



# C125 - COLOUR DISPLAY LOGGER



The C125 comes standard as a full colour display and powerful control device. With the Data Logging upgrade enabled it becomes a fully programmable data logger with 120 MB memory. Optional USB Logging provides additional data capacity and flexibility.

The supplied display layouts offer configurable channels and labels, while the optional Display Creator software provides the tools for full screen customisation.

The C125 can be used to display data channels, warning alarms, lap times, fuel calculations, minimum corner speeds, maximum straight speeds and much more. It can also display live video on screen.

A MoTeC Display Logger can be integrated with other electronic systems, such as an ECU, to acquire and share data, or it can be used as a standalone device.

## ► FEATURES

- High resolution 126 mm (5" approx) colour LCD display
- Anti-reflective screen with high brightness for optimum visibility in direct sunlight
- Optional Internal Logging and USB Logging
- 10 full colour (RGB) LEDs; colour, function and intensity are fully programmable
- Suitable for bikes, cars, marine and industrial applications
- Supports Wideband Lambda from MoTeC PLMs or LTCs
- Easily integrates with MoTeC CAN based devices such as ECUs and Expanders. Full I/O expansion available with use of E888, E816 Expanders.

- GPS Lap Timing
- Supports T2 Telemetry (optional)
- Composite video input for live on-screen video, e.g. from a rear view camera (requires Display Creator).
- Now with an IP67 rated housing and diffused LED lights

## ► ACCESSORIES

- 62204 – C125 RACE LOOM TERMINATED
- 61279 – CABLE USB LOGGING 1.5M (PANEL MOUNT)  
(This cable is required for USB Logging)
- 61280 – 32 GB USB DATA PLUG
- 61292 – 32 GB USB3 FLASH DRIVE
- 61402 – 32 GB AUTOSPORT USB DATA PLUG
- 61403 – CABLE, AUTOSPORT USB LOGGING 1.5M (PANEL MOUNT)

## ► OPTIONAL UPGRADES

- 29600 – C125 I/O
- 29618 – C125 120MB LOGGING
- 29614 – C125 USB LOGGING
- 29620 – C125 PRO ANALYSIS
- 29623 – C125 T2 TELEMETRY
- 29616 – C125 DISPLAY CREATOR

## ► SPECIFICATIONS

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### Display

- Type: Colour TFT LCD, anti-reflective
- Resolution: 800 x 480, anti-aliased graphics
- Layouts: selectable fixed layouts (user programmable layouts via optional *Display Creator* software)
- 48 user-defined, scrollable message lines with programmable overrides
- 3 programmable modes with customisable labels

### Logging - optional (requires upgrades)

- 120 MB internal logging memory
- USB logging to a removable storage device
- Logging rates up to 500 samples per second
- Fast Ethernet download
- Includes i2 Standard data analysis software (Pro Analysis upgrade available)

### Inputs

2 Digital and 3 Speed inputs

### Inputs - optional (requires I/O upgrade)

- 6 analogue voltage inputs:
  - 4 x 0 to 5.46 V, 1.33 mV resolution
  - 2 x 0 to 15.0 V, 3.66 mV resolution
- 2 analogue temperature inputs
  - 0 to 15 V, 3.66 mV resolution
- 1 Composite video input (live video requires Display Creator)

### Outputs - optional (requires I/O upgrade)

- 4 low side outputs PWM or switched operation
- 0.5 Amp max, current limited and thermal overload protected

### Expanders

Compatible with E816 and E888 expanders (providing full functional use).

### Internal Sensors

- 3-axis accelerometer, detection range: +/- 5G
- Dash temperature sensor
- Sensor supply voltage
- Battery voltage

### Communications

- 2 configurable CAN buses, with individually programmable CAN bus speeds. One can be used as RS232 Receive.
- 2 RS232 ports, one with transmit and receive, one with receive only

### Power supply

- Operating voltage: 6 to 32 V DC
- Operating current: 0.5 A typical at 14 V (excl. sensor currents)
- Reverse battery protection
- Battery transient protection

### Sensor supply currents

- 5 V sensor supply: 0.25 A maximum
- 8 V sensor supply: 0.25 A maximum

### Operating temperature

- Internal: -20 °C to 70 °C (above 60 °C maximum backlight brightness progressively reduced)
- Typical ambient temperature range in free air: -20 °C to 55 °C

### Ingress Protection (IP) Rating

- IP67 - Dust tight, protected against water immersion (up to 30 min submersion to depth of at least 15 cm)

⇒ IP rating is dependent upon the user ensuring that connector wire entries are waterproof, which as a minimum, requires all unused wire cavities on the connector to be plugged.

### Physical

- Size: 134.5 x 101.8 x 19.4 mm excluding connector
- Weight 345 g
- 1 x 34 pin waterproof connector
- 1 x mini USB port (located on the back of the device)

## ► SCREEN CLEANING

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Wipe using a clean water dampened microfibre cloth, followed by a clean dry microfibre cloth.

## ► COMPATIBILITY

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MoTeC ECUs: M1, M880, MX00, M84, M4\*, M48\*, M8\*

MoTeC Accessories: E816, E888, SLM, PLM, LTC, BR2, PDM, GPS, VCS etc.

Many non-MoTeC devices

\* For some ECUs, an additional cable/adaptor may be required in conjunction with the RS232 adaptor.

## ► SOFTWARE

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Windows-based *Dash Manager* software is used for setup and management of the display and data logging system. It provides:

- Configuration of the inputs, outputs, LEDs, display, data logging and calculations.
- Offline generation of a configuration file that can then be sent to the device.
- Channel monitoring

- Firmware updating and extensive help screens

Optional *Display Creator* software allows for full customisation of the screen layout, including live video.

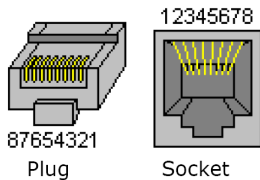
*i2* Data Analysis software provides the tools for comprehensive data analysis using Standard or Pro (optional) versions.

▶ **ETHERNET WIRING**

Ethernet Connector		MoTeC Loom Colour	C125	
Pin	Function		Pin	Function
1	ethernet TX +	orange/white	11	ethernet RX +
2	ethernet TX -	orange	10	ethernet RX -
3	ethernet RX +	green/white	2	ethernet TX +
6	ethernet RX -	green	1	ethernet TX -

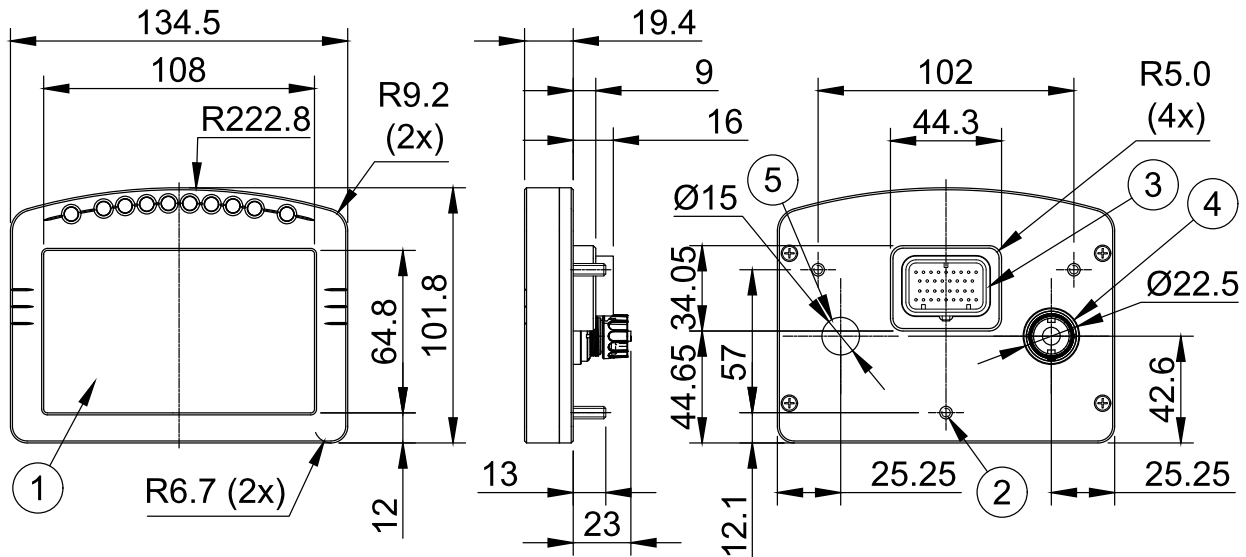
⇒ The wiring specified is the preferred cross-over configuration. However, the wiring can also be configured as straight-through. Cat 5 Ethernet cable must be used.

**Pin Numbering**



▶ **DIMENSIONS AND MOUNTING**

Measurements in mm.



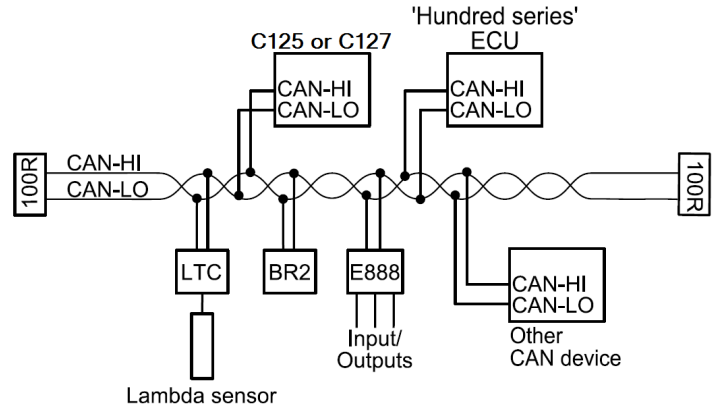
- ① LCD Screen
- ② 3x M5 Mounting Studs
- ③ 34 Pin Connector
- ④ USB Connector
- ⑤ Vent

⇒ **Note:** Do not remove any part of the casing. The case provides electromagnetic screening to avoid interference with other equipment, and is also essential for thermal management. Thermal management may be compromised if mounted in a confined space, refer to the operating temperature specifications. Ensure product is not stressed when mounted.

▶ **ECU WIRING**

When using an M4/M48/M8 ECU, the C125 should be connected via RS232. For some ECUs, a PCI cable may also be required.

The Display Logger should be connected via the CAN bus when using a 'Hundred Series' ECU (M400/M600/M800/M880) or M84, and any number of other CAN devices. See the following example.



Detailed wiring information is available in the user manual at [www.motec.com/downloads](http://www.motec.com/downloads).

## ▶ PINOUT

**Mating Connector:** Part number 65044

Pin	Name	Standard Function	Optional Function (with I/O upgrade)
1	E-TX-	Ethernet Transmit -	
2	E-TX+	Ethernet Transmit +	
3	AV1		Analogue Voltage Input 1
4	AV2		Analogue Voltage Input 2
5	AV3		Analogue Voltage Input 3
6	AV4		Analogue Voltage Input 4
7	8V	Sensor 8 V	
8	5V	Sensor 5 V	
9	0V	Sensor 0 V/ Video Ground (where device has a display)	
10	E-RX-	Ethernet Receive -	
11	E-RX+	Ethernet Receive +	
12	AV5		Analogue Voltage Input 5
13	AV6		Analogue Voltage Input 6
14	DIG1	Digital Input 1	
15	DIG2	Digital Input 2	
16	AT1		Analogue Temp Input 1
17	AT2		Analogue Temp Input 2
18	CAN1L	CAN1 Lo	
19	CAN1H	CAN1 Hi	
20	RS232-1 TX	RS232-1 Transmit Output	
21	SPD1	Speed Input 1	
22	SPD2	Speed Input 2	
23	SPD3	Speed Input 3	
24	VID1	Video Input 1 (where device has a display)	
25	RS232-2 RX	RS232-2 Receive Input	
26	CAN2L	CAN2 Lo / RS232 Ground Input	
27	CAN2H	CAN2 Hi / RS232 Receive Input	
28	RS232-1 RX	RS232-1 Receive Input	
29	AUX1		Auxiliary Output 1
30	AUX2		Auxiliary Output 2
31	AUX3		Auxiliary Output 3
32	AUX4		Auxiliary Output 4
33	BAT+	Battery Positive	
34	BAT-	Battery Negative	