
R12F Hardware Manual

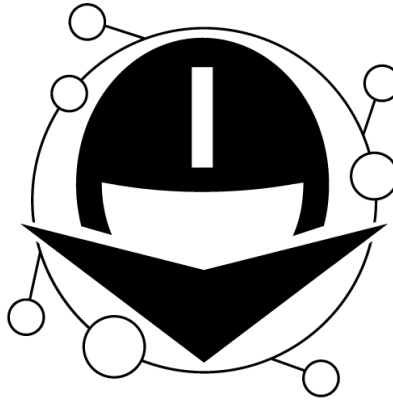
Release 1.0

Embention

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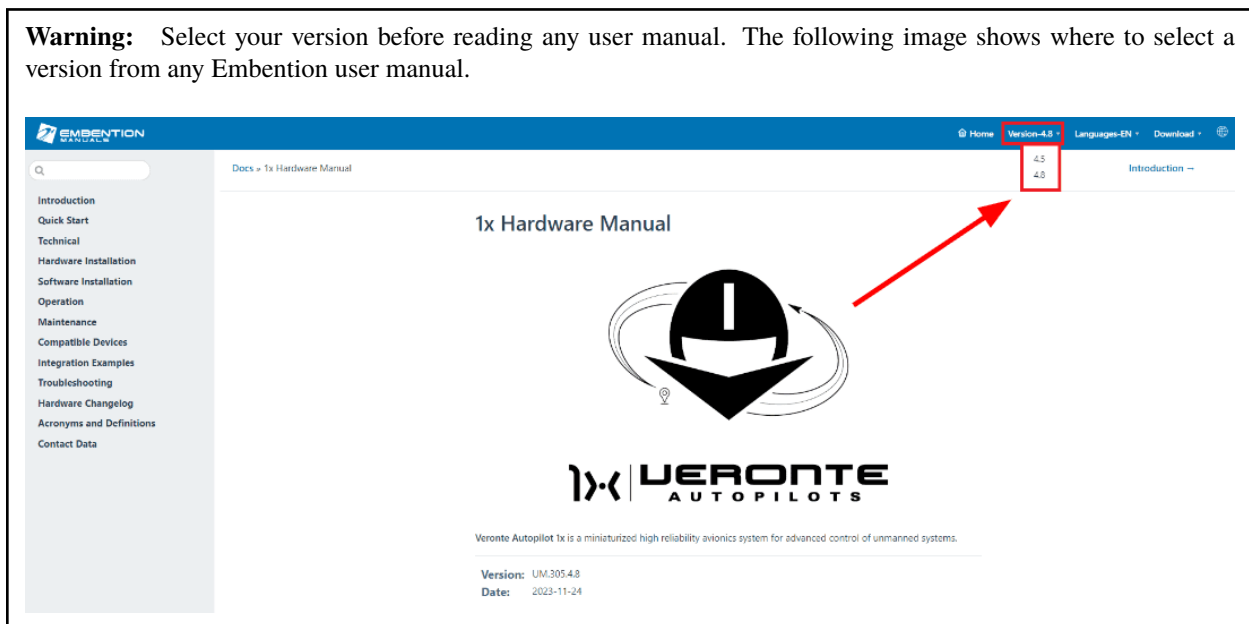
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R12F | VERONTE A V I O N I C S

Veronte R12F is a DC-DC converter with input voltage supply variable.

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: **Veronte R12F**

Veronte R12F is a DC-DC converter, with an input power supply variable from 14 to 16 V and 12 V of output voltage.

QUICK START

This user manual covers the *mechanical assembly* of **Veronte R12F**. To use it, weld input and output wires according to the *Pinout* section, then fix it to the assembly frame.

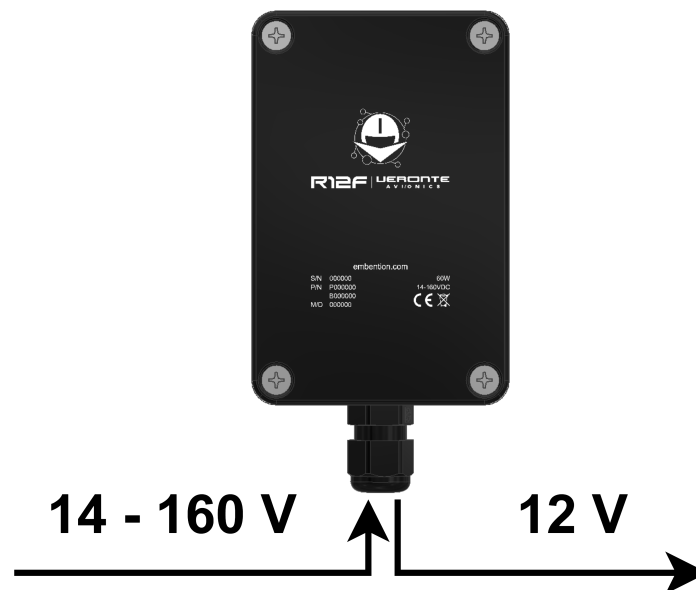


Fig. 1: Input and output diagram

2.1 Warnings

- In saline environments such as coastal and oceanic, the screw material must be stainless steel.
- Unlike **Veronte R12S**, this device does not support redundancy.

To know more about redundancy, read [Redundancy - Hardware Installation](#) section of the **R12S Hardware Manual**.

TECHNICAL

3.1 Variants

Veronte **R12F** is offered in two versions: **R12F** and **R12F OEM**.

Name	Reference	Description
R12F	P003960	Protected by an enclosure made of diecast aluminum, with watertight enclosure.
R12F OEM	P008605	Smaller, lighter and with better heat dissipation, but mechanical protection may be required.

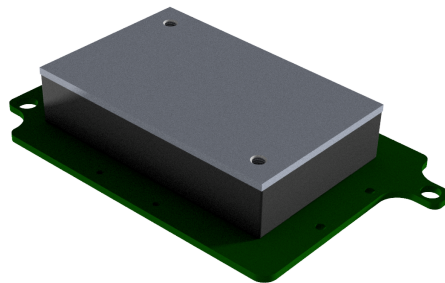


Fig. 1: **R12F OEM** version

3.2 Mechanical and Electrical Specifications

Property	Value
Output voltage	12 V DC
Input voltage range	14 - 160 V DC
Maximum output current	5 A
Operating temperature	From -40°C to 75°C
Enclosure protection	IP 66
Efficiency	89 %

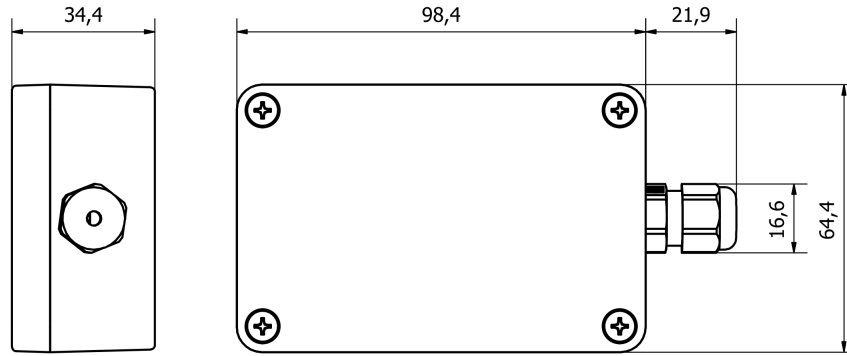


Fig. 2: R12F dimensions (mm)

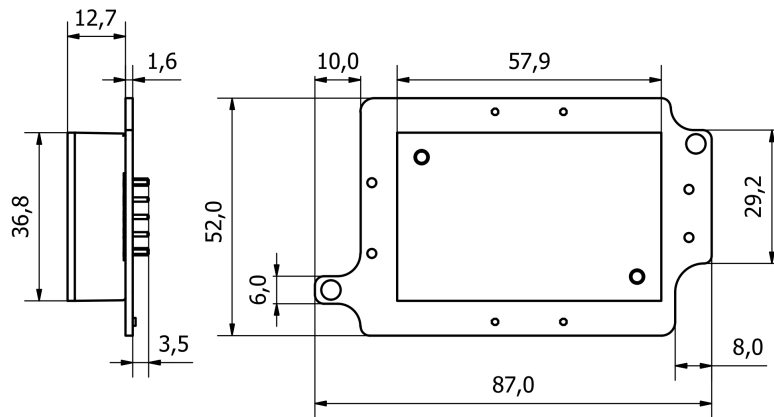


Fig. 3: R12F OEM dimensions (mm)

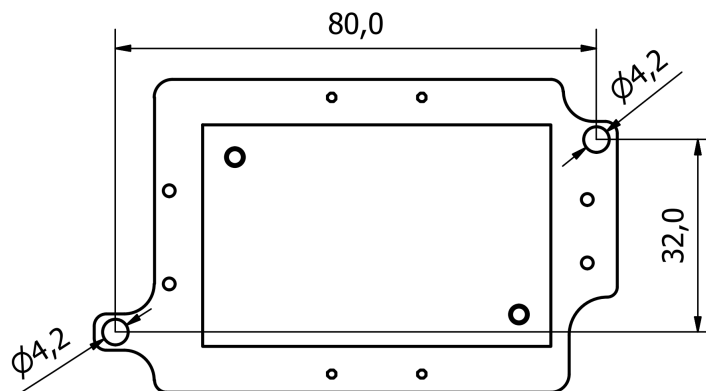


Fig. 4: R12F OEM mounting holes position (mm)

HARDWARE INSTALLATION

4.1 Mechanical

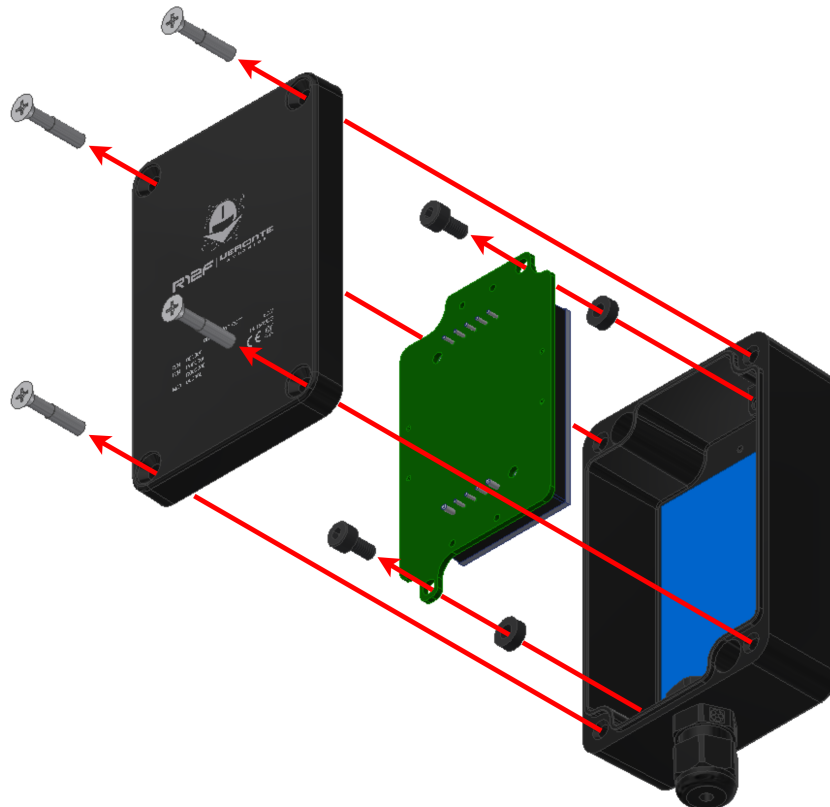
4.1.1 R12F OEM Assembly

M4 screws are recommended for mounting. In saline environments such as coastal and oceanic, the screw material must be stainless steel.

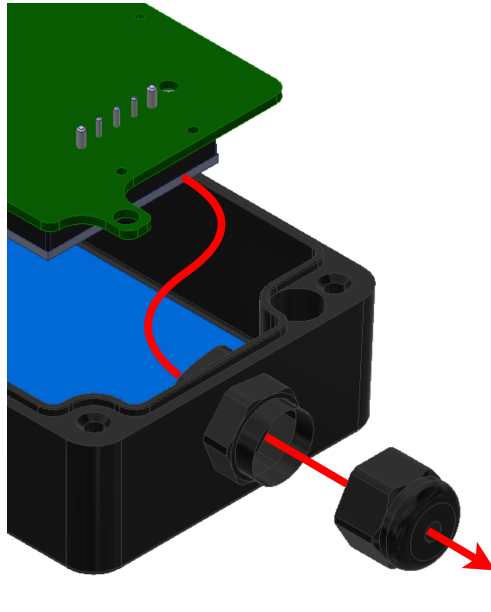
To weld the cables read the *Pinout* section of this manual

4.1.2 R12F Assembly

1. First of all, unscrew the box and the PCB.



2. Then, weld the cables to the PCB following the *Pinout* section of this manual.
3. Finally, pass the cables through the cable gland and screw it back.



4.2 Vibration isolation

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

Veronte R12F 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 **R12F** (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 **R12F**.

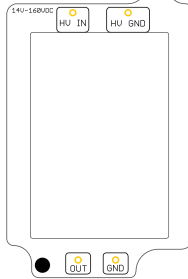
In cases where mechanical isolation is not viable, it is possible to use soft engine mounts. It is also recommended when there are other sensible payloads like video cameras or for high vibration engines.

4.3 Pinout

The following diagram shows the holes to weld each cable.

- **HV IN:** Positive of the input power supply (from 14 to 160 V DC).
- **HV GND:** Ground of the input power supply.
- **OUT:** Positive of the output voltage (12 V DC).
- **GND:** Ground of the output supply.

Note: Grounds are not common.



MAINTENANCE

Apart from cleaning, no extra maintenance is required to guarantee the correct operation of **Veronte R12F**.

In order to clean **Veronte R12F** 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	Direct Current
DC-DC	Direct Current to Direct Current
GND	Ground
OEM	Original Equipment Manufacturer

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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