

CONSIDERATION FOR THE INSTALATION

From the thermal point of view it is useful to know that the device especially if used in high ambient temperatures at full load can exceed 80 ° C, for this reason it is strongly recommended to keep it away from any objects that are affected by high temperatures.

To facilitate heat dissipation is strongly recommended to install the device with the fins upright. It is advised to leave at least 15cm of space above the fans and both ends of the device to ensure proper air circulation.

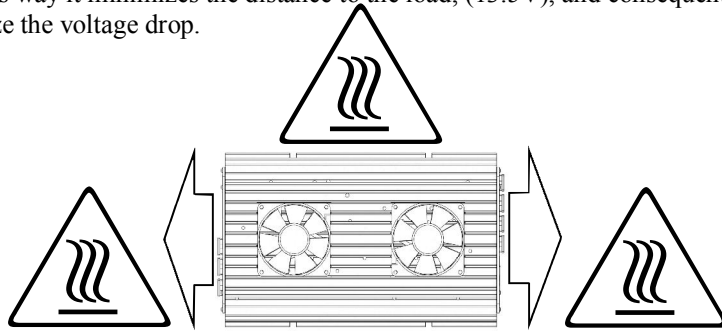
Electrically it is important to remember that, due to the possibility of high current loads, the voltage drop on the cables are not negligible.

It is important to install the device as close as possible to the devices powered from it. In this way it minimizes the distance to the load, (13.5V), and consequently minimize the voltage drop.

E

VR120SW

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GENERAL CHARACTERISTICS

The design utilises a poly-phase switching voltage reducer topology , a feature that minimises both radiated and conducted noise.

The energy balance and efficiency between input and output is greater than 96%

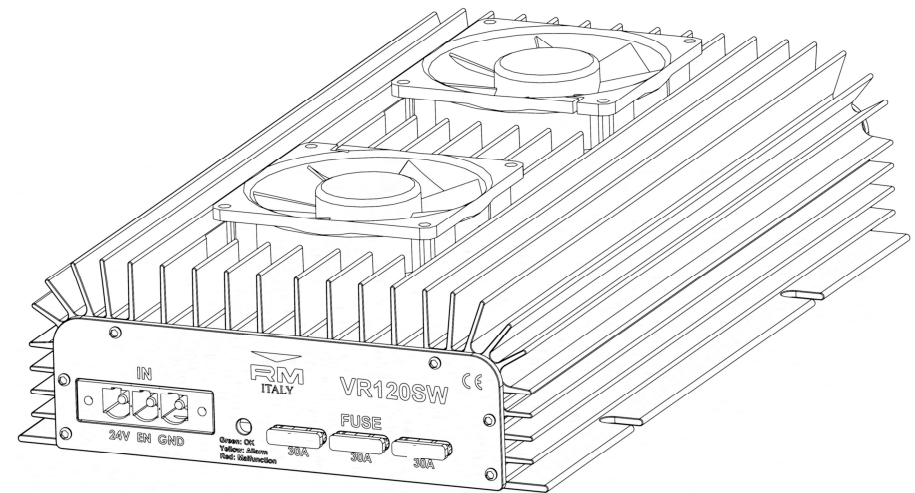
The device is protected against:

- ⇒ Reverse polarity
- ⇒ Over voltage / current input
- ⇒ Over voltage / current output
- ⇒ Over temperature

Specifications:

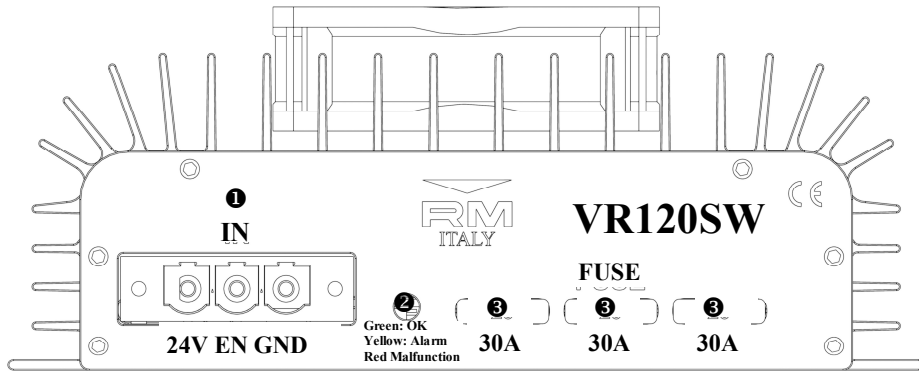
Input Voltage	20V a 32V
Output Voltage	13.4V ± 0.5V
Stand by current	25mA
Quiescent current	600mA (WARNING Leaving EN Input active may cause undesirable battery discharge)
Maximum Input Current	80A
Maximum Output Current	120A (CONTINUOUS OPERATION)
Maximum Output Power	1620W
Ambient temperature	-10°C to +55°C

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USER MANUAL

POWER INPUT



1 Input Connector

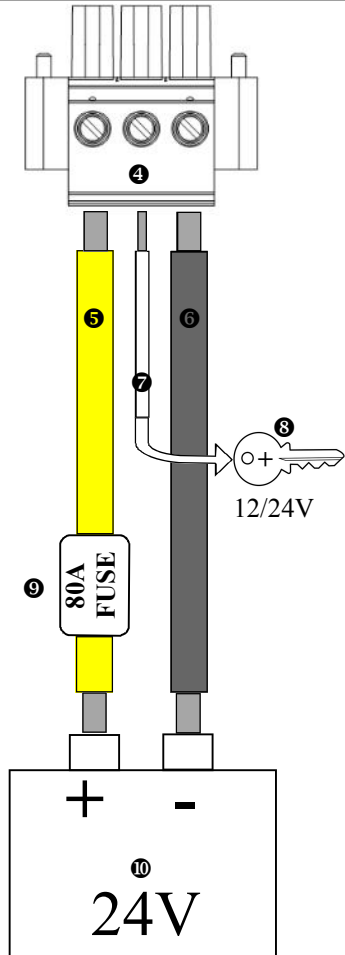
From left to right :

- ⇒ 24V input positive (+) power
- ⇒ EN input signal for dedicated ignition control device. It is recommended to connect it to the " ignition key output circuit" of the vehicle in which it is installed. In this way, when the vehicle is turned ON, the device and the devices connected to it will turn ON .
- ⇒ GND negative input (-) of power ie the reference system

2 Status indicator LED

Bi-Color LED. Displays 4 different states:

- ⇒ OFF the device has no voltage at EN
- ⇒ GREEN device is turned on and working normally
- ⇒ YELLOW indicates a generic state of alert, this does NOT affect the output voltage
It may be caused by one of the following conditions :
 - **Excessive Temperature:** In this case the fans will turn on automatically. If the device has been installed in a well ventilated area, this will solve the problem.
 - **Excessive Output Current:** Voltage on the output of the converter is less than 12.9V caused from excessive load
 - **Low voltage on Input :** voltage on the input of the converter is less than 19.5V. This condition can reduce the performance of device
- ⇒ RED indicates an ALARM for which it was necessary to disconnect the supply voltage to protect the device . This is typically caused by excessive temperature . If the problem is resolved the device automatically resumes operation.



3 Blade Fuses at 30A

The use of excessively rated fuses can cause irreversible damage to the device

4 Connector with screw terminal block

Three-pin plug supplied which can accept cables up to 16 mm²

5 Positive power cable (+) We suggest to use a cable 16 mm² YELLOW

6 Negative power cable (-) We suggest to use a cable 16 mm² BLACK

7 EN signal cable We suggest to use a cable 2mm² WHITE

8 This signal control the power-up of the device

Usually connects to the ignition key circuit however it may alternatively be connected to a remote switch for manual EN signal. Leaving the device permanently on could cause an unwanted discharge of the battery 10

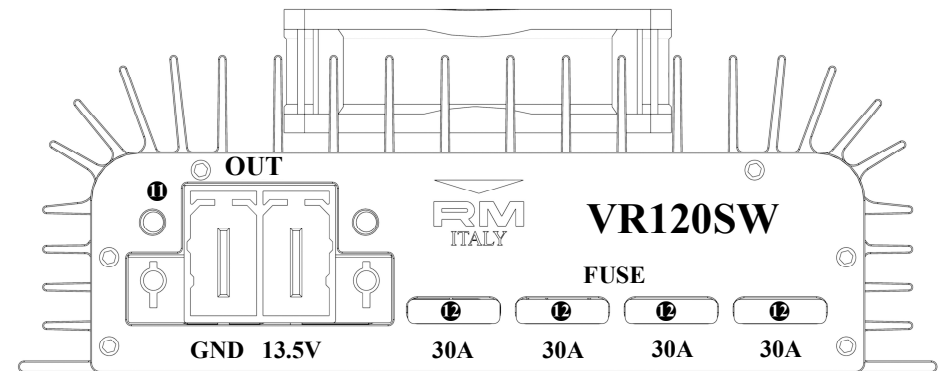
9 Safety Fuse

For increased safety it is strongly recommended that an 80A fuse is installed close to the battery 10

10 Battery or 24V Power source

Make sure that the battery is charged, has the correct voltage and is capable of delivering at least 65A

POWER OUTPUT



11 Input Connector

From left to right :

- ⇒ GND negative input (-) of power ie the reference system
- ⇒ 13.5V Positive Output Power maximum current 120A

12 4 Blade Fuses at 30A

Use of excessively rated fuses can cause irreversible damage to the device

13 Connector with screw terminal block

Bipolar plug supplied which can accept cables up to 32mm²

14 Negative power cable (-) We suggest to use a cable 32mm² BLACK

15 Positive power cable (+) We suggest to use a cable 32 mm² RED

16 Devices connected at VR120SW

Do not connect loads that absorb in excess of 1620W or 120A

