



Data Logger with Event-Recording

In response to customer demand, Hummingbird Electronics is pleased to offer an in vehicle data-logger with integrated GPS and crash detector. The data-logger will typically be used to monitor vehicle parameters or reconstruct incidents.

Powerful Performance

Integrated GPS provides position, speed, acceleration, deceleration, heading and also allows all data collected to be accurately time-stamped.

The integrated 3-axis accelerometer can measure forward/back, left/right and up/down forces and can be used to calculate pitch and to detect impacts.

The data-logger can collect samples at a constant rate of 10 per second (10Hz), although this can be decreased by the user if required. If an impact or rollover is detected, the previous 4 seconds and subsequent 2 seconds of accelerometer data will also be stored at 200Hz to allow for incident re-creation.

Additional monitoring features include:

- Position, speed
- Pitch, roll, road condition
- Supply voltage monitoring
- Optional CAN (OBD or J1939 message logging)
- 2 x Analog inputs (0-36V)
- 4 x Digital inputs (threshold ½ supply)
- 2 x Frequency inputs

All data collected is stored to a secure SD-card in a separate file for each day. Files are erased after 30 days. The data format is such that it can be read by most popular spreadsheet programs on a standard computer.



Data can also optionally be downloaded via serial or RF (an additional PC modem will be required to use the RF download option).

A serial or RF interface optionally allows users to configure parameters such as overspeed thresholds, pitch and roll incident levels and accident thresholds. Additionally, other parameters such as sample rate can be configured remotely.

An internal buzzer and optional LEDs provide status information to the user. LED 1 flashing or a single beep every 30 seconds indicates loss of GPS lock. Three beeps indicates that the SD card is not functional.

Other outputs are available for overspeed and tilt warnings.

Rugged Hardware

The data-logger is provided in a watertight enclosure with a Deutsch plug for interface and power. Provision for screw mounting when required is provided.

The unit should be mounted horizontally with the screw mounting plate down and the cable to the rear of the vehicle.

A magnetic mount antenna is supplied as standard. Other antenna types are available on request.

www.inclinometers.com.au



Data Logger with Event-recording

Technical Specifications	
Part number	HMDL1000
Device type	GPS Data Logger with Event recording
Operating voltage	9Vminimum, 36Vmaximum
Operating current	Typical 0.20A at 12V and 0.15A at 24V
Pitch and roll accuracy	1 degree when unit static; cornering will affect the pith and roll values
Accelerometer	+/-16G maximum measurement range, 3 axis, samples at 250Hz
GPS specification	50 channel receiver, 10 updates per second
Position accuracy	2.5m under good signal conditions
Speed accuracy	0.5km/h
Voltage accuracy	+/-5% within the range 0V to 32V
Outputs	Maximum 250mA, internally limited with resettable fuse
Temperature range	-40°C to 85°C
Dimensions	Width 100mm, length 127mm, height 35mm
Connectors	Deutsch DTM, 12 way
GPS antenna	Magnetic mount, SMA male, gold plated

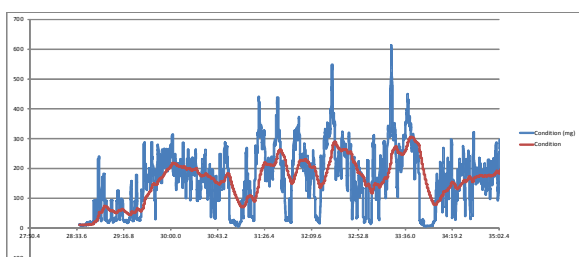
Pin connections

Left (Grey)

1 Digital in 2
2 Spare in
3 Digital in 1
4 Spare in
5 Analog in 2
6 Analog in 1
7 Spare out
8 RS232 GND
9 RS232 Tx
10 RS232 Rx
11 Analog out 1
12 Analog out 2

Right (Black)

1 LED1
2 Spare in
3 Spare out
4 LED2
5 Ground
6 Vin + (9-36V)
7 RS485 A
8 RS485 B
9 Spare in
10 Spare in
11 CAN L
12 CAN H



Typical road condition detection measurement

Serial configuration commands

show accel - Shows current accelerometer values
show time - Shows current local time
show utctime - Shows current UTC time
show pos - Shows current position
show config echo - Shows echo enabled or not
config echo (0/1) - Enables or disables echo
config time (+/-)hhmm - Sets local time to UTC time
show config time - Queries current time offset
config lograte # - Sets rate (msec) at which data is logged
show config lograte - Queries how often data is logged
config log position (0/1) - Enables logging of position
config log speed (0/1) - Enables logging of speed
config log gps (0/1) - Enables logging of additional GPS data
config log accel (0/1) - Enables logging of accelerations
config log tilt (0/1) - Enables logging of pitch and roll
config log condition (0/1) - Enables logging of road condition
config log voltage (0/1) - Enables logging of system voltage
config log analog1 (0/1) - Enables logging of analog input 1
config log analog2 (0/1) - Enables logging of analog input 2
config log digital1 (0/1) - Enables logging of digital input 1
config log digital2 (0/1) - Enables logging of digital input 2
show config log - Queries what is being logged
write settings - Saves current settings to SD card
help - Shows a summary of all commands