MoTeC

YOUR MOTEC DEALER

STOCKING EVERYTHING FOR YOUR WIRING PROJECT

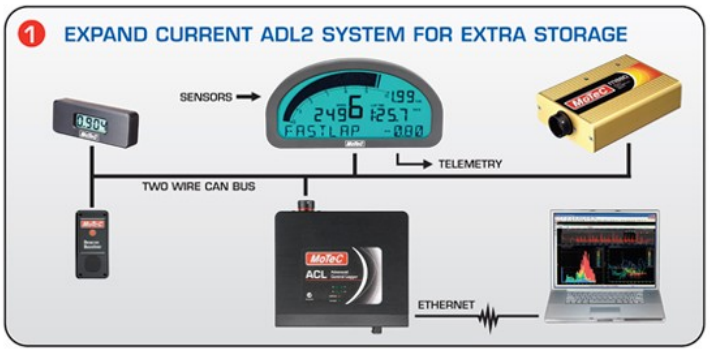
- Connectors/Switches (Including MIL SPEC)
- Wire
- Shrink Wrap - Including Boots and Transitions
- Battery Accessories
- Wiring Accessories
- Sensors
- Tools

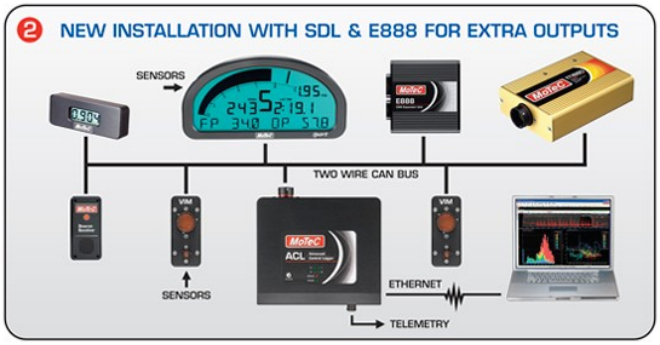
MoTeC CLS

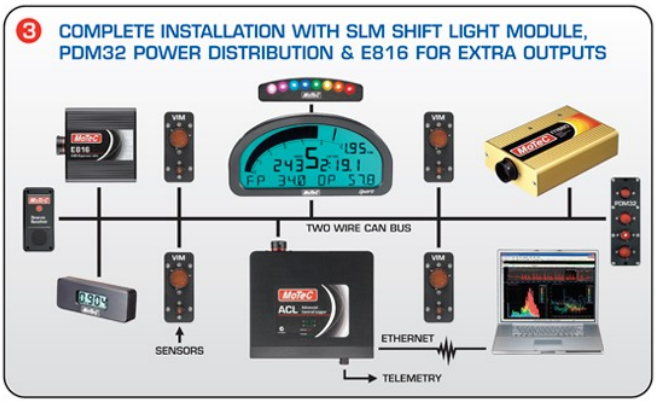
MoTeC's Central Logging System consists of an Advanced Central Logger (ACL) plus multiple Versatile Input Modules (VIMs). It can be integrated into a complete electronics solution with a number of other MoTeC devices for display, engine management, power distribution, Lambda measurement, lap timing and shift lights, all communicating on CAN.

This compatibility makes the Central Logging System equally suitable for expanding an existing data system as for the foundation of an all new installation.

Below are some examples of configurations, but several other solutions are also possible. Please contact your authorized MoTeC dealer to discuss how to integrate a Central Logging System to suit your application.







MoTeC CDL3

The Club Dash Logger is a fully configurable back-lit display, controller and logging device. It offers the same quality and advanced technology as our top of the line systems, with a package of features tailored to suit entry level motorsport requirements such as club racing.

The screen layout can be tailored to suit individual preferences and is able to display a large number of data channels, warning alarms, lap times, fuel calculations, minimum corner speeds, maximum straight speeds and more.

The CDL3 is available standalone or as part of MoTeC's CDL3 Track Kits.
Basic specifications
Communications

- **2 x Configurable CAN or RS232 bus with individually programmable CAN bus speeds**
- **1 x Dedicated RS232**

Physical

- **Dimensions 180 x 91 x 18 mm excluding connector**
- **Weight 385 g**
- **1 x 34 pin AMP connector**

Inputs **NOW INCLUDED AS STANDARD**

- **Provision for 4 x analogue voltage high resolution inputs**
- **Provision for 2 x analogue temperature inputs**
- **2 x Digital inputs**
- **3 x Speed inputs with voltage measuring capability**
- **Compatible with E888 expander (8 Thermocouples only)**

Outputs **NOW INCLUDED AS STANDARD**

- **4 x PWM, switched or digital outputs**

Logging **NOW INCLUDED AS STANDARD**

- **8 MB logging memory**
- **Logging rates up to 500 samples per second**
- **Fast Ethernet download**

Internal Sensors

- **3-axis G sensor**
- **Dash temperature sensor**
- **Sensor supply voltage**
- **Battery voltage**

MoTeC C187

The *C187* is MoTeC's latest professional level Display Logger featuring an impressively generous, full color screen. It comes standard with 250 MB internal logging memory (can be upgraded to 500 MB) and MoTeC's world-renowned i2 data analysis software. A Pro option is available for expert analysis.

The vivid 178mm screen (approx 7") is high resolution, ultra bright and anti-reflective for easy reading in direct sunlight. Choose from numerous selectable layouts and configure the channels, labels and colors to suit. Or, opt for the new Display Creator upgrade and treat your screen as a blank canvas - design your own unique graphics, incorporate images, logos and custom icons. Create multiple pages to suit different scenarios, optimizing the screen space for your application.

An array of 16 full color LED's is integrated into the unit for use as shift lights, warning lights or other driver alerts. The color, function and intensity of each LED is programmable, allowing users to develop their own unique strategies and sequences.
Also available: 7" C127 Display Logger
Basic Specifications
Display

NEW: For full customization of the display layout and graphics add the new Display Creator option. See examples.
- **Screen: Color TFT LCD, anti-reflective**
- **Resolution: 800 x 480, anti-aliased graphics**
- **Selectable fixed layouts with channel and label configuration**
- **48 user-defined, scrollable message lines with programmable overrides**
- **3 programmable 'pages', for example Practice, Warm-Up, Race**

Logging
- **250 MB logging memory (500 MB optional)**
- **Logging rates up to 1000 samples per second**
- **Fast Ethernet download**
- **Includes i2 Standard data analysis software (i2 Pro available as an upgrade)**

Communications
- **4 x configurable CAN buses with individually programmable CAN bus speeds**
  - **One can be used as RS232 Receive**
  - **Two CAN buses support VIM/SVIM Expanders**
- **2 x dedicated RS232 ports**

Physical
- **Dimensions 196.2 x 122.5 x 24.9 mm excluding connector**
- **Weight 670 g**
- **1 x 79 pin Autosport connector**

Inputs
- **10 x analogue voltage inputs (20 with I/O Upgrade)**
- **4 x analogue temperature inputs (8 with I/O upgrade)**
- **4 x digital inputs**
- **2 x switch inputs**
- **4 x speed inputs**

Outputs
- **6 x low side outputs**
  - **PWM or switched operation**

Internal Sensors
- **3-axis G sensor**
- **Dash temperature sensor**
- **Sensor supply voltage**
- **Battery voltage**

Expanders
- **Compatible with MoTeC E888 and E816 Expanders, providing full functionality**
- **Compatible with VIM/SVIM Expanders**

MoTeC C185

With the release of the C185 Display Logger, MoTeC now offers the best of both worlds - a stunning full color display combined with a powerful, professional level data logger. It comes standard with 250 MB internal logging memory (can be upgraded to 500 MB) and MoTeC's world-renowned i2 data analysis software. A Pro option is available for expert analysis.

The vivid 125mm screen (approx 5") is high resolution, ultra bright and anti-reflective for easy reading in direct sunlight. Choose from numerous selectable layouts and configure the channels and labels to suit, or opt for the new Display Creator upgrade and treat your screen as a blank canvas; design your own unique graphics, incorporate images, logos and custom icons. Create multiple pages to suit different scenarios, optimizing the screen space for your application.

An array of ten full color LED's is integrated into the unit for use as shift lights, warning lights or other driver alerts. The color, function and intensity of each LED is programmable, allowing users to develop their own unique strategies and sequences.

Also available: C125 Display Logger
Basic Specifications
Display

NEW: For full customization of the display layout and graphics add the new Display Creator option. See examples.

- **Screen: Color TFT LCD, anti-reflective**
- **Resolution: 800 x 480, anti-aliased graphics**
- **Selectable fixed layouts with channel and label configuration**
- **48 user-defined, scrollable message lines with programmable overrides**
- **3 programmable 'pages', for example Practice, Warm-Up, Race**

Logging

- **250 MB logging memory (500 MB optional)**
- **Logging rates up to 1000 samples per second**
- **Fast Ethernet download**
- **Includes i2 Standard data analysis software (i2 Pro available as an upgrade)**

Communications

- **4 x configurable CAN buses with individually programmable CAN bus speeds**
  - **One can be used as RS232 Receive**
  - **Two CAN buses support VIM/SVIM Expanders**
- **2 x dedicated RS232 ports**

Physical

- **Dimensions 134.5 x 103.9 x 20.2 mm excluding connector**
- **Weight 410 g**
- **1 x 79 pin Autosport connector**

Inputs

- **10 x analogue voltage inputs (20 with I/O Upgrade)**
- **4 x analogue temperature inputs (8 with I/O upgrade)**
- **4 x digital inputs**
- **2 x switch inputs**
- **4 x speed inputs**

Outputs

- **6 x low side outputs**
  - **PWM or switched operation**

Internal Sensors

- **3-axis G sensor**
- **Dash temperature sensor**
- **Sensor supply voltage**
- **Battery voltage**

Expanders

- **Compatible with MoTeC E888 and E816 Expanders, providing full functionality.**
- **Compatible with VIM/SVIM Expanders**

MoTeC C127

The C127 is a new model in MoTeC's range of Displays and Display Loggers, featuring an impressively generous, high resolution, full color screen. Stylishly designed with powerful functionality, the C127 provides a sophisticated display plus data logging, auxiliary control and programmable LED's all in one streamlined device.

Measuring 178 mm (approx. 7 inches), the ultra bright screen is vibrant and anti-reflective, making it easy to view in direct sunlight. Numerous selectable layouts are supplied with configurable channels, labels and color schemes. Or, for the flexibility to treat your screen as a blank canvas and design your own layout with unique graphics, sponsor logos, custom icons and gauges, opt for the new Display Creator upgrade.

The C127 features a total of 16 full color LED's integrated into the unit for use as shift lights, warning lights or other driver alerts. The color, function and intensity of each LED is programmable, allowing users to develop their own unique strategies and sequences.

The C127 is available standalone or as part of MoTeC's C127 Race Kits.
Basic Specifications
Display

NEW: For full customization of the display layout and graphics add the new Display Creator option. See examples.
- **Screen: Color TFT LCD, anti-reflective**
- **Resolution: 800 x 480, anti-aliased graphics**
- **Selectable fixed layouts with channel and label configuration**
- **48 user-defined, scrollable message lines with programmable overrides**
- **3 programmable 'pages', for example Practice, Warm-Up, Race**

Communications
- **2 x Configurable CAN buses with individually programmable CAN bus speeds**
  - **One can be used as RS232 Receive**
- **RS232: 2 x RS232 ports**
  - **One with Transmit and Receive**
  - **One with Receive only**

Physical
- **Dimensions 196.2 x 122.5 x 24.9 mm excluding connector**
- **Weight 615 g**
- **1 x 34 pin waterproof connector**

Logging (optional - requires Logging Upgrade)
- **120 MB logging memory**
- **Logging rates up to 500 samples per second**
- **Fast Ethernet download**
- **Includes i2 Standard data analysis software (i2 Pro available as an upgrade)**

Inputs (optional - requires I/O Upgrade)
- **6 x analogue voltage inputs**
- **2 x analogue temperature inputs**
- **2 x digital inputs**
- **3 x speed inputs**

Outputs (optional - requires I/O Upgrade)
- **4 x low side outputs**
  - **PWM or switched operation**

Internal Sensors
- **3-axis G sensor**
- **Dash temperature sensor**
- **Sensor supply voltage**
- **Battery voltage**

Expanders
- **Compatible with MoTeC E888 and E816 Expanders, providing full functionality.**

MoTeC C125

The C125 is a popular model in MoTeC's range of color Displays and Display Loggers. Striking in design and powerful in functionality, the C125 offers display, data logging, auxiliary control and programmable LED's all in one compact device.

The vivid 125mm screen (approx 5") is high resolution, ultra bright and anti-reflective for easy reading in direct sunlight. Choose from numerous selectable layouts and configure the channels and labels to suit, or opt for the new Display Creator upgrade and treat your screen as a blank canvas; design your own unique graphics, incorporate images, logos and custom icons. Create multiple pages to suit different scenarios, optimizing the screen space for your application.

The C125 also features an array of ten full color LED's integrated into the unit for use as shift lights, warning lights or other driver alerts. The color, function and intensity of each LED is programmable, allowing users to develop their own unique strategies and sequences.

The C125 is available standalone or as part of MoTeC's C125 Race Kits.
Basic Specifications
Display

NEW: For full customization of the display layout and graphics add the new Display Creator option. See examples.
- **Screen: Color TFT LCD, anti-reflective**
- **Resolution: 800 x 480, anti-aliased graphics**
- **Selectable fixed layouts with channel and label configurable**
- **48 user-defined, scrollable message lines with programmable overrides**
- **3 programmable 'pages', for example Practice, Warm-Up, Race**

Communications
- **2 x Configurable CAN buses with individually programmable CAN bus speeds**
  - **One can be used as RS232 Receive**
- **RS232: 2 x RS232 ports**
  - **One with Transmit and Receive**
  - **One with Receive only**

Physical
- **Dimensions 134.5 x 103.9 x 20.2 mm excluding connector**
- **Weight 360 g**
- **1 x 34 pin waterproof connector**

Logging (optional - requires Logging Upgrade)
- **120 MB logging memory**
- **Logging rates up to 500 samples per second**
- **Fast Ethernet download**
- **Includes i2 Standard data analysis software (i2 Pro available as an upgrade)**

Inputs (optional - requires I/O Upgrade)
- **6 x analogue voltage inputs**
- **2 x analogue temperature inputs**
- **2 x digital inputs**
- **3 x speed inputs**

Outputs (optional - requires I/O Upgrade)
- **4 x low side outputs**
  - **PWM or switched operation**

Internal Sensors
- **3-axis G sensor**
- **Dash temperature sensor**
- **Sensor supply voltage**
- **Battery voltage**

Expanders
- **Compatible with MoTeC E888 and E816 Expanders, providing full functionality.**

UNPRECEDENTED FLEXIBILITY

CHOOSE M1 HARDWARE

For the right M1 ECU for your application, consider the feature comparison below.

CHOOSE M1 PACKAGE

MoTeC Online hosts all the available M1 Packages and links to M1 Partner Packages. It specifies the M1 ECU and licence required.

visit: moteconline.motec.com.au

M1 SOFTWARE

'M1 Tune': Used to tune fuel and ignition, set up sensors, outputs and available functions

'M1 Build'- Used to create or modify projects for user specific functions.

	DIRECT INJECTION		PORT INJECTION			
FEATURES	**M142**	**M182**	**M130**	**M150**	**M170**	**M190**
INJECTOR						
Peak & Hold Injector Outputs	-	-	8	12	8	12
Low Side Injector Outputs	6	6	2	6	2	12
Direct Injector Outputs	8	12	-	-	-	-
Injector Max Hold Current (Amps)	12	12	-	-	-	-
Injector Max Voltage (V)	90	90	-	-	-	-
IGNITION						
Low Side Ignition Outputs (max)	8	12	8	12	8	12
AUXILIARY OUTPUTS						
Low Side Output	-	-	-	-	-	6
Half Bridge Output	10	10	6	10	6	10
INPUTS						
Universal Digital Input	12	12	7	12	8	12
Digital Input	4	4	-	4	-	4
Analogue Voltage Input	17	17	8	17	8	17
Analogue Temperature Input	6	6	4	6	4	6
Knock Input	4	4	2	4	2	4
Lambda (narrow band)	2	2	-	2	-	2
DATA						
CAN Bus/RS232/LIN	3/1/1	3/1/1	1/0/0	3/1/1	1/0/0	3/1/1
Logging Memory (MB)	250	250	120	250	250	250
DIMENSIONS						
Size (mm)	162x127x40	162x127x40	107x127x39	162x127x40	107x127x39	162x127x40
Weight (g)	480	540	300	445	315	510
Connector type	Plastic	Autosport	Plastic	Plastic	Autosport	Autosport
Number of connectors	4	3	2	4	1	3
Pins	120	136	60	120	66	136
RUGGEDISED VERSION						
Weight (g)	785	830	470	750	500	800

M1 - The next generation

Advances in technology have increased the demands on a vehicle's components, especially the ECU. This demand has reached the point where a single firmware to ECU configuration cannot meet the market's ECU requirements (even with increased capacity and processor speed).

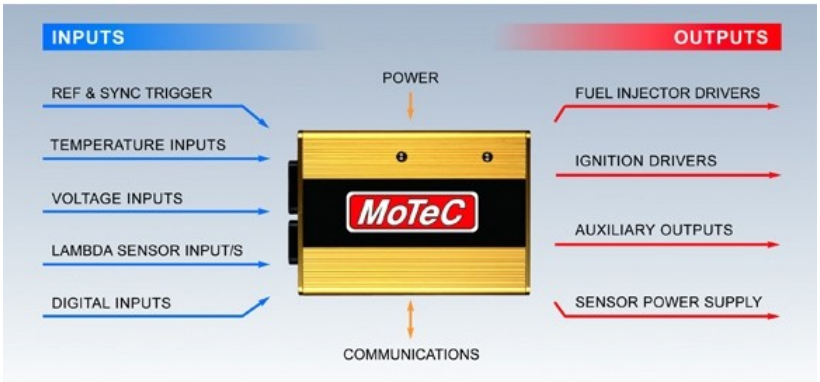
The M1 series was conceived by MoTeC to overcome this one-to-one, firmware to ECU limitation, by designing a system where operational efficiency, advanced features and flexibility are its primary objectives. At its core, M1 provides the ability to develop a suite of flexible and tailored solutions (packages), making it ideal for any application (however complex) and category management. Key advantages to the new M1 solutions are:

- Latest generation high performance processor
- Large logging memory, fast Ethernet downloads
- Compact and lightweight in robust magnesium enclosure
- Supports direct injection and port injection applications
- Supports advanced logging features including Pro Analysis (i2 Pro)
- Advanced security system, incorporating an anti-tampering microprocessor
- Access log-in levels for multiple users

M84

MoTeC

M400



Put simply, Engine Control Units (ECUs) are designed to electronically control fuel injected internal combustion engines.

In its most basic form an ECU monitors the engine through sensors and uses this information to determine the quantity of fuel to inject and the timing of the ignition depending on engine speed (RPM) and engine load conditions. Typically, an ECU will use throttle position, manifold absolute pressure (MAP) or mass air flow (MAF), or a combination of these to calculate the load conditions.
Programmable ECUs

All calibration and tuning parameters in a factory ECU are fixed by the manufacturer to suit the engine in its standard form and it is often impossible to adjust this for engine modifications.
However, if the factory ECU is replaced by a programmable aftermarket system, adjustments can be made. An engine tuner can connect the ECU to a PC to tune the engine for optimum performance at each load and speed condition. This requires dedicated tuning software and the sophistication of this software is one of the key differentiating factors from one brand to another.
Modern Functionality

These days, aftermarket ECUs not only control injection and ignition timing, but also manage more complex functions like boost control, idle speed control, intercooler spray bars and traction control. Many ECUs provide extra auxiliary outputs that can be used to activate devices such as pumps, fans and even servo motors.

Recent engine development has led to electronic innovations like continuously variable camshaft timing and drive by wire throttle systems. This has created a need for more sensor inputs and auxiliary outputs and a higher processing speed in the ECU.

These advanced installations require several electronic devices on the vehicle to constantly exchange information using very fast communication. Currently, the most efficient method is via a CAN bus (controller area network), consisting of just two wires.
Data Logging

ECUs with on board data logging provide several advantages for the tuning of high performance engines, allowing users to record and then analyse various engine parameters. The detailed information can be used for fine-tuning the engine and targeting small refinements that can deliver significant performance gains. Logging is also an invaluable tool in helping to detect early signs of engine health problems.

M600

Contact PRS for all your MoTeC needs.

M880

Power Supply

Power Distribution Modules

MoTeC PDMs are designed to replace conventional relays, fuses and circuit breakers by providing electronically switched power to the various electronical systems in the vehicle, including motors, lights, solenoids and electronic devices such as ECUs and data systems. It also provides full diagnostic information, including output currents and voltages, and error status that can be monitored on a PC or transmitted via CAN to a display or logging device. Each output is overcurrent, short circuit and thermal overload protected. Outputs are programmable in 1 Amp steps and controllable via a combination of switch inputs, CAN messages and logic functions.

	M PDM15	M PDM30	M PDM16	M PDM32
Outputs				
Number of 20 Amp Outputs	8	8	8	8
Number of 8 Amp Outputs	7	22	8	24
Inputs				
Number of Inputs	16	16	12	23

MoTeC PDMs are available in four models to suit vehicles with different requirements and complexities. All models are compact and lightweight, and all share the same PDM Manager software.

PDM16

With 16 outputs and 12 inputs, the PDM16 is a professional level module with Autosport connectors. It will suit vehicles that require a moderate number of separately switched circuits.

An IP68 rated PDM16M is now available for applications exposed to extreme environmental conditions, e.g. immersion in water beyond 1 metre. Made to order.

PDM32

Designed as a solution for applications that require many separate circuits, the professional level PDM32 has 32 outputs and 23 inputs and also comes with Autosport connectors.

An IP68 rated PDM32M is now available for applications exposed to extreme environmental conditions, e.g. immersion in water beyond 1 metre. Made to order.

PDM15

The PDM15 is an entry level unit that provides similar capabilities to the PDM16. It is built with standard waterproof connectors and has 15 outputs and 16 inputs.

PDM30

With 30 outputs, 16 inputs and standard waterproof connectors the PDM30 is the big brother to the PDM15. It provides similar capabilities to the PDM32.

Multiple PDMs can be used for even more complex power requirements.

MoTeC ACL

The Advanced Central Logger (ACL) is a highly configurable data acquisition and communications tool that is well suited to professional teams who place serious demands on their data equipment. With 1 GB of logging memory it forms the heart of MoTeC's Central Logging System, which also includes multiple VIMs Versatile Input Modules for high resolution sensor inputs.

The ACL performs data logging, data communication and sophisticated calculations, acquiring data from other MoTeC devices such as an ECU, Dash Logger and up to eight VIMs, which enable it to log more than 200 inputs. It provides all the advanced features of the ADL3, including warning alarms, fuel prediction, engine logs, timers, tables, user conditions and telemetry. For maximum flexibility the ACL connects to any MoTeC display.

MoTeC's Central Logging System follows a modular concept, employing separate dedicated devices for inputs, and logging, thereby allowing customers to tailor a solution to their application. The system is simple to set up as most connected devices are configured and upgraded from one software application.

The ACL comes as standard with Pro Analysis enabled, allowing unrestricted use of MoTeC's professional level i2 Pro data analysis software.

Basic Specifications

Logging

- 1 GB logging memory
- Very fast download via Ethernet
- Very fast logging rates up to 5000 samples/second
- Combined logging rates greater than 20 MB/minute

Display

ACL data can be displayed via a MoTeC display such as SDL or MDD

Inputs

Data is read into the ACL via one or more input devices. These can include VIMs, E888, E816, SDL, PLM, ECU and GPS

Outputs

Outputs can be controlled by the ACL when connected to an output device such as an E888, E816 or SDL

Communications

- 2 x CAN with individually programmable CAN bus speeds
- 1 x RS232
- 1 x RS485 which can also read data from RS232 devices

Physical

- Dimensions 154 x 128 x 28 mm (excluding connector)
- Weight 460 grams
- 1 x 5 pin and 1 x 22 pin Autosport connector