24V to 12V 18W Non-isolated DC Power Converter EV18-A2412

Front

- Dimensions: 46mmx325mmx18mm
- Weight: 45g

Typical application

- AC/DC 24V to 12V power converter
- Application of special demand AC power supply 24V to 12V

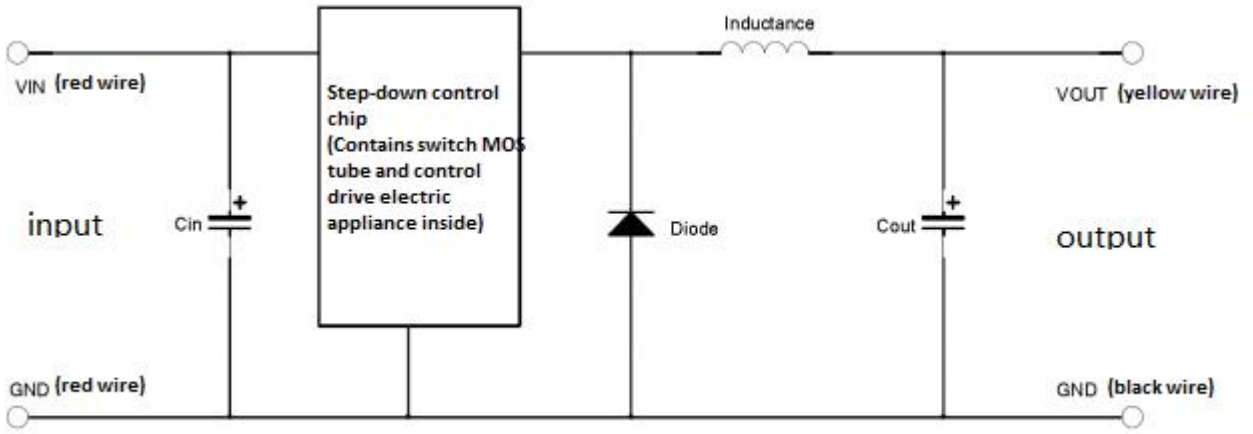
Main features

Input voltage: 15-28VAC
Output voltage: 12V±0.2Vdc
Output current: 1.5A
Output power: 18W
Conversion efficiency: up to 96%
No-load current: less than 1.5mA
Overcurrent protection function
Overheating protection function
Instant absorption of high voltage protection function
Waterproof, shockproof, explosion-proof function
Natural heat dissipation function
Asynchronous rectification
Non-isolated step-down power converter

Product description

EV18-A2412 is a DC to DC non-isolated synchronous step-down power converter. It is suitable for AC voltage 24V input and 12V 18W DC step-down converter. It has the characteristics of high efficiency, high cost performance, long life, easy installation, etc. It is loved and trusted by customers. At the same time, it has protection functions such as waterproof, dustproof, shockproof, and instantaneous absorption of high voltage. It is an ideal DC power converter for applications in harsh environments such as vehicles, ships, and special equipment.

1. Simplified circuit diagram



Note:

1. There are filter capacitors in the internal circuit, so there is no need to add filter capacitors for input and output during application.
2. It is recommended to add a fuse to the input terminal during use to prevent the input terminal power supply from being burned when the module is damaged.

2. Limit parameters (can not be exceeded when using)

	Min.	Max.	Unit	Remark
Input voltage range	15	28	VAc	Continuous working voltage
Output voltage range	11.8	12.25	Vdc	
Output current		1.5	A	Power ≤18W
Output power		24	W	Peak 24W
Working temperature	-40	85	℃	
Store temperature	-55	125	℃	

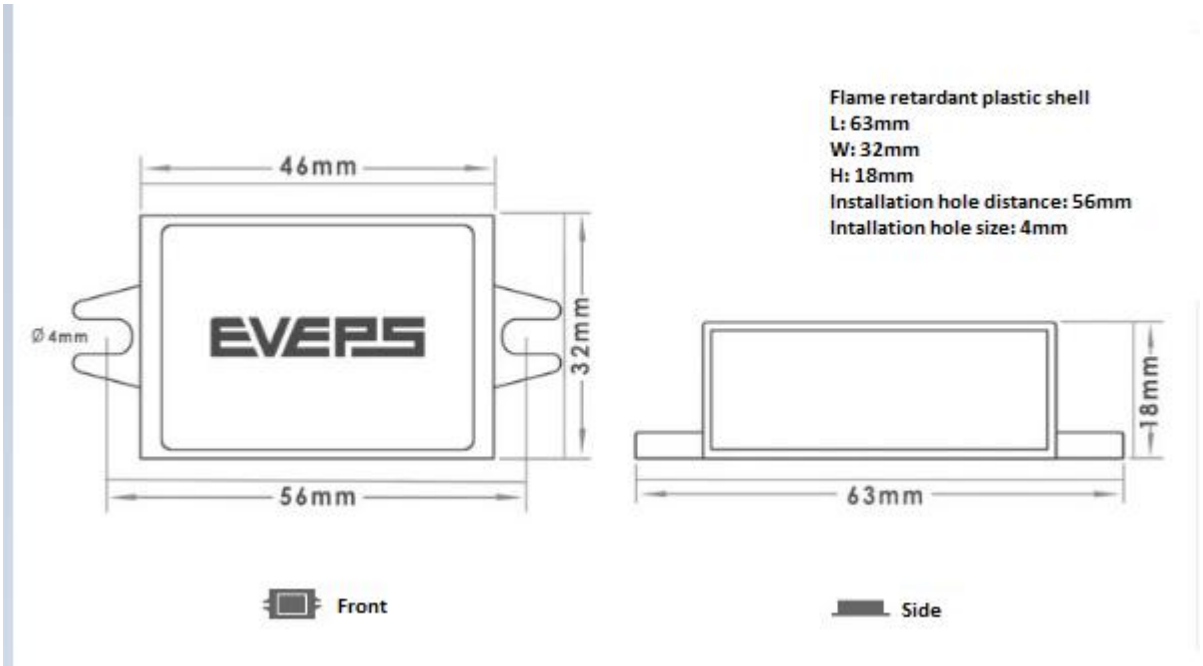
3. Electrical parameters

Input electrical parameters					
Electrical parameters	**Remark**	**Min.**	**Typical**	**Max.**	**Unit**
Input voltage value	Continuous normal input voltage	15	24	28	VAc
Sustained instantaneous surge	Less than 100			29	VAc

voltage value	milliseconds				
Input change ratio (dV/dt)				5	V/us
Input low voltage protection starting voltage	Start-up voltage	14	14.5	14.8	VAc
	Shutdown start voltage	14	14.5	14.8	VAc
	Low voltage start on/off error voltage range			1.2	VAc
Input current	Long-term working current			3	A
Input no-load current	Normal work, no load		1.2	1.5	mA
Input instant short-circuit current	No damage to the power supply module			5.5	A
Input surge overshoot current	No damage to the power supply module			6	A
Input capacitance		100			uF
Output electrical parameters					
Electrical parameters	**Remark**	**Min.**	**Typical**	**Max.**	**Unit**
Output voltage	No-load output voltage	12.80	12.0	12.20	Vdc
Output power	Input 15-18V	0	18	24	W
	Input 19-20V	0	18	24	W
	Input 20-28 V	0	18	24	W
Output current	Output power ≤ 18W		1.5	2	A
Output voltage adjustment rate	No load	-2	0	2.5	%
Conversion efficiency	Light load (current 1A)		95	96	%
	Full load (current 1.5A)		93	94	%
Output capacitance	No load	0		220	uF
Output ripple	20MHz bandwidth		120	200	mVp-p
Output short-circuit current value	No damage to the power supply module		5.5	6	A
Output overcurrent protection action time	No damage to the power supply module			10	ms

Output short circuit protection action time	No damage to the power supply module			2	us
Operating frequency		250	260	270	KHz
Installation and wiring instructions					
Label content	**Remark**	**Min.**	**Typical**	**Max.**	**Unit**
IN ⊕—**Red wire**	Input positive	0.5	0.5		mm2
IN ⊖—**Red wire**	Input negative	0.5	0.5		mm2
OUT ⊕—**Yellow wire**	Output positive	0.5	0.5		mm2
OUT ⊖—**Black wire**	Output negative	0.5	0.5		mm2

5. Installation dimension drawing



6.Precautions for use

- ✓ In practical applications, the input voltage value must not exceed the absolute maximum voltage value of 40Vdc, otherwise it may cause permanent damage to the internal components of the power supply.
- ✓ It is recommended to work under 90% of the rated power for a long time. If it is operated at full load for a long time, please provide a good heat dissipation environment to extend the service life and reliability of the power supply.
- ✓ In order to ensure the safe operation of the customer's load, please add a fuse with an appropriate current value to the input terminal if necessary.
- ✓ For us, it is impossible to evaluate all the performance parameter requirements of the product in each specific application field. Customers should choose the matching product according to the specific use conditions. If you have any questions, please contact our company for more information Technical support.
- ✓ This product specification is only for reference when customers use it. Subject to change without notice.