

Voltage converter from 10-20V DC to 28V DC, 20A, 700W, IP68

Product codes:

Reference: AM6853

EAN13: -

UPC: 85044090



Product features:

Input voltage: 10-20 V DC

Output voltage: 28 V DC

Output current: 20 A

Output power: 560 W

Waterproof grade: IP67

Lifetime: 100,000 hours

Inverter type: Boost (step-up)

Product attributes:

Product description:

The DC/DC converter is used to increase the DC input voltage to a stabilized output voltage of 28 V DC. It is intended for power supply systems, industrial applications and mobile technology, where high current carrying capacity, robust mechanical design and protective functions for operation in more demanding conditions are required.

Technical specifications

- Type: non-isolated DC/DC converter
 - Input voltage: 10-20V DC
 - Rated input voltage: 12 V DC
 - Output voltage: 28V DC
 - Output voltage range: 27.5-28.6V
 - Maximum output current: 20 A
 - Output power: 560W
 - Efficiency: 95.7% at $V_{in} = 12 \text{ V}$, $I_{out} = 20 \text{ A}$
 - Control accuracy: $\pm 2\%$
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- Line regulation: $\pm 1\%$
- Load regulation: $\pm 1\%$
- Quiescent current without load: 100–120 mA at $V_{in} = 12\text{ V}$
- Input undervoltage shutdown: 8.8–9.3 V
- Undervoltage recovery: 9.9–10.3 V
- Output overcurrent protection: 28–37 A at $V_{in} = 12\text{ V}$
- Output Ripple and Noise: 368–450 mVp-p
- Output voltage rise time: 73–120 ms
- Start delay: 78–120 ms
- Output voltage overshoot: max. 3%
- Overheating protection: intervention at housing temperature up to 98 °C
- Cooling method: natural cooling
- Switching frequency: $80 \pm 10\text{ kHz}$
- Operating ambient temperature: -40 to +55 °C
- Housing temperature: -40 to +80 °C
- Storage temperature: -55 to +100 °C
- Operating humidity: 5–95% non-condensing
- Maximum altitude: 4000 m
- Protection: IP67
- Insulation resistance input/housing and output/housing: minimum 10 M Ω at test voltage 500 V
- Input/housing and output/housing resistance: minimum 500 V
- Dimensions: 140 × 120 × 42.5 mm
- Weight: 1.2 kg
- MTBF: minimum 200,000 h at $V_{in} = 12\text{ V}$, $I_{out} = 20\text{ A}$

Functions and features

- Non-isolated design between input and output
- Synchronous rectification
- Single output version
- Stable output current at full load
- Integrated input undervoltage protection with automatic recovery
- Integrated overcurrent protection with automatic restart after fault clearance
- Integrated overheating protection
- Built-in fuse on positive input 90 A
- Support for remote on/off via EN input in versions equipped with this function
- Natural heat dissipation through the ribbed metal cover
- No external output capacity required
- Input and output terminal connection

Ideal for

- Industrial power systems
 - Alternative energy systems
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- Vehicles and handling equipment
- Electric drives and electric motors
- Telecommunications technology
- Ship and on-board installations
- Power supply for LED systems

Package contents

- DC/DC converter WG-12S2825M

Installation and operating instructions

- Ensure reliable connection of input and output wires to the inverter terminals.
- For longer lines, it is necessary to select conductors with an appropriate cross-section due to voltage drop and current load.
- For this step-up converter, it is advisable to place the longer cable on the input side for longer cable runs.
- For reliable operation, it is necessary to ensure sufficient air flow and heat dissipation from the surface of the housing.
- It is advisable to monitor the temperature of the inverter in the area of the center of the base of the housing.
- Installation must respect the operating temperature range and cooling requirements.

Safety notice

- The device is an electrical power converter with high input and output currents. Improper wiring may cause a short circuit, overheating of the wires, or damage to the device.
- Since it is a non-isolated converter, the input and output are not galvanically separated. This feature must be taken into account when designing the entire system.
- The output must not be short-circuited. The documentation states that the boost converter does not have protection against permanent short-circuiting at the output.
- Installation must be carried out with the power disconnected.
- The cover becomes hot during operation. Contact with heat-sensitive materials must be avoided and sufficient cooling must be ensured.
- Assembly and wiring should be performed by a person with knowledge of DC power systems and power electronics.

Why choose this product?

- Clearly specified conversion from 10-20 V DC to 28 V DC
 - High output current capacity up to 20 A
 - Stated efficiency 95.7% under defined conditions
 - Robust design with passive cooling and IP67 protection
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