



ENGLISH

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DC-DC STEP DOWN CONVERTER



K2410



K2415



K2430

User Manual



www.alcapower.com

INTRODUCTION

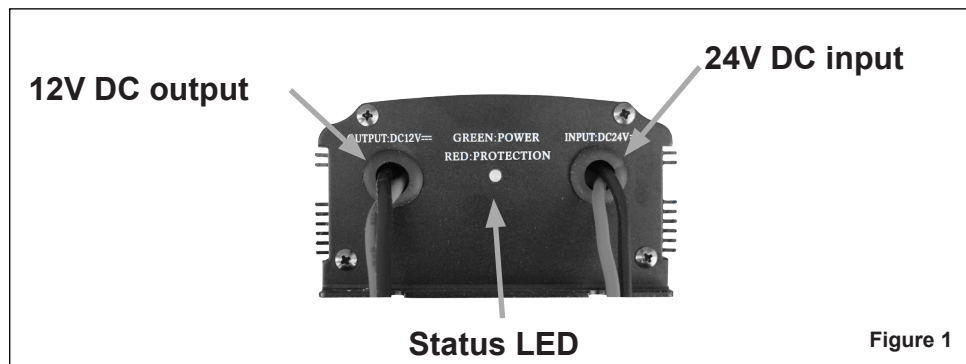
Thank you for choosing an AlcaPower product. You can be sure that the product you have purchased is one of the best that is currently available on the market. Before using the product, please read this manual very carefully and keep it for further reference.

AlcaPower **K2410**, **K2415** and **K2430** are DC-DC step down converters, namely devices that convert a 24V DC voltage source, typically provided by one or more accumulators, into a 12V DC voltage source suitable to power various devices present in your vehicles.

The AlcaPower converters are products made with advanced components and circuits that guarantee a high quality, a reduced weight and a small size. They are robust and equipped with protection circuits against output overload, overheating, input short circuit, output short circuit and input overvoltage. Nevertheless, to ensure the proper operation and prevent damages to the voltage converter, connected devices and people it is mandatory to provide a proper installation skillfully made.

WARNING:

Despite they are low-voltage devices, DC-DC converters can deliver high electrical currents that can cause injuries to persons or things such as burns and fires. Therefore, we recommend to be very careful when installing and using these devices.



TECHNICAL CHARACTERISTICS

Model	K2410	K2415	K2430
Input voltage	18-32V DC		
Output voltage	12V DC $\pm 5\%$		
Rated output current	10A	15A	30A
Maximum output current	12A	18A	32A
Rated output power	120W	180W	360W
Conversion efficiency	>85%		
No load current	$\leq 70\text{mA}$	$\leq 100\text{mA}$	
Operating temperature	-20°C a 60°C		
Dimensions	120x91x47mm	150x91x47mm	150x91x47mm
Weight	about 390gr	about 495gr	about 520gr

INSTALLATION AND USE

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- Place the voltage converter in a dry, well ventilated, indoor and weather protected area.
- Referring to Figure 1 on page 6, locate the red (+) and black (-) wires of the 24V DC input of the converter. First connect the black wire to the negative (-) pole of the battery, then connect the red wire to the positive (+) pole of the battery. If there are no malfunctions, the status LED will be on and green. In case of malfunctions the LED will be off or it will be on and red.
- Referring to Figure 1 on page 6, locate the red (+) and black (-) wires of the 12V DC output of the converter. First connect the black wire (-) and then the red wire (+) to the device to be powered, paying attention to the polarity.
- Turn on your device. If there are no malfunctions the status LED will be on and green. Instead, in case of anomalies the converter activates one or more protections functions and the status LED will be on and red.

Note: referring to TECHNICAL CHARACTERISTICS on page 1, the converter rated current refers to the maximum current that it can deliver continuously, instead the maximum output current is the maximum current that the converter can deliver for short intervals of time. To ensure an optimal operation and to avoid the risk of breakage of the converter, it is recommended to never connect devices consuming a current higher than the rated current of the converter.

VERIFICATION AND TROUBLESHOOTING

If after making the connections as described in point 2 or after performing the steps described in points 3 and 4 there are malfunctions, that is, either the status LED is off or is on and red, before returning the product at the point of sale for requesting the support service verify that:

- there are not short circuits in input or in output to the converter;
- the polarity of input and output connections is correct, namely, there are not polarity inversions in the connections.
- the current required by the connected devices does not exceed the rated output current of the converter.

PRECAUTIONS AND WARNINGS



- Install this product in a dry, well-ventilated, indoor area protected from atmospheric agents, dust, dirt and liquids of all kinds.
- Do not use the converter in explosive atmospheres or near flammable materials and gases.
- Pay attention to do not create short circuits to both the input and the output of the converter.
- Make sure that the polarity of all connections is correct.
- Do not connect devices that require a current greater than the output rated current of the converter.
- To prevent damages and electric shock hazards, do not try to connect 110/220V AC sources to the converter.
- Ensure that the battery voltage does not exceed the maximum input voltage of the converter.
- To avoid completely discharging the battery, keep the engine of your vehicle running when using the converter.
- Before making any connection make sure that device to be connected is turned off.
- Keep clean from dust and dirt the external parts of the converter, especially the ventilation holes.
- Ensure that the reducer is well ventilated, do not obstruct the ventilation holes on the casing.
- Do not open the converter neither try to insert objects or materials of any kind.
- Any modification to the converter can generate dangers and voids any guarantee.
- In case of doubts, malfunctions or breakdowns, contact the dealer where you purchased the inverter.

WARNINGS	
<p>Electricity is a source of danger.</p> <p>Before using this product, make sure that the use of the same complies with current legal provisions to safeguard your own health and safety as well as that of others. Therefore, it is necessary to use the product in accordance with current regulations, standards and provisions to safeguard your own health and safety, by following the instructions, fully complying with the conditions prescribed in this manual.</p>	<p>Untrained, unaware individuals and minors</p> <p>It is strictly forbidden to allow children, individuals who have not been appropriately informed and non self-sufficient people to use the product without the supervision of an adult who is aware of how to properly use such equipment.</p> <p>It is forbidden to use the product for any other purpose other than that specified in the instructions, or that may go beyond its intended use that could prove to be a source of danger.</p>
<p>Foreseeable or unforeseeable misuse</p> <p>Any use of this battery charger other than that specified in the instructions, or which goes beyond the designated use, is considered as non-compliant. Therefore, it is deemed as incompatible, improper, unforeseeable misuse and for such reasons, this conduct brings about a high level of danger. Consequently, with immediate effect, AlcaPower shall not be held responsible in any way whatsoever for damage caused by means of the abovementioned conduct.</p>	<p>Exemption from liability</p> <p>Under no circumstances whatsoever shall AlcaPower Distribuzione Srl be held responsible in the following cases:</p> <ul style="list-style-type: none"> If the product is not used properly. If the safety standards and regulations are not complied with. If improper and reasonably foreseen uses of the product is not considered. If the assembly procedure and/or electrical connection are not carried out properly. If the correct operation of the product is not regularly inspected. If repairs and/or modifications are made to the product that alter its integrity.
<p>Serious damage or injuries!</p> <p>In the event of incorrect or inappropriate electrical connections!</p> <p>Electrical connections must be carried out by paying particular attention, in accordance with standards and regulations to safeguard your own health and safety.</p>	<p>An error may cause high risk situations!</p> <p>Before, during and after use: cables, plugs and connectors must be carefully checked to avoid a short circuit and to make sure that they are intact and have no bare wires or parts that are even partially damaged.</p>
<p>Serious accidents in case of the selection of functions and operations!</p> <ul style="list-style-type: none"> Despite the safety protections present on the product, check that operations caused by the incorrect selection of functions are not carried out. Select the functions so that the safety protections can act in accordance with safety standards. Select the functions as described in the instructions. Any connection to other equipment must be monitored to guarantee the utmost level of safety. 	<p>Pay attention to the environment in which you are working!</p> <p>Hazardous situations may be caused by the people, animals or materials present in the surrounding environment in which you are using the product. Humidity, gas, vapours, fumes, liquids, noise, vibrations, high temperatures, possible falling of materials, and explosive atmospheres.</p>
<p>Inadvertent product start-up and/or interruption!</p> <p>Hazardous situations may arise following inadvertent and sudden start-ups or interruptions of the operational functions of the product. Carry out inspections and check prior to starting up or interrupting the operational functions of the product.</p>	<p>Abnormal operational functions!</p> <p>In the event of abnormal operational functions of the product, it is necessary to promptly interrupt the operation of the product. See the instructions in the product-specific user manual.</p>
<p>Warranty: this product is covered by a warranty under the terms of the current applicable law. In case of need, contact the sales outlet where you bought the product.</p>	<p>DECLARATION OF CONFORMITY (Extract)</p> <p>AlcaPower Distribuzione Srl does hereby declare that the product complies with essential requirements set forth by current legislation.</p>



DISPOSAL. The crossed dustbin symbol reported on the product indicates that, at the end of its useful life, the product must be collected separately from other waste. Therefore, the end-user must deliver the product to the collection centers for electric and electronic waste (WEEE). Alternatively, the product can be returned to the retailer shop when buying a new product of the same type, in a ratio of one to one, or one to zero for products having external dimension no more than 25cm. A separate collection guarantees the recovery and reuse of the materials used in manufacturing the product, contributes to the respect of the environment and the protection of health by preventing pollution and reducing the need for raw materials.

Note: all pictures shown in this manual are for illustration purpose only, are not contractual and may differ from the actual product.