



### Overview

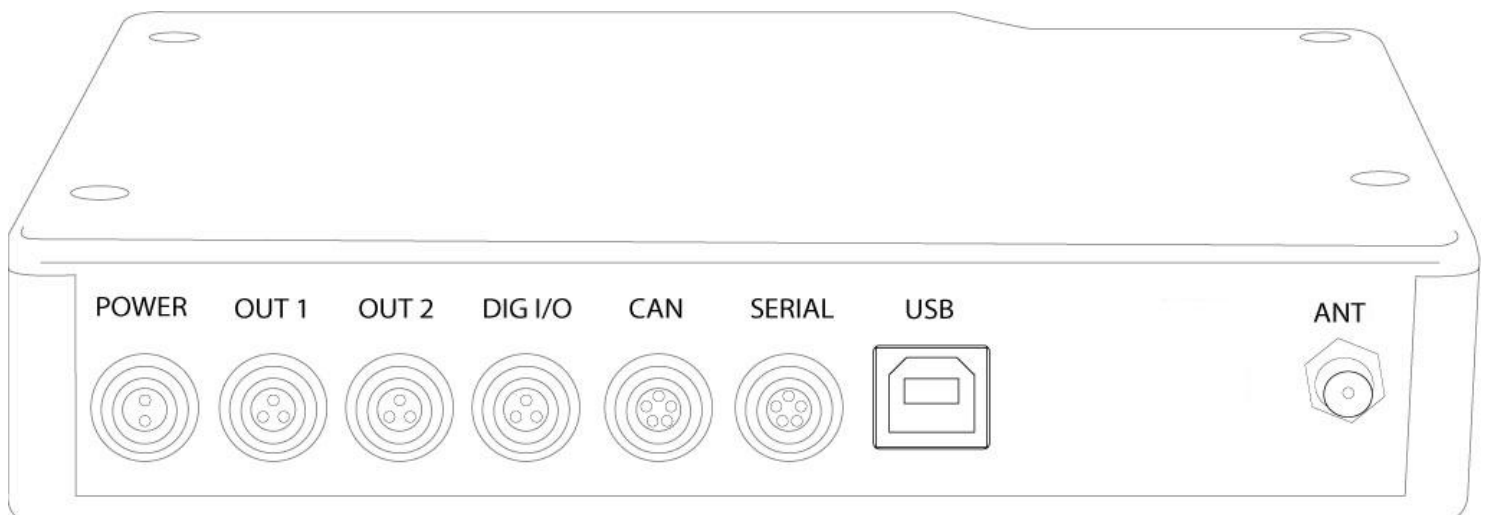
The VBOX is a powerful instrument used for measuring the speed and position of a moving vehicle. It is based on a new generation of high performance satellite receivers, and will measure acceleration figures, braking distances, lap times, cornering forces and much more. Due to the small size and simple installation procedure, the VBOX is ideally suited for use in cars, bikes, off road vehicles and boats.



### Features

- Non-contact speed and distance measurement using GPS
- CAN Bus interface
- USB Interface
- RS-232 serial interface
- SD Card support
- Analogue speed outputs
- Digital speed outputs
- Digital input/output
- OLED Screen display
- Front panel configuration

### Rear View of Box





## Specification

### Velocity

Accuracy	0.1 Km/h (averaged over 4 samples)
Units	Km/h or Mph
Update rate	20 Hz
Maximum velocity	1000 Mph
Minimum velocity	0.1 Km/h
Resolution	0.01 Km/h

### Distance

Accuracy	0.05% (<50cm per Km)
Units	Metres / Feet
Update rate	20Hz
Resolution	1cm
Height accuracy	6 Metres 95% CEP**
Height accuracy with DGPS	2 Metres 95% CEP**

### Absolute Positioning

Accuracy	3m	95% CEP**
Accuracy with DGPS	1.8m	95% CEP**
Accuracy with DGPS Base station	40cm	95% CEP**
Accuracy with local differential paid upgrade	20cm	95% CEP**
Update rate	20 Hz	
Resolution	1 cm	

### Heading

Resolution	0.01°
Accuracy	0.1°

### Time

Resolution	0.01 s
Accuracy	0.01 s

### Lap Time

Resolution	0.05 s
Accuracy	0.05 s

### Acceleration

Accuracy	0.5%
Maximum	20 G
Resolution	0.01 G
Update rate	20Hz

### Memory

<b>External memory support</b>	SD Card 1
Recording time	Dependant on SD capacity. Approx 4.3 megabytes per hour used while logging all GPS channels.



## Outputs

### CAN Bus

Bit rate	125 Kbit/s 250Kbit/s ,500Kbit/s & 1Mbit/s selectable baud rate
Identifier type	Standard 11bit 2.0A
Data available	Satellites in view, Latitude, Longitude, Velocity, Heading, Altitude, Vertical velocity, Distance, Longitudinal acceleration & Lateral acceleration, Distance from Trigger, trigger Time, Trigger Velocity

### Analogue

Voltage range	0 to 5Volts DC
Default setting *	0.0125Volts per Km/h (0 to 400Km/h)
Accuracy	0.1 Km/h @ 100Km/h

### Digital

Frequency range	DC to 44.4Khz
Default setting *	25Hz per Km/h (0 to 400Km/h)
Accuracy	0.01Km/h @ 100Km/h

\* The range settings can be adjusted by the user in software

### Power

Input Voltage range	6-18v DC
Current	Typically 560mA

### Environmental and physical

Weight	Approx 500 grammes
Size	154mm x 112mm (decreasing to 99mm) x 30mm
Operating temperature	-30°C to +60°C
Storage temperature	-40°C to +85°C

### Definitions

\*\* CEP = Circle of Error Probable

95% CEP (Circle Error Probable) means 95% of the time the position readings will fall within a circle of the stated diameter