
R12S Hardware Manual

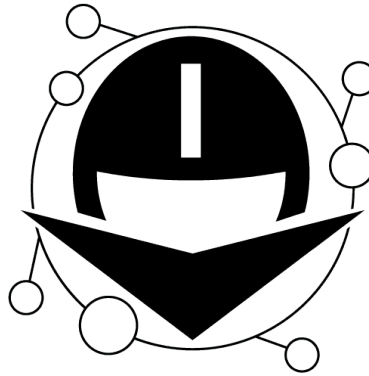
Release 3.0

Embention

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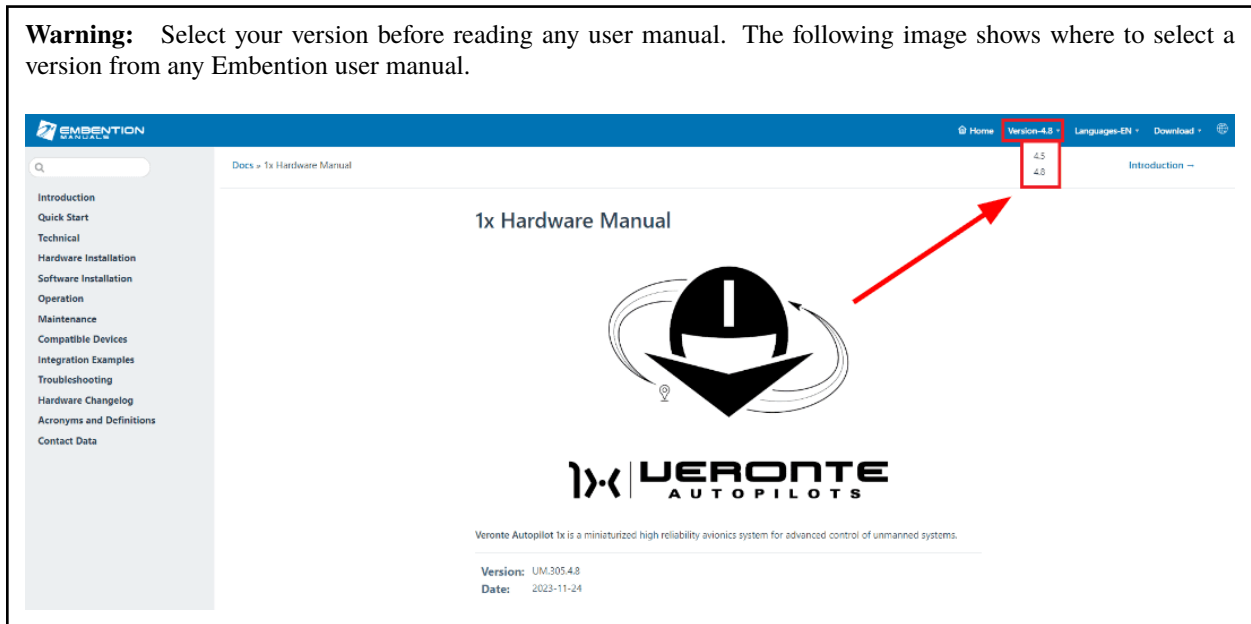
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R12S | VERONTE A V I O N I C S

Veronte R12S is an OEM miniaturized DC-DC converter with redundancy available.

Warning: Select your version before reading any user manual. The following image shows where to select a version from any Embention user manual.



INTRODUCTION



Fig. 1: R12S

Veronte R12S is a redundant DC-DC converter with different output voltage options that user can choose with a switch: 3.3, 5, 6, 7.4, 9 or 12 V.

QUICK START

This user manual covers the *mechanical* and *electric* assembly of **Veronte R12S**. To use it, weld input and output wires according to the *Pinout section*, then fix it to the assembly frame with two M3 screws.

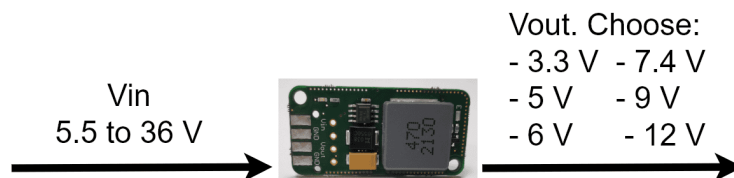


Fig. 1: **Input and output diagram**

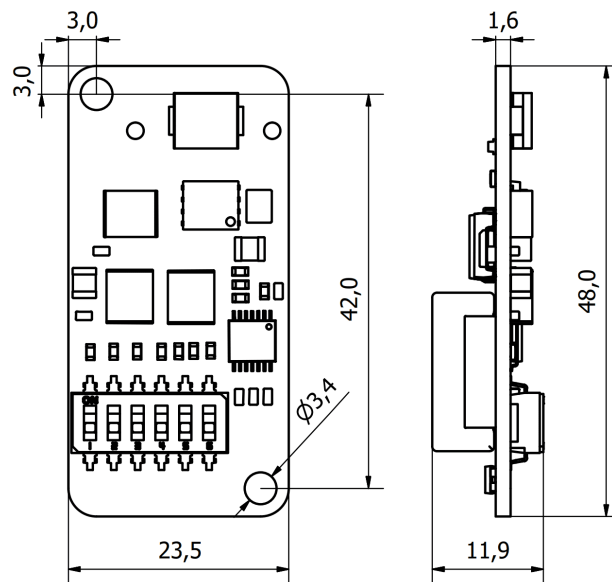
2.1 Warnings

- If all switches are **off** or there is more than one **on** switch, the output voltage will not be defined.
- In saline environments such as coastal and oceanic, the screw material must be stainless steel.
- The power supply must be higher than the desired output voltage (but not higher than 36 V or lower than 5.5 V).

3.1 Mechanical Specifications

- Temperature range: -40 to 85 °C.
- Weight: 19 g.

3.1.1 Dimensions



3.2 Electrical Specifications

Property	Value
Input voltage range	5.5 V to 36 V
Output continuous current	5 A
Output peak current	6 A
Output voltages	Choose between: 3.3, 5, 6, 7.4, 9 or 12 V

HARDWARE INSTALLATION

4.1 Mechanical assembly

M3 screws are recommended for mounting. In saline environments such as coastal and oceanic, the screw material must be stainless steel.

There might be situations where external isolation components might be needed.

Veronte R12S can be mounted in different ways in order to reject the airframe vibration. The simplest way could be achieved by just using double-sided tape on the bottom side. Other ways may use some external structure which could be rigidly attached to the airframe and softly attached to **R12S** (e.g. foam, silent blocks, aerogel, etc).



The user should take into account that wiring should be loose enough so vibrations may not be transmitted to **R12S**.

In cases where mechanical isolation is not viable, it is possible to use soft engine mounts. It is also recommended when there are other sensible payloads like video cameras or for high vibration engines.

4.2 Electrical

4.2.1 Power

The output voltage can be chosen between 3.3, 5, 6, 7.4, 9 or 12 V. Nonetheless, the input must be higher than the desired voltage (but not higher than 36 V or lower than 5.5 V), since **Veronte R12S** cannot obtain more voltage than supplied.

To choose the output voltage, set the corresponding switch to **on** and the rest to **off**. If all switches are **off** or there is more than one **on** switch, the output voltage will not be defined.

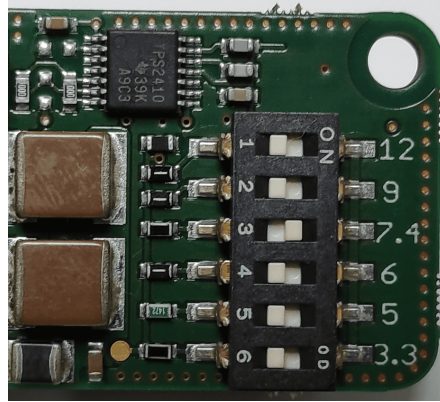
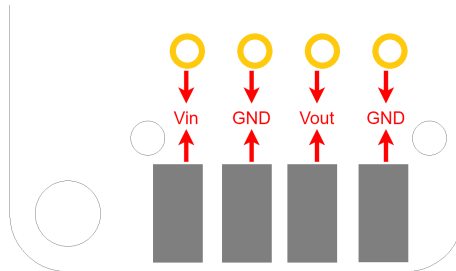


Fig. 1: Example of 7.4 V

4.2.2 Pinout



- **Vin:** Input voltage supply.
- **GND:** Ground. All ground holes and pads are common (they are connected each other).
- **Vout:** Output voltage.

The user can weld cables to holes, pads or both; since they are connected.

4.2.3 Redundancy

Veronte R12S can be implemented with redundancy, so more than one R12S can be connected in parallel (with the same output voltage).

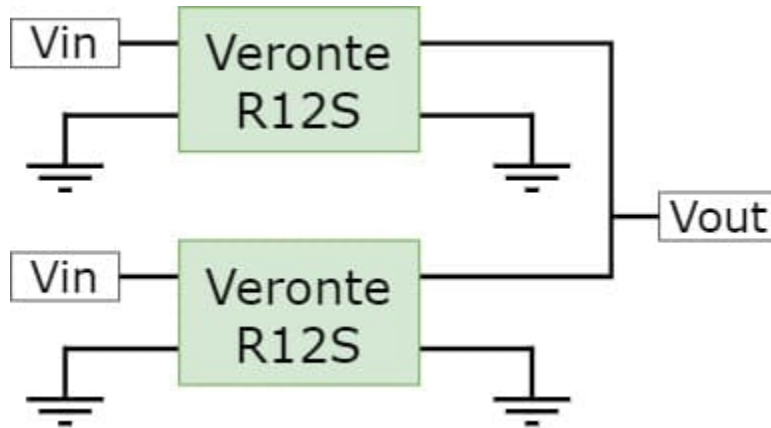


Fig. 2: Parallel diagram

MAINTENANCE

Apart from cleaning, no extra maintenance is required to guarantee the correct operation of **Veronte R12S**.

In order to clean **R12S** properly follow the next recommendations.

- Turn off the device before cleaning.
- Use a clean, soft, damp cloth to clean the unit.
- Do not immerse the unit in water to clean it.

ACRONYMS AND DEFINITIONS

DC-DC	Direct Current to Direct Current
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CONTACT DATA

You can contact Embention if you need further help and support.

Embention contact data is as follows:

Email: support@embention.com

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