G-ENERGY

Non-Isolated DC/DC Converter Specification

RW-1442-48V-19V-190W

Input voltage	Output voltage	Output current	Output power	Weight	Size
30-60V	19V	10A	190W	0.3kg	74*74*32mm

The RW-1442-48V-19V-190W is a Non-isolated DC-DC converter that uses a synchronous rectification technology, and features high efficiency and power density. It has the dimensions of 74*74*32mm and provides the rated output voltage of 19V and the maximum output current of 10A

Features

- Organic silicone packaging technology
- Synchronous rectification technology
- High Efficiency:96%
- Non-isolated between Input and Output
- Water Proof :IP68
- Anti-shock, anti-drop, anti-moisture, anti-dust and so on
- Chip smart protection, anti-overheating, overcurrent protection
- Internal resistance capacitor filter,
- withstand high temperature

Applications

- Audio
- Monitoring
- LED display
- Truck
- Forklifts
- Golf cart
- Boat
- motors and etc
- LED Marketplaces and so on.

Model naming method

RW-1442-48V-19V-190W

RW-1442: SKU NAME
48V Input voltage
19V : Output voltage
190W: Output Power

Input	Rated voltage	V	48
	Voltage range	V	30-60
	Efficiency (type)	%	>90
Output	Voltage	V	19
	Max. rated current	A	10
	Max. rated power	W	190
	Voltage regulation	%	±1
	Load regulation	%	2
	No load loss	mA	22 @ 48Vin
	Ripple & noise	mV	300 (full load)
Environment	Working temperature	°C	-40~+80
	Working humidity	RH	10%~90%
	Storage temperature	°C	-40~+100

Function	Short circuit protection		YES
	Over current protection		YES
	Waterproof		IP68
	Over temperature protection		YES
	Over voltage protection		YES
Mechanical	Weight	KG	0.3
	Size	mm	74*74*32MM
Other	Cooling		Free air convection
	Packaging		Static bag or White Box

Feature Description

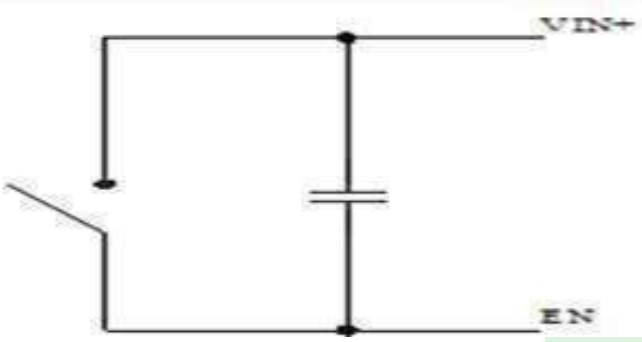
Remote On/Off (EN) (Optional)

Logic Enable	Low level (0 - 18Vdc)	High level (18-36Vdc)	Left open
Positive logic	Off	On	Off

Input Undervoltage Protection

The converter will shut down after the input voltage drops below the under-voltage protection threshold for shutdown. The converter will start to work again after the input voltage reaches the input under voltage protection threshold for startup. For the Hysteresis, see

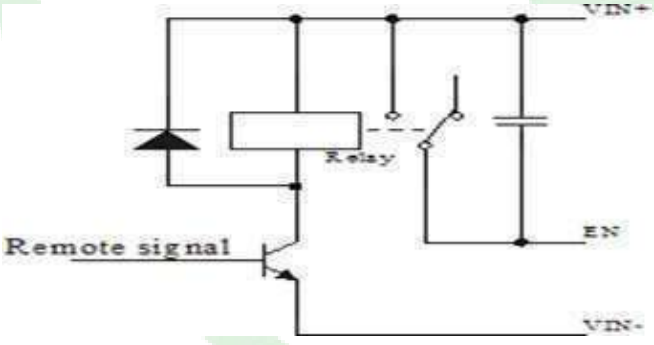
Various circuits for driving the EN



Simple control

Output Overcurrent Protection

The converter equipped with current limiting circuitry can provide protection from an output overload or short circuit condition . If the output current exceeds the output overcurrent protection set point, the converter enters hiccup mode. When the fault condition is removed, the converter will automatically restart.



Transistor control

Wiring Instructions

The input and output of this product is terminals. The user should ensure that the input and output wires and terminals are connected reliably, and pay attention to the wire diameter to meet the requirements of the power supply current. If the cable to be used is long, it needs Considering the voltage drop of the wire, if the voltage drop is too large, the voltage output at the load end may not meet the load demand. In this case, consider using a thicker wire diameter or reducing the length of the wire. Generally, if long wiring is required. Long line should be used on the side where the current is relatively small. For example, this product is a step-down product, so long lines should be used on the input side.

DIAGRAM WIRING

INPUT+ TO BATTERY+

INPUT- TO BATTERY-

OUTPUT+ TO LOAD+

OUTPUT- TO LOAD-

Notes: Never reverse the input polarity, or it burns the converter.

REVISION HISTORY

rev.	description	date
1.0	initial release	April 2022
2.0	revision	Nov 2024

Thermal Consideration

Sufficient airflow should be provided to help ensure reliable operating of the RW-1442-48V-19V-190W Therefore, thermal components are mounted on the top surface of the RW-1442-48V-19V-190W to dissipate heat to the surrounding environment by conduction, convection, and radiation. Proper airflow can be verified by measuring the temperature at the middle of the base plate.