max., 10s max.
	Weight (g)	622 typ.
Notes	1. When “%” used to denote the output voltage deviation, the rated output voltage is referred. 2. Peak to peak Ripple & Noise are measured at 20MHz of bandwidth. 3. At high temperature and low voltage input 80% load is used.	

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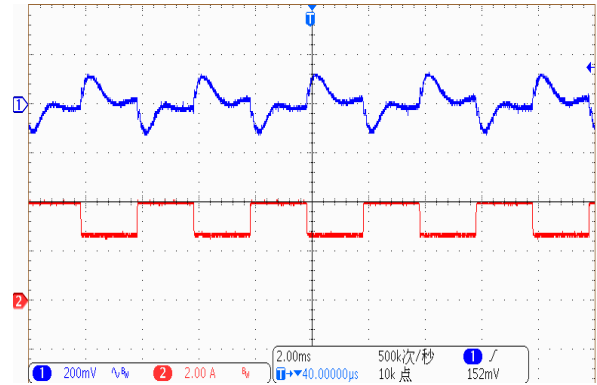
Characteristic Curves

Load Transient Response



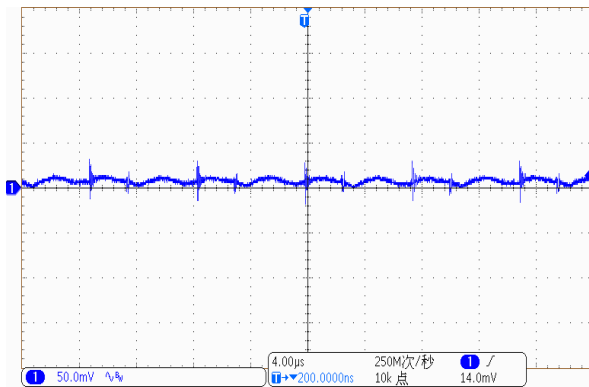
Load change: 25%~50%
 ~25% $I_{o,nom}$, 0.1A/ μ s
 V_{in} =220Vac
 Trace1: 200mV/div
 Trace2: 2A/div
 Timescale: 2ms/div

Load Transient Response



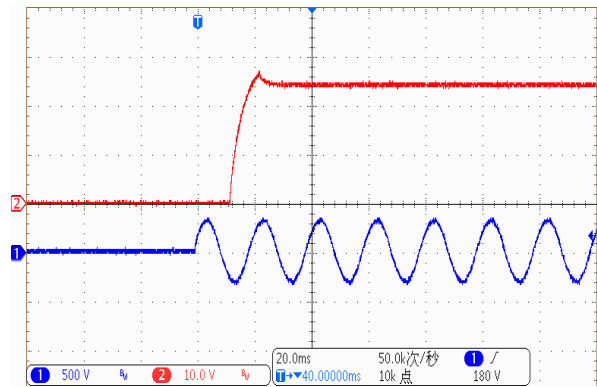
Load change: 50%~75%
 ~50% $I_{o,nom}$, 0.1A/ μ s
 V_{in} =220Vac
 Trace1: 200mV/div
 Trace2: 2A/div
 Time scale: 2ms/div

Output Ripple & Noise



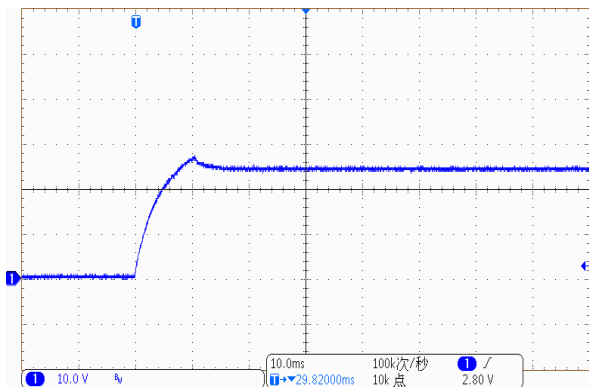
V_{in} =220Vac, I_o =5.42A

Start-up Delay Time



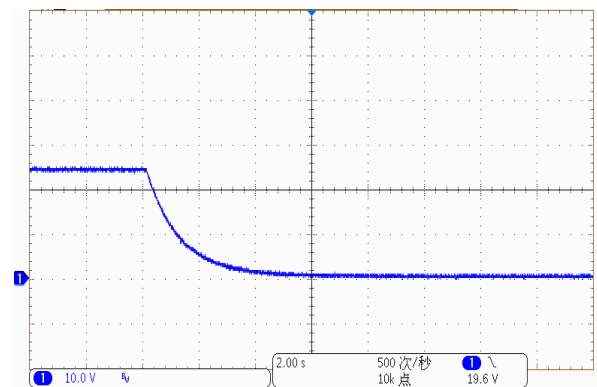
V_{in} =220Vac, I_o =5.42A

Rise Time



V_{in} =220Vac, I_o =5.42A

Turn off

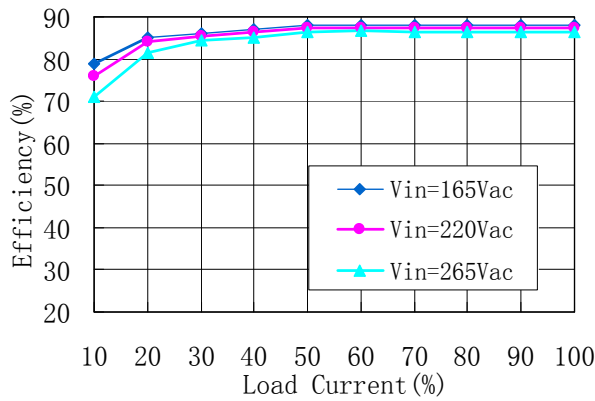


V_{in} =220Vac, I_o =5.42A

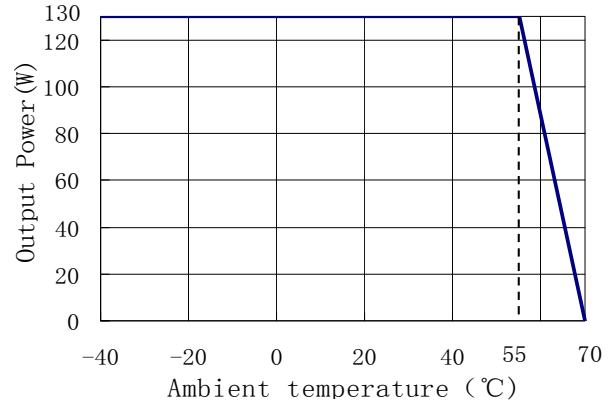
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Efficiency curve

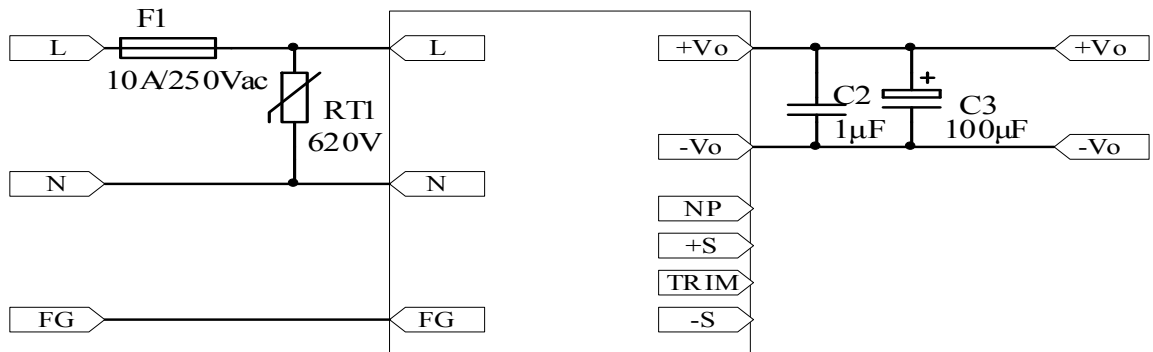


Natural cooling derating curve



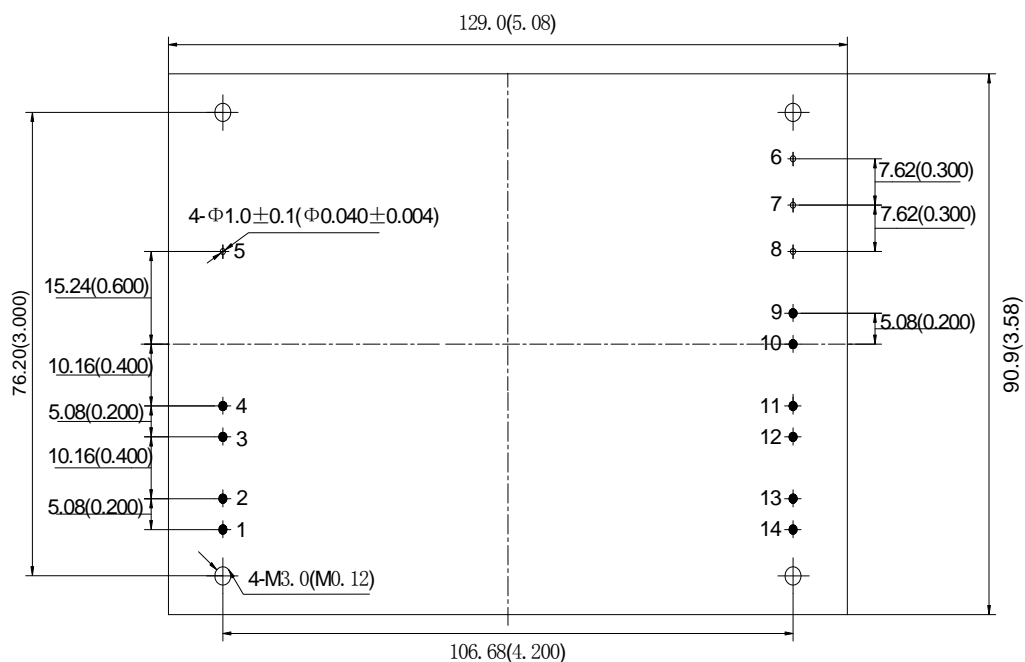
Design Considerations

Basic Connection



Note: L, N, FG lines should be obtained from the corresponding electrical socket, if the power supply line is introduced separately, please ensure that the connection does not make errors.

Recommended Layout



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No.	Recommendation & Notes
Pad Design	1-4,9-14 pad holes:2.0 mm, pad diameter including hole:4.0mm; 5-8 pad holes: 1.5mm, pad diameter including hole:3.0mm.
Mounting direction	Metal heat dissipation faces upward and avoids downward to prevent blocked hot air flow.
Safety	Isolated module, care to the spacing between input and output
Electrical	The Vin(-) and Vo(-) planes should be placed under of the module separately. Avoid routing sensitive signal or high disturbance AC signal under the module

Safety Consideration

The module, as one component for the end user, should be installed into the equipment, and all the safety considerations are achieved under certain condition. It is required to meet safety requirements in the system design. The module output is considered SELV, and the expected input is considered AC mains.

To avoid fire and be protected when short circuit occurred, it is recommended that a fast blow fuse with rating no less than 10A(Inrush current suppression circuit is required for greater filter capacitance at input terminal, or it will result in the disoperation of the fuse) .

Series and Parallel Operation

The modules should not be paralleled directly to increase power, but they can be paralleled each other through o-ring switches or diodes. Make sure that every module's maximum load current should not exceed the rated current at anytime.

The modules can operate in series. To prevent against start-up failure due to start up time difference, SBD with low voltage difference can be paralleled at the output pins(SBD negative terminal connect to the positive pin of the output) for each module.

Delivery Package Information

Package material is multiple wall corrugated, internal material is anti-static foam, it's surface resistance is from $10^5 \Omega$ to $10^{12} \Omega$. Tray capacity: $1 \times 2 = 2$ PCS/box,Tray weight: 1.3kg; Carton capacity: $15 \times 2 = 30$ PCS,Carton weight:20.0kg.

Quality Statement

The modules are manufactured in accordance with ISO 9001 system requirements, and are monitored 100% by auto-testing system, 100% burn in.

The warranty for the modules is 2-year.

Contact Information

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