



Advanced Dash Logger

High Speed and Fully Programmable

- ◆ Fully Programmable
- ◆ 4 Mbyte Flash Memory
- ◆ High Contrast LCD
- ◆ Advanced Control Functions
- ◆ Sampling Rates up to 1000 samples/second
- ◆ Over 200 Channels of Analog, Digital and Serial data
- ◆ High Speed RS232 and CAN bus communications
- ◆ Support for Modems, GSM devices & GPS Systems
- ◆ High Speed data downloading
- ◆ Easy to use 32 bit Windows software
- ◆ Powerful Analysis Software
- ◆ 32 bit microprocessor

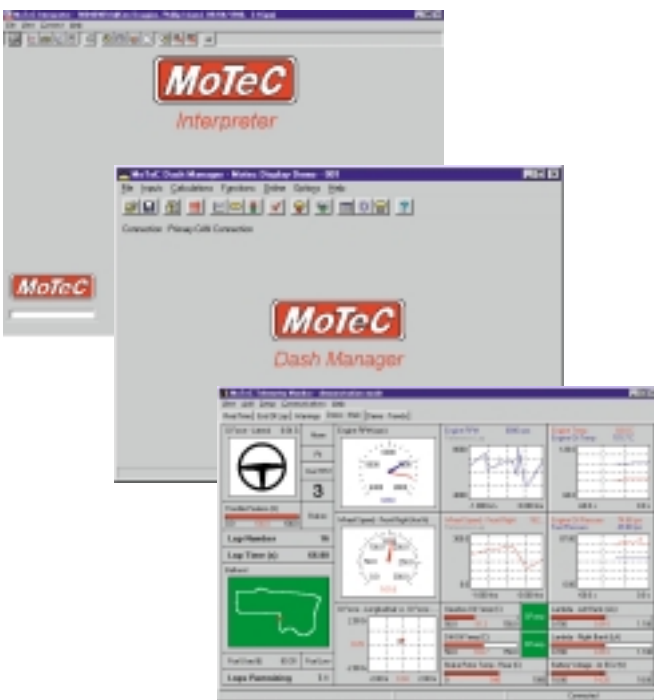


The **MoTeC** Advanced Dash Logger (ADL) is a fully featured and self contained, programmable **logger**, **controller** and **display** unit. The key difference between the **MoTeC** ADL and other products is its flexibility to be adapted to any application.

Many vehicle, marine and industrial applications require separate products to perform the logging, controlling and displaying. However the **MoTeC** ADL offers seamless integration of all three functions.

All aspects of the ADL are fully configurable, including which sensor is connected to which input, what to log, how fast to log it, which channels to display, warning alarms and control outputs.

The **MoTeC** ADL uses a high speed 32 bit microprocessor and incorporates a 79 pin autosport connector. The ADL is built to internationally recognised quality and manufacturing standards and is backed by a full 2 year worldwide warranty.



Host Software

The ADL is supplied with software packages for managing the ADL, analysing the logged data and monitoring a telemetry link.

Ease of use is one of the most attractive aspects of the **MoTeC** ADL software. There is no complex language to learn, just simple menu driven windows.

A full online help system is easily accessible and is integrated throughout the software.

Dash Manager Software

The **Dash Manager** software is used to configure the ADL and download logged data. It is logically laid out, giving the user access to the power of the ADL without requiring high levels of computer knowledge or intense training.

Interpreter Software

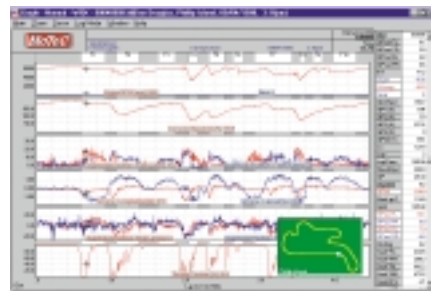
The **Interpreter** software contains predefined configurations for easy data analysis. Screen display formats may be varied to suit all preferences, including user defined graphs, histograms and statistical summaries. By utilising these different display methods, users can view data in many formats to obtain accurate, meaningful analysis.

Data can also be exported into ASCII CSV file format for analysis in other software packages.

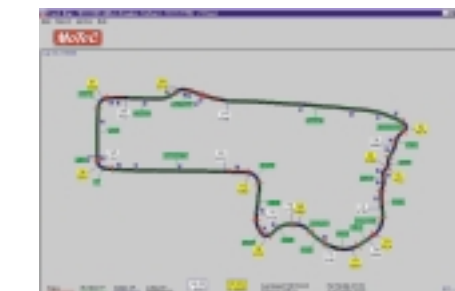
The Pro Logging option includes graph overlays, virtual instruments, mathematical functions, XY graphs (scatter plots), track maps (shows minimum and maximum speeds, gear change point and braking points) and other advanced features.

Telemetry Monitor (Optional)

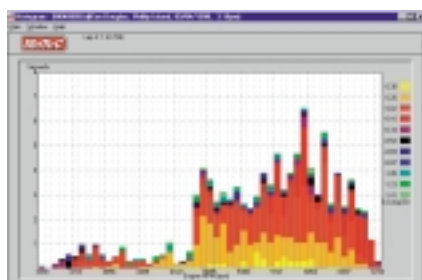
The **Telemetry Monitor** software allows for realtime viewing of the telemetry data either via direct serial communications, modems or radio modems. Data can be viewed in various formats such as charts, bar graphs, dial gauges, numerics, lights, XY graphs and scroll charts. All objects are definable by the user.



User definable graphs provide analysis of data from all logged channels



Automatic track maps with colour gradients allow for easy analysis



Histograms offer analysis of frequency distribution of any channel

Upgrades and Accessories

The **MoTeC** ADL is completely field updateable by the user. The control software and logged data is stored in FLASH memory. No programming interface is required, simply send to the ADL the new program and the latest features are immediately available.

Upgrade Options

The ADL has field upgradeable options using a password enabling system. Upgrade options include: Extended Inputs & Outputs, Pro Logging (advanced data analysis), Medium Logging (1Mbyte), Large Logging (4Mbyte), Telemetry Support, Remote Logging and Wideband Lambda measurement.

Three wiring options are available for the ADL:

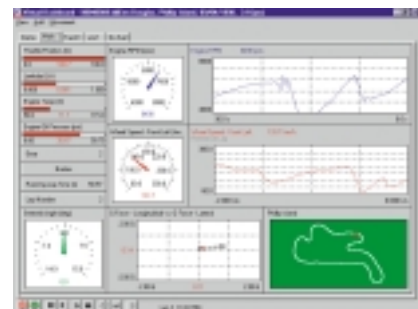
- ◆ Separate I/O Terminal Module with plug-in screw terminals. Includes a Realtime Clock, additional RS232 port and wide ranging power supply.
- ◆ Standard (vehicle style) wiring loom for specific permanent installations.
- ◆ Custom wiring looms for complex installations.

Accessories

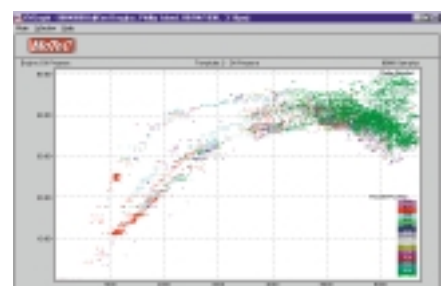
A wide range of sensors are available for use with the ADL including: linear position, accelerometers, pressure, resistive and thermocouple temperature sensors, Lambda, hall and magnetic speed sensors and many others.

The **MoTeC** Lap Beacon transmitter and receiver has been designed in conjunction with the ADL. It features high channel count (990), improved optics, low power consumption and multi beacon capability.

And for peace of mind the **MoTeC** ADL offers a full 2 year worldwide warranty.



The Virtual Display provides a representation of the data using a Gauge format



The XY Graph is a scatter plot analysis to compare any two types of data with each other

Specifications - Advanced Dash Logger

General

- Microprocessor: 32 Bit High Performance
- Manufacturing Quality standard: ISO9002
- Field updateable Operating System
- Non-volatile FLASH memory for data & operating system
- High RFI Immunity
- Rugged Aluminium Housing (IP-55, NEMA 4)
- 79 pin Autosport connector
- Operating Temperature: -10 to 70 DegC
- Operating Voltage: 7 to 22 VDC
- Operating Current: 0.3 A max.
- Weight: 385 gms (0.85 lbs)
- Size: 180 mm x 91 mm x 18 mm (excluding connector)
- Reverse Battery and Transient Protection
- Warranty: 2 years Parts and Labour

Measurement Inputs

- 28 Analog Inputs (10 standard):
 - 20 Analog Voltage (6 standard)
 - 8 Analog Temperature (4 standard)
 - 12 bit resolution, 0 to 15 VDC range
 - Update rate (max. 8 channels): up to 1000 times/sec.
 - Other inputs: up to 500 times/sec.
- 4 Digital Inputs (2 standard)
- 4 Speed Inputs (2 standard)
Digital & Speed:
 - Switch to 0V, logic signal, open collector (Hall Effect), or Magnetic
 - State & Counting (1MHz)
 - Period (1micro sec)
 - Pulse width (1micro sec)
- 4 Switch Inputs (4 standard)
- User definable sensor calibrations

Auxiliary Outputs

- 8 Digital Outputs (4 standard)
 - Open Collector (drives to ground) with pullup (10k ohms) to battery positive
 - On/Off or Pulse Width Modulation with variable Frequency and Duty Cycle

Air Fuel Ratio Measurement (Optional)

- 2 high accuracy Wideband Lambda (Air/Fuel ratio) Inputs
- Resolution: 0.01 Lambda
- Temperature compensated
- Range: 0.75 to 1.2 Lambda
- Accuracy: 1.5% (below 1.05 Lambda)

Data Logging

- Memory: 128K, 1Mbyte or 4Mbytes
- Non-volatile FLASH, field upgradeable
- Logging of any Analog, Digital, Serial, CAN bus or Calculated channel
- Maximum Logging throughput: 20kbytes/sec
- 2 Burst Logging buffers with pre triggering (Large logging option only)
- Typical Unload Speed: 19 sec/Mbyte, using parallel port of PC to CAN bus.
RS232 unload rates dependent on baud rate.

Calculations

- Timers (0.01s, 0.1s & 1s resolution)
- 2D and 3D Tables
- User Conditions
- Math Functions: Differentiate, Integrate, Absolute, Min/Max
- Lap Time and Number
- Lap Gain/Loss
- Speed and Distance
- Gear Detection
- Fuel Prediction
- Tell-tales
- Running Min/Max

Specifications are subject to change without notice.
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Display

- Custom LCD, High Contrast, High Temperature, Reflective
- Display any Analog, Digital, Serial, CAN bus channel or Calculated channel
- 3 Display Modes
- 70 Segment Bar graph
 - Definable Range
 - Programmable Setpoint and Peak Hold point
- 4 Numeric Display Items
- 13 Digit Alpha Numeric Display area, 1, 2 or 3 channels per line (20 scrollable lines per display mode).
 - Alarm messages
 - Channel display
 - Descriptive text

Communication

- Serial RS232 Comms. (1200 baud to 115kbaud)
- CAN data link (250Kbit to 1Mbit)
- Telemetry Link output (RS232)

Host Software

1. Dash Manager Software
 2. Interpreter Analysis Software
 3. Telemetry Software (Optional)
- Computer Requirements:*
- IBM PC compatible running Windows 95/98 or NT4.0
 - Pentium (Min.) 90MHz, 16Mb RAM

Upgrades

The MoTeC ADL in its base configuration includes:

- 10 Analog Inputs
- 8 Digital Inputs
- 4 Digital Auxiliary Outputs
- 128Kbytes logging
- RS232 and CAN bus support
- Software: Dash Manager and Interpreter
- User's Manual

Upgrades Available (field updateable by the user):

- **Extended Inputs & Outputs**
 - 28 Analog Inputs (10 standard)
 - 12 Digital Inputs (8 standard)
 - 8 Digital Auxiliary Outputs (4 standard)
- **Pro Logging** - Advanced Analysis Software
 - Graph Overlays
 - XY Plots
 - Maths functions
 - Virtual Instruments display
 - Track Mapping
- **Medium Logging**
 - 128Kbyte to 1 Mbyte Memory
- **Large Logging** (requires Medium Logging Upgrade)
 - 1 Mbyte to 4 Mbyte Memory with Burst mode logging
- **Lambda Measurement**
 - 2 Wideband Lambda inputs
- **Telemetry**
 - Enables realtime viewing of data via a telemetry link
- **Remote Logging** (requires Telemetry Upgrade)
 - Allows Remote Logging via a telemetry link or hand held computer.

Accessories

- PC Communications Cable (High Speed CAN)
- Wiring Looms
- Input/Output Terminal Module (see separate data sheet)
- Lambda (Air/Fuel ratio) Sensors and Kits (see separate data sheet)
- Telemetry Products
 - GSM mobile phones, radio modems etc.
- Sensors and transducers
 - a full range of sensors, amplifiers, transducers, lights and buttons are available
- Lap Beacon: Transmitter and Receiver (990 channel)



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