C185 - COLOUR DISPLAY LOGGER

The C185 comes standard as a combined 5" full colour display, powerful control device and fully programmable data logger with 250 MB internal memory. Optional USB Logging provides additional data capacity and flexibility, and also upgrades the internal memory to 500 MB.

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

The C185 can be used to display data channels, warning alarms, lap times, fuel calculations, maths functions and much more. It can also display live video from any one of 3 camera inputs at a time.

FEATURES

- High resolution 126 mm (5" approx) colour LCD display
- Anti-reflective screen with high brightness for optimum visibility in direct sunlight
- Optional USB Logging (includes 500 MB Internal 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, VIM and SVIM Expanders.
- GPS Lap Timing
- Tell Tales
- Diagnostic Logging
- Preserved Channels
- Running Min/Max, Timers, PID Control, Engine Log
- Supports T2 Telemetry (optional)
- 3 x Composite video inputs 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

- 62206 – C185 LOOM
- 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

- 29718 – C185 500MB LOGGING + USB
- 29700 – C185 44 I/O (see Specifications)
  - 10 extra analogue voltage inputs (AV11 to AV20, see pinout)
  - 4 extra analogue temp inputs (AT5 to AT8, see pinout)
- 29720 – C185 PRO ANALYSIS
- 29723 – C185 T2 TELEMETRY (2nd generation Telemetry)
- 29705 – C185 ADVANCED FUNCTIONS

Advanced Functions provides:

- Advanced Maths
- Channel Maths
- 16 x 2D Tables (instead of 4)
- 16 x 3D Tables (instead of 4)
- 50 User Conditions (instead of 20)

- 29716 – C185 DISPLAY CREATOR

SPECIFICATIONS

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

- 250 MB internal logging memory
- Optional USB logging to a removable storage device + 500 MB internal logging memory
- Logging rates up to 1000 samples per second
- Fast Ethernet download
- Includes i2 Standard data analysis software (Pro Analysis upgrade available)

Inputs

- 10 *(20 with I/O upgrade)* analogue voltage inputs:
  - 4 *(8)* x 0 to 5.46 V, 1.33 mV resolution
  - 6 *(12)* x 0 to 15.0 V, 3.66 mV resolution
- 4 (8 with I/O upgrade) analogue temperature inputs
  - 0 to 15 V, 3.66 mV resolution
- 4 Digital inputs
- 2 Switch inputs
- 4 Speed inputs
- 3 Composite video inputs (live video requires Display Creator)

Outputs

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

Expanders

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

Internal Sensors

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

Communications

- 4 configurable CAN buses, with individually programmable CAN bus speeds. One can be used as RS232 Receive. Only 2 of the CAN buses support VIM/SVIM Expanders.
- 2 dedicated RS232 ports

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 390 g
- 1 x 79 pin Autosport connector
- 1 x mini USB port (located on the back of the device)

SCREEN CLEANING

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

COMPATIBILITY

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

MoTeC Accessories: VIM, SVIM, 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

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

- Configuration of the inputs, ouputs, 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.

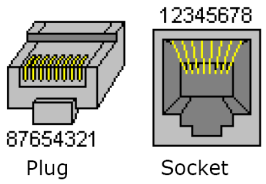
i2 Data Analysis software provides the tools for comprehensive data analysis using Standard or Pro (optional) versions.

ETHERNET WIRING

Ethernet Connector		MoTeC Loom Colour	C185	
Pin	Function		Pin	Function
1	ethernet TX +	orange/white	77	ethernet RX +
2	ethernet TX -	orange	78	ethernet RX -
3	ethernet RX +	green/white	67	ethernet TX +
6	ethernet RX -	green	68	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.

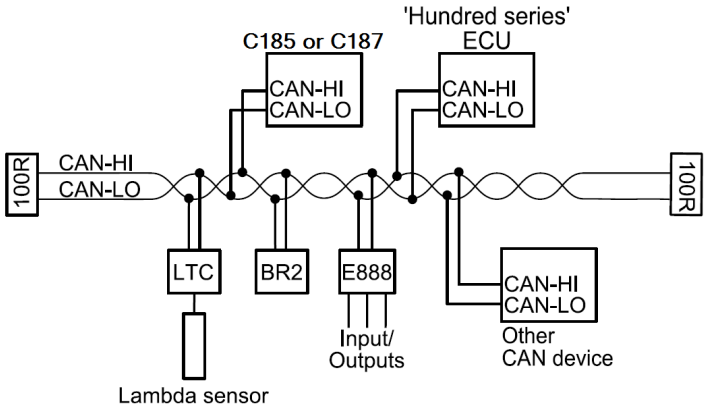
Pin Numbering



ECU WIRING

When using an M4/M48/M8 ECU, the C185 should be connected via RS232. For some ECUs, a PCI cable may also be required.

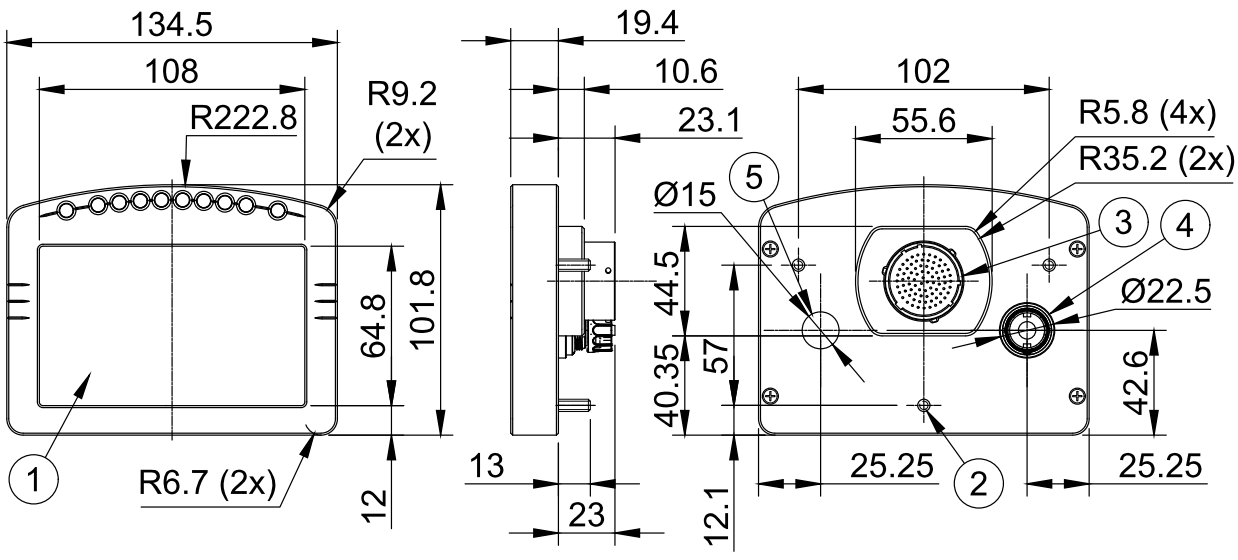
The Display Logger should be connected via the CAN bus when using a 'Hundred Series' ECU (M400/M600/M800/M880) or M84, and any number of other CAN devices. See the following example.



Detailed wiring information is available in the user manual at www.motec.com/downloads.

DIMENSIONS AND MOUNTING

Measurements in mm.



(1) LCD Screen (2) 3x M5 Mounting Studs (3) 79 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.

PINOUT

Mating Connector: Part number 68086

Pin	Name	Standard Function
1	AV15	Analogue Voltage Input 15 (with 44 I/O upgrade)
2	AV16	Analogue Voltage Input 16 (with 44 I/O upgrade)
3	AV17	Analogue Voltage Input 17 (with 44 I/O upgrade)
4	AV18	Analogue Voltage Input 18 (with 44 I/O upgrade)
5	AV19	Analogue Voltage Input 19 (with 44 I/O upgrade)
6	0V	Sensor 0 V
7	BAT-	Battery Negative
8	BAT+	Battery Positive
9	AUX1	Auxiliary Output 1
10	AUX2	Auxiliary Output 2
11	AUX3	Auxiliary Output 3
12	AUX4	Auxiliary Output 4
13	AUX5	Auxiliary Output 5
14	AUX6 / LIN	Auxiliary Output 6
15	RS232-2 TX	RS232-2 Transmit Output
16	RS232-2 RX	RS232-2 Receive Input
17	0V	Sensor 0 V
18	5V	Sensor 5 V
19	AV7	Analogue Voltage Input 7
20	AV8	Analogue Voltage Input 8
21	AV9	Analogue Voltage Input 9
22	AV10	Analogue Voltage Input 10
23	AV11	Analogue Voltage Input 11 (with 44 I/O upgrade)
24	AV12	Analogue Voltage Input 12 (with 44 I/O upgrade)
25	AV13	Analogue Voltage Input 13 (with 44 I/O upgrade)
26	AV14	Analogue Voltage Input 14 (with 44 I/O upgrade)
27	0V	Sensor 0 V
28	5V	Sensor 5 V
29	VID1	Video Input 1
30	VID0V	Video 0 V
31	VID2	Video Input 2
32	VID3	Video Input 3
33	0V	Sensor 0 V
34	AT1	Analogue Temp Input 1
35	AT2	Analogue Temp Input 2
36	AT3	Analogue Temp Input 3
37	AT4	Analogue Temp Input 4
38	AT5	Analogue Temp Input 5 (with 44 I/O upgrade)
39	AT6	Analogue Temp Input 6 (with 44 I/O upgrade)
40	0V	Sensor 0 V
41	AT7	Analogue Temp Input 7 (with 44 I/O upgrade)
42	AT8	Analogue Temp Input 8 (with 44 I/O upgrade)
43	0V	Sensor 0 V
44	5V	Sensor 5 V
45	AV1	Analogue Voltage Input 1
46	AV2	Analogue Voltage Input 2
47	AV3	Analogue Voltage Input 3
48	AV4	Analogue Voltage Input 4
49	AV5	Analogue Voltage Input 5
50	AV6	Analogue Voltage Input 6
51	0V	Sensor 0 V
52	DIG1	Digital Input 1
53	DIG2	Digital Input 2
54	DIG3	Digital Input 3
55	DIG4	Digital Input 4
56	0V	Sensor 0 V
57	SW1	Switch Input 1
58	SW2	Switch Input 2
59	CAN4L	CAN 4 Low
60	CAN4H	CAN 4 High
61	0V	Sensor 0 V
62	8V	Sensor 8 V
63	SPD1	Speed Input 1
64	SPD2	Speed Input 2
65	SPD3	Speed Input 3
66	SPD4	Speed Input 4
67	E-TX+	Ethernet Transmit +
68	E-TX-	Ethernet Transmit -
69	AV20	Analogue Voltage Input 20 (with 44 I/O upgrade)
70	RS232-1 TX	RS232 Transmit Output
71	CAN3L	CAN 3 Low
72	CAN3H	CAN 3 High
73	CAN1L	CAN 1 Low
74	CAN1H	CAN 1 High
75	CAN2L	CAN 2 Low / RS232 Ground Input
76	CAN2H	CAN 2 High / RS232 Receive Input
77	E-RX+	Ethernet Receive +
78	E-RX-	Ethernet Receive -
79	RS232-1 RX	RS232 Receive Input