



## Overview

The VBOX mini input module is a general purpose input/output module designed for use by either the VBOX Mini or existing VBOX products.

This module allows data such as Temperature, RPM, Wheel Speed, Fuel Flow, Throttle angles and Pedal forces to be easily measured along with the VBOX GPS data.



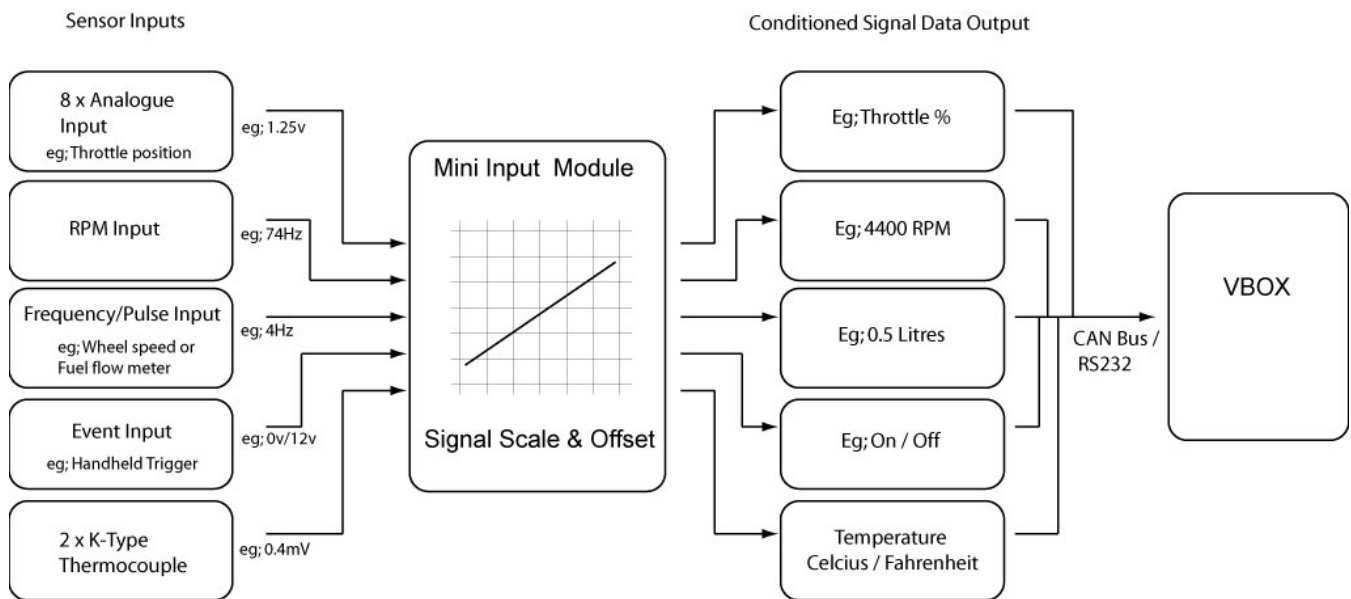
## Inputs

- 8 x 14 bit Analogue inputs
- 1 x Low-Tension RPM input
- 1 x Wheel Speed Input with gain control
- 1 x Digital State Input for event marker
- 2 x K-Type thermocouple interface

\*Analogue and Digital outputs only available when used with a VBOXMini.

## Outputs

- 1 x Digital Output\*
- 1 x Analogue Output\*

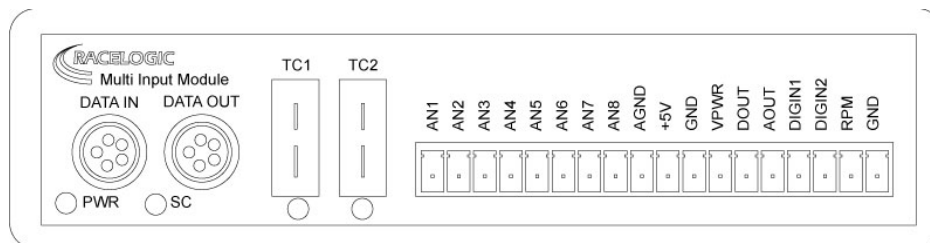


## Specification

Analogue Inputs		Digital Input 1	
Number of Channels	8	Input voltage (max range)	30VDC
DC Accuracy	5.1mV	Switching threshold L>H	4V
Input range	0V to 13.8V	Switching threshold H>L	3.8V
Input impedance	>13KΩ	Input frequency range	1Hz to 10KHz
Voltage Resolution	850μV		

<b>RPM Input</b>		<b>Digital Input 2</b>	
Input type	Low tension Coil Signal	Input voltage (max range)	±40V
Minimum signal amplitude	5V	Minimum signal amplitude	0.5V
Input frequency range	0 to 1000Hz	Input frequency range	1Hz to 10KHz
Resolution	0.1RPM	Minimum frequency	1Hz
<b>Thermocouple</b>		<b>Environmental and physical</b>	
Input Channels	2 Differential input channels	Weight	Approx 500 grammes
Thermocouple type	K-Type	Size	119mm x 128mm x 30mm
Update rate	5.8Hz	Operating temperature	-30°C to +60°C
Resolution	0.25°C	Storage temperature	-40°C to +85°C
Range	0 to 1024°C		
Accuracy	±1°C		
<b>Digital Output</b>		<b>Analogue Output</b>	
Frequency range	DC - 10KHz	Output voltage range	0 to 5V DC
Default Setting*	25Hz per Kph (0-400Kph) 90 pulses per metre	Default Setting*	0.0125Volts per Kph 76uV/bit
<b>Power</b>			
Input Voltage range	6-30v DC		
Power	Typically 1.5W		

## Signal Connections



### Input Connector 18 way

Pin	Function	I/O	Pin	Function	I/O
AN1	Analogue Channel 1 +	I	GND	Ground	I/O
AN2	Analogue Channel 2 +	I	VPWR	Ground	I/O
AN3	Analogue Channel 3 +	I	DOUT	Digital Output	O
AN4	Analogue Channel 4 +	I	AOUT	Analogue Output	O
AN5	Analogue Channel 5 +	I	DIGIN1	Digital input e.g. Event trigger	I
AN6	Analogue Channel 6 +	I	DIGIN2	Digital Input e.g. Wheel speed signal	I
AN7	Analogue Channel 7 +	I	RPM	RPM input	I
AN8	Analogue Channel 8 +	I	GND	Ground	I/O
AGND	Analogue Ground	I			
+5V	+5V (sensor supply)	O			