

# VBOX Touch Motorsport

RLVBTOUCH-M (V2)

The VBOX Touch Motorsport features a 25 Hz GNSS receiver, responsive colour touchscreen and the ability to run multiple applications on the same hardware. Built on a platform that allows functionality to be expanded through future software and firmware upgrades, the VBOX Touch is an extremely versatile data logger.

Applications are written in Python script enabling users to create their own, including custom CAN based applications to solve specific testing needs. New applications can be loaded by inserting an SD card containing the new script and it is just as quick to revert to the standard functionality of the VBOX Touch, by inserting the SD card containing the original data.

Other features include the ability to connect to a vehicle's CAN Bus, capture screenshots and see live test results.



## Features

- 4.3" TFT daylight readable capacitive touch screen
- 4 x high brightness LED indicators
- Wi-Fi and Bluetooth connectivity
- Python-based applications; ideal for solving user-specific testing needs
- CAN Bus interface
- Removable protective rubber cover included
- 25 Hz GNSS receiver with internal patch antenna
- SMA connector for external GNSS antenna (overrides the internal antenna when connected)



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## GNSS Specifications

Velocity		Distance	
<b>Accuracy</b>	0.1 km/h (averaged over 4 samples)	<b>Accuracy</b>	0.05 % (< 50 cm per km)
<b>Update rate</b>	25 Hz	<b>Resolution</b>	1 cm
<b>Maximum velocity</b>	1600 km/h		
<b>Minimum velocity</b>	0.5 km/h		
<b>Resolution</b>	0.01 km/h		

Position		Acceleration	
<b>Accuracy Standalone*</b>	H: 2 m	<b>Accuracy</b>	1 %
<b>Accuracy with SBAS*</b>	H: 1.3 m	<b>Maximum</b>	4 g
<b>Resolution</b>	0.00185 m	<b>Resolution</b>	0.01 g

Heading		Trigger Brake Stops	
<b>Resolution</b>	0.01°	<b>Accuracy</b>	±20 cm
<b>Accuracy</b>	0.3°		

\*Specifications will vary depending on the number of satellites used, obstructions, satellite geometry (PDOP), multipath effects, and atmospheric conditions. For maximum system accuracy, always follow best practices for GNSS data collection.


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## Connector Pin Allocation

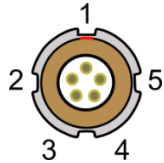
### SMA Connector 1

GNSS Antenna Connector:		
Pin	I/O	Function
Centre	I	RF Signal / Power for active antenna
Shell	I	Ground



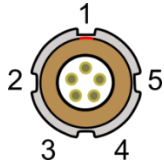
### 5-way LEMO Connector 1

CAN/ Serial Connector:		
Pin	I/O	Function
1	O	Tx-RS232
2	I	Rx-RS232
3	I/O	CAN High
4	I/O	CAN Low
5	I	Power
Shell	I	Ground



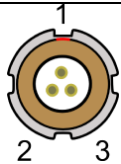
### 5-way LEMO Connector 2

CAN/ Serial Connector:		
Pin	I/O	Function
1	O	Tx-RS232
2	I	Rx-RS232
3	I/O	CAN High
4	I/O	CAN Low
5	I	Power
Shell	I	Ground



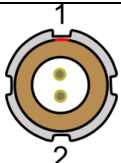
### 3-way LEMO Connector

Digital In and PPS Connector:		
PIN	I/O	Function
1	I	Ground
2	O	PPS
3	I	Event/Brake Trigger



### 2-way LEMO Connector

Pin	I/O	Function
1	I	Power
2	I	Ground
Shell	I	Ground



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## Environmental and Physical

Environmental and Physical	
<b>Input Voltage</b>	6 – 30 V DC
<b>Power</b>	< 7W, powered using the supplied cigar plug with 2 m cable
<b>Operating Temperature</b>	-20°C to +60°C
<b>Storage Temperature</b>	-20°C to +80°C
<b>Size (rounded)</b>	
Unit	138 x 96 x 29 mm
Rubber Cover	142 x 103 x 36 mm
<b>Weight</b>	
Unit	375 g
Rubber Cover	75 g

Touch Screen	
<b>Size</b>	4.3" TFT Capacitive Touch
<b>Resolution</b>	480*800 pixels
<b>TFT LCD Display Colours</b>	262K colours (18 Bit)

Mounting	
Richter mounting system or ¼" 20TPI UNC	



## Package Contents

Description	Product Code
1x VBOX Touch Unit including Rubber Cover	VBTOUCH-V2
1x Unterminated Power Supply Cable (2 m)	RLCAB014LE
1x 8 GB SD Ultima Pro UHS-1 Memory Card	RLACS313
1x GNSS antenna	RLACS262
1x Windscreen Suction Mount	RLACS331