

iPowBox-V2

Uninterrupted Power Supply (UPS) for Inertial Measuring Systems

Inertial measuring systems shall acquire measurement data without interruption. Otherwise there will occur a significant loss of inertial data and an accurate determination of angular information is corrupted due to the need of continuous signal integration of rotation rates. Also errors in position and velocity are the consequence if the power supply fails even only a short time.

Therefore iMAR provides an interrupt-resistant power supply for inertial measuring systems to allow autonomous continuous operation over a short duration, which is simply connected between the vehicle's battery and the inertial measuring system.

Item	Input Voltage	Power
iPowBox-V2	11-34 V	50 W

The system has two fuses (input / output), where a fault of a fuse is shown by an optical signal (red LED), if the



button "Test" is pressed.

Furthermore each system is equipped with a display to monitor the input voltage, the battery voltage and the output voltage. To protect the iPowBox against deep discharge, it automatically switches off after 20 seconds loss of input voltage.

At the backside of the housing the fuses are located. Furthermore two 4 mm plugs provide the output voltage of approx. 13 V.

Also two 2 mm monitor pins are available at the backside of the housing: If the iPowBox is active, the two pins are also connected internally via a relay contact (0.5 A, 200 V max).

The internal battery is charged from the input voltage via a DC/DC converter. The output voltage is close to the input



voltage as long as the input voltage is available. If the input voltage drops down, the output is hold to 12 V for

about 15 up to 45 seconds (timeout adjustable as a factory setting).

Technical Data for iPowBox-V2:

Input voltage:	11...34 V DC, 50 W (load dependant)
Switching hysteresis:	Output connected to output at $U_{in} > 11.7 \text{ V}$ Output connected to internal battery at $U_{in} < 11 \text{ V}$
Output voltage:	approx. $U_{in} - 1 \text{ V}$, if $U_{in} > 11.7 \text{ V}$ approx. 12 V for 15 s after U_{in} switched to "off"
Output current:	3,5 A
Interruption duration:	from 15 up to 45 seconds (factory adjustable)
Capacity:	7 Ah
Protection:	protected against wrong polarity and over-charge (within the specified input voltage range), fuses in the input and output, automatic shutdown after "interruption duration" after loss of input voltage
Selftest:	LEDs for each fuse, digital display for voltages
Accumulator:	Pb-Gel-Accumulator maintenance-free (no warranty for supply with an input voltage outside of the specified range)
Size, Environm., Mass:	approx. 110 x 110 x 350 mm, IP41, approx. 6 kg

The iPowBox is recommended to be used with iDIS-FMS, iNAV-FMS, iNAV-RQH, iDRPOS.32 or iVRU on vehicles, where the battery voltage drops down during ignition of the vehicle's engine. The unit automatically powers down when the input voltage is absent for a defined duration (factory settings). Nevertheless it is recommended to switch-off the unit after usage.

iMAR GmbH • Im Reiherstrich 3 • D-66386 St. Ingbert / Germany
Tel.: 06894-9657-0 • Fax : 06894-9657-22
<http://www.imar-navigation.de> • sales@imar-navigation.de