



G-Dash







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G-Dash Digital Display

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Thanks.

We would like to thank you for choosing G-Dash, our new display showing in real time data sampled by EVO4 logger.

With G-Dash, you can view values coming from the ECU, from accelerometers, as well as from the GPS built into the EVO4, in addition to receiving information from the on-board camera SmartyCam.

Thanks to its small size it is particularly suited for small cockpit installations like bikes and formula cars.

Its graphic display (G-Dash stands for Graphic Dash) allows a more precise and enjoyable visualization of data. Moreover G-Dash shows some innovative features, like multi-tasking LEDs.





2

7

TIM

G-DASH

110

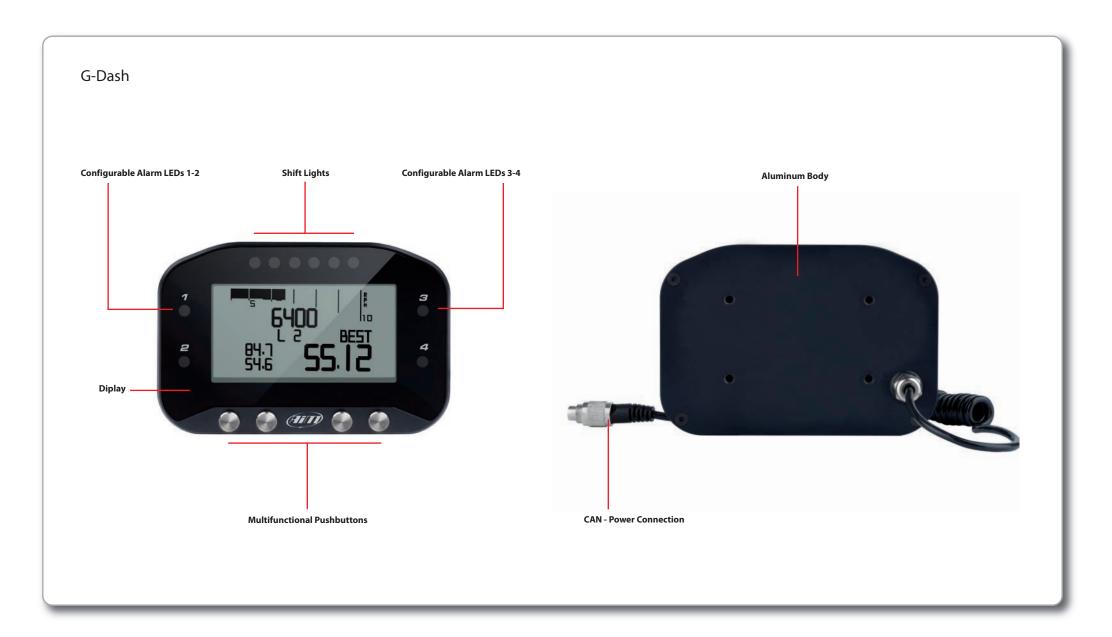
G-Dash kit

G-Dash with CAN cable for EVO4 connection.







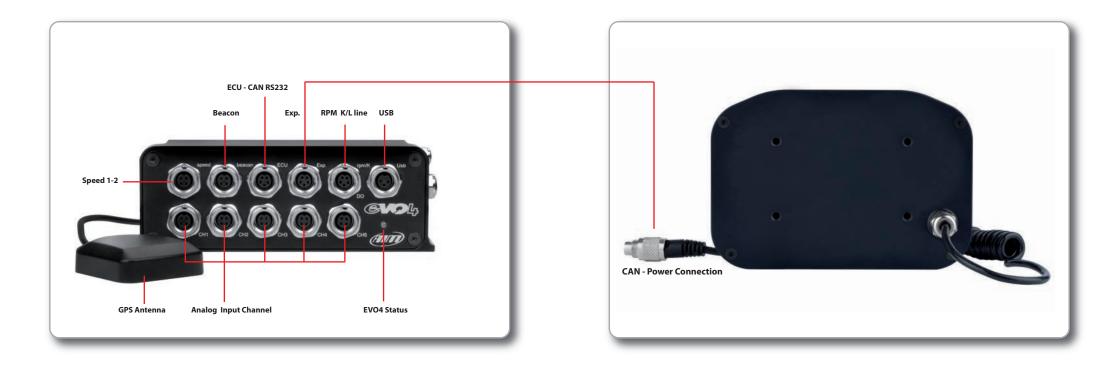


INSTALLATION AND CONNECTION

How To install and Connect G-Dash to EVO4.

1

G-Dash must be connected via CAN bus to your EVO4 (whose firmware version must be **43.05.01** or newer), by plugging the CAN cable into the logger "EXP" port.



2

Please check the firmware version of your EVO4: connect it to PC via USB, open the Race Studio 2 software and press 'Device Info' button (1).



3

As an alternative you can just switch G-Dash on and select Menu>>System Management>>Device Info (2).

Losser:	EVO4
Fu:	43.05.01
5.N.:	987654
Dash:	G DA2H
Fw:	57.01.03
5.N.:	3169
UP : DOWN	ENTER BACK

4

If the firmware is not adequate:

If the EVO4 firmware is older than **43.05.01**, open the aim-sportline.com "Download Firmware" website area, and download the current version onto your computer.

Then run the firmware update program by following the included instructions.

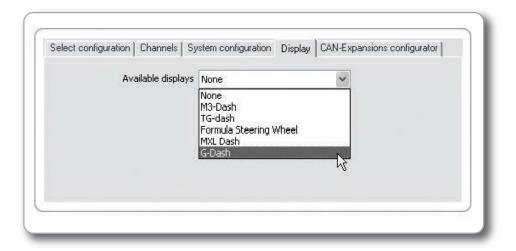
Products	Store	Download	Multimedia	Contacts Techn	ical support	AiM Newslette
	Davia	and Area				
mware	Down	oad Area				
back						
Firmup	for car/bik	e applications				
		Destrin.				
			Loggers/Dash lo	agers Version	Date	Rel. history
			MXL Pro/Pista/S		Dec 17th 12	Read Pdf
			EV03 Pro/Pista/	QM 28.08.33	May 22nd 12	Read Pdf
			EV04	43.04.08	Dec 17th 12	Read Pdf
			ECU Bridge	45.01.12	May 22nd 12	Read Pdf
			MXL QM	29.07.04	Sep 14th 12	Read Pdf
			External module	s Version	Date	Rel, history
Latest v	ersion		MemoryKey	37.06.09	Jul 20th 12	Read Pdf
121217	(Dec 17th 2012)		GPS Module	35.29	Jul 7th 11	Read Pdf
			Lambda	25.11	Jan 9th 08	Read Pdf
			Channel Exp./TC	Hub 40.15	Jul 20th 12	Read Pdf
			Displays	Version	Date	Rel, history
			Formula Steering	Wheel 38.18	Dec 17th 12	Read Pdf
			TG Dash	21.12	Apr 19th 11	Read Pdf
			MyChron3 Dash	15.23	Jul 20th 12	Read Pdf
			MXL Dash	52.02.04	Sep 26th 12	Read Pdf

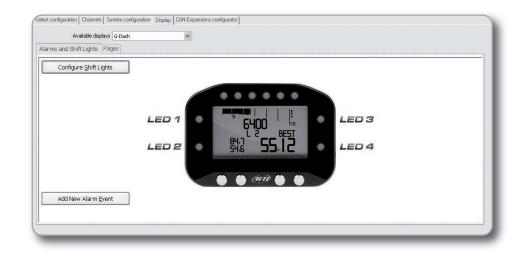
How to Configure G-Dash.

1

G-Dash receives its configuration parameters from EVO4, so you must configure EVO4 in order to make G-Dash display your data correctly. Therefore, select in EVO4 configuration G-Dash as the display.

G-Dash pages, shift lights and alarms configuration is done using the Race Studio 2 software.





Pages Configuration.

2

G-Dash is able to fully configure up to 9 pages, allowing you to view your data in user definable and very flexible ways.

Select the "Pages" tab to enter the Pages Configuration panel: custom pages are all disabled by default.

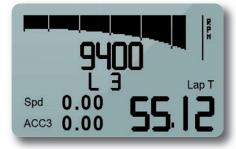
V	Pages		RPM and Lap Time
V	RPM and Lap Time	9400 A A	Measure Short Name
	Custom Page 1	123 123 123 123	Field 1 +/-Best Time +/- Lap Time Field 2 Rolling Time Porcest Time
Γ	Custom Page 2	1.23 123 123 123	Field 3 + / - Best Time
Г	Custom Page 3	1.23 1.23	
Γ	Custom Page 4	1.23 1.23 1.23 1.23	
	Custom Page 5	1.23 1.23 1.23 1.23	9400
	Custom Page 6	1.23 1.23 1.23 1.23	
Γ	Custom Page 7	1.23 1.23 1.23 1.23	ACC1 1.23 1 73
Г	Custom Page 8	1.23 1.23 1.23 1.22	23.4
		1.23 1.23 1.23 1.23 1.23 1.23	ACC1 1.23 1.23 23.4 1.23

The first available page is:

RPM and lap time. (1) Here you can configure two channels and choose one of the different Lap time visualizations: (2)

Lap Time:

The lap time of the previous lap will be shown;

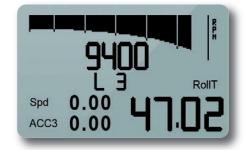


Predictive Time: Shows a forecast of the current lap time;

9400 L 3 ForeT Spd 0.00 S4.07 ACC3 0.00 S4.07

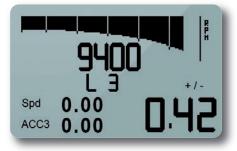
Rolling Time:

The lap time is shown for ten seconds, then the rolling time will be shown;



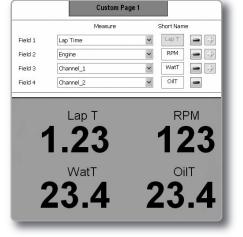
+/- Best Time

Shows a prediction of the current lap time in comparison with the best lap of the session.



8 Freely Configurable Pages.

You can add up to four fields per page, defining also the short name that will describe that field.



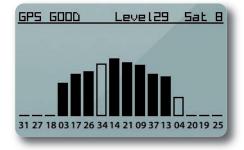
Of course, you can enable or disable each of these pages, simply clicking on the square:



At the bottom of the list, you find other two pages: Satellites and SmartyCam.

Satellites

Satellites shows the level of GPS signal. For good precision, it is best to acquire data from at least 8 satellites



SmartyCam

SmartyCam status shows the status of the camera, when connected to the system.



Shift Lights Configuration.

3

Click "Configure Shift Lights" to manage the Shift Light LED's.

The panel shown below appears and you can manage all 6 LEDs color and the RPM threshold value which will turn it on.



LED 1	LED 2	LED 3	LED 4	LED S	i	LED	6
Green 💊	Green	Yellow	Yellow	Red	~	Red	~
4500	4700	4900	5200	5400	0	5700	0

By selecting the "Advanced options" function, you can more deeply configure your Shift Light LED's. The available options are: The sequence mode of the shift lights:

you can choose to leave an individual shift light LED ON or turn it OFF when the following LED has been turned ON. (1)

se a sequence mode of sh	ift lights:
a LED remains on until the	
LED stays on until anothe	r LED with higher threshold is turned on
ar dependent shift liqhts	
max gear number :	1
	OK Cancel

The shift lights dependence upon the gear position:

you can configure G-Dash to have different Shift Light LED thresholds for each gear position (2).

Choose a sequence mode of s	hift lights:
A LED stays on if it's thresh A LED stays on until another Gear dependent shift lights:	hold is exceeded er LED with higher threshold is turned on
	<u>O</u> K <u>C</u> ancel

When you select this option you can set the maximum number of gears (up to 9): the view below appears.

Gear	LED 1		LED 2	8	LED (5	LED 4		LED 5	8	LED	- -	
dcar		~	Yellow	~	Yellow	~		~	1		Red	~	
5	Green 7500		-	_			Magenta 7850		Magenta 7900	~	Rea 8000	0	
-	7500		7670	0	7750		7850	6	7900		8000		
11	Green	*	Yellow	¥	Yellow	*	Magenta	¥	Magenta	¥	Red	~	
۶	7500		7670		7750		7850	0	7900	0	8000	0	
1	Green	~	Green	~	Green	~	Yellow	~	Yellow	~	Red	~	
J	7000		7250		7500		7750		7800		8000		
	Blue	*	Blue	¥	Green	۷	Green	*	Yellow	~	Red	*	
Ľ	6000	۲	6500	0	7000	0	7500	0	7750	0	8000	0	
7	White	~	Blue	~	Blue	~	Green	~	Yellow	~	Red	~	
Į.	5500		6000	0	6500	0	7000	0	7500	0	8000	0	
	2			1000						_			

Alarms Configuration

4

Click on the "Add new alarm event" button to add new Alarms or click on the icon to the right to manage existing alarms. When you click on the "Add new alarm event" button, the window below appears. Here you can select the event the system will check and the effect of that event. 1 – Fill in the DESCRIPTION field, in order to easily identify the event in the future (1).

2 – Describe the Alarm: it can be a simple event, for example "water temperature is greater than $100 \text{ C}^{\circ \prime \prime}$ (2)...

3 – ...or a combination of events, for example: "water temperature is greater than 100 C°" AND "Engine RPM is greater than 6000" (1)

4 – Then assign what to do with a LED when

the event (or events) occurs: You can have G-Dash turn on the LED and you can also select the LED colour and the LED behaviour (solid or fast/slow blinking).

You can also define a text message (2)

Description	WATER TEMP	ERATURE			
lf All	of the follow	ving events occu	r.		
waterTem	р	💙 is (greater than 😽	100	- 4
			2		
Then trigger th	e following alarm(s):			
LED 1		ntinuously	✓ Red	v 6	- 4
Until:					
	io longer met	~			
Contaition	io ionger met				
			<u>Save</u>		<u>C</u> ancel

	escription	WATE	ERTE	EMP+ENGINE		_			
lf	All	🖌 of	the fo	ollowing events o	occur:				
	waterTem	ρ	_	*	is greater that	an 🚩	100	- 4	
	Engine			~	is greater that	an 😽	6000	- 4	
1			*	Water+Engine	:			- 4	
	Display me	issage							
Ur		issage					_		
Ur			met	*				_	
Ur	ntil:		met	~	_	<u>S</u> ave		<u>C</u> ancel	

You can add different events and define the alarm as a combination of ALL the events or ANY of them (1).

Finally, you will configure the duration of the alarm. (2). Here are the options:

Until the condition is no longer met
 Until the data is downloaded
 Until the device is turned off
 Until a button is pushed

Once the configurations are built, a summary will appear: any time you need to edit the settings, just click the botton and proceed.



Description	WATER	TEMP+ENGINE				
lf All	👻 of the	following events	occur:			
All Any		v	is greater th	an 👻	100	- 4
Engine		*	is greater th	an 👻	6000	- 4
Until:	message 💉	Water+Engine				- 4
	n no longer me					
conditio	n no longer me downloaded	t		Save		Cancel
data is i	ice is turned off					

Available displays G-Dash	2		
Jarms and Shift Lights Pages			
Configure Shift Lights			
LE			
V Events	Alarms		
WATER TEMPERATURE	LED: 1 🥘	Message: not defined	二 /
	LED: 1	Message: 'Water+engine'	てょ
Water TEMP+ENGINE		message. mater engine	

Keyboard Configuration.

1

Once G-Dash is turned on, the **RPM and Lap Time page** appears: it shows RPM and lap time (the lap time selected among the four modes explained above), together with current lap number and the additional configurable channels.

2

Pressing Menu>>Display Setup>>PageSetup>>Page you can enable up to eight **Custom Pages**.

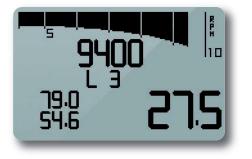
You decide where to show the desired variables (up to 4 on each page) from those sampled by the ECU, the accelerometers and the GPS values from EVO4. To choose the variable, select it when you choose the 'Sel' menu item:

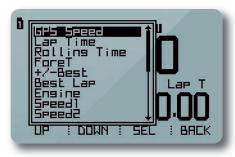
3

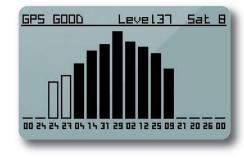
GPS page: this shows the number of visible satellites and their signal strength.

4

SmartyCam page: this shows the on-board camera information, when connected (see related chapter).







	SMARTYCAM	
50:	5.71 GB BUSY	
	REC: ON	
	7	

Selecting "Menu" you can also:

Besides page setting, the "Display setup" feature allows you to:

1

Set the Time/Date format.

2

Set the partial odometer and also track the engine running time (of up to 4 engine).

3

■ Choose the displayed language and view the device info (serial number and installed firmware version) of both G-Dash and EVO4, by selecting the "System Management". Enable/disable the backlight.

4

Adjust display brightness as well as LED intensity. Set how long the lap time will be shown on

the display after crossing start/finish line. Choose if the keyboard will always be visible ('locked' mode) or not ('auto hidden' mode).

Date Format:		
09/10/12	05:27.00	
UP I DOWN	EHANG BACK	

Partial Odo:	Km L
Ensine#1:09/09/12	н оо:от
Ensine#2:09/09/12	h 00:01
Ensine#3:	н 18:42
Ensine#4:	н 18:42
UP : DOWN : RESE	T I BACK



UP : DOWN : CHANG : BACK

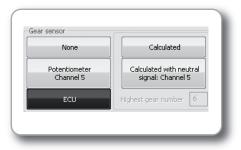
By pressing the "Create New GPS Track" item, the system stores that GPS location and will automatically calculate lap times each time you cross that location.

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Engaged Gear.

Engaged gear information is provided by EVO4 and automatically displayed if you choose – in the System Configuration panel – to set the gear:

- using a potentiometer
- via ECU connection



Gear calibration may be restarted using the keyboard: the path is Menu>>System Management>> Restart Gear Calibration.

Device Info Kestart Gear Lalit Create New GPS Track Lansuase: Enslish

UΡ

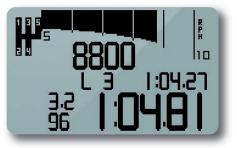
: DOWN : ENTER : BACK

1

If you choose the "Calculated" mode, during the calculation G-Dash will show this icon in the RPM and Lap Time page.



Once calculation is finished, the gear number will appear.





Powering On/Off.

Data Recall.

G-Dash is powered by EVO4 and turns on and off with the EVO4 with no additional user input.

As soon as EVO4 senses an RPM value, G-Dash menu will change.

The configuration functions will then show; "LIGHT" to quickly and conveniently backlight the display and "TRCK" to easily create and store the GPS location so the system will automatically calculate lap times each time you cross that location.



Pressing the "MEM" pushbutton (1) you will recall the data from the latest test sessions stored in memory (max. 6).



The first page of the data recall screen shows a session summary: the best 4 laps, total distance run, total time run, Max RPM and Max Speed.

11:31	Tes	t 1 Laps 6
	Laps	Tot Dist
	1:00.46	18.6Km
Ę	1:01.18	Tot Time
Ś	1:02.25	05:25.01
Max RPM	I: 1119	59
Max SPE	ED: 19	58 Km/h
!	i N	EXT : EXIT

The second page shows all of the session laps with lap times and speeds (min and max).

Lap	Time	Min/Max Speed
1	1:01.38	
님		57/148 km/h 56/158 km/h
고 찌 ㅜ 씨 뜨	1:01.18	51/140 Km/h
5	1:02.25	
6	0:18.75	8/112 km/h
		: NEUT : EUIT
		NEXT : EXIT

G-DASH

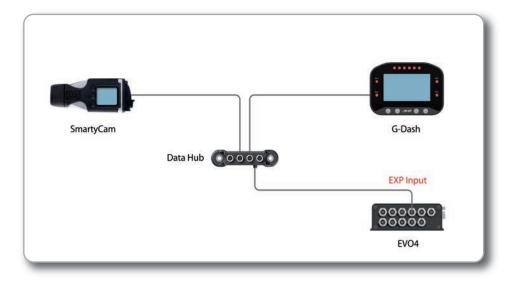
Interaction with SmartyCam.

To visualize up to 16 channels of data sampled by the EVO4 (including ECU based data) on SmartyCam generated videos, you must configure your EVO4 with the Race Studio 2 software and send the configuration to the SmartyCam. In the Race Studio 2 software, follow this path: "Device Configuration">> "EVO4">>> "SmartyCam functions setting".

G-Dash communicates with SmartyCam via the CAN-bus through EVO4 datalogger.

To connect both G-Dash and the SmartyCam to EVO4 'EXP' port you will need a Data Hub.





The panel below appears. It shows functions that can be displayed on SmartyCam video (left) and channels (ECU and others) that can be assigned to that

function (right).

The drop down menus show channels (ECU and others) coming from EVO4 grouped by type (i.e. on Water Temperature you will find all of the temperature channels).

Set Functions To Channels			Set Functions To Channels		
FUNCTION	CHANNEL		PUNCTION	CHANNEL.	
ENGINE RPM	F_RPM		ENGINE RPM	F_R9M	
REFERENCE SPEED	Speed1		REFERENCE SPEED	Speed1	
GEAR	F_GEAR_POS		GEAR	F_GEAR_POS	
WATER TEMP	NOT SET	_	WATER TEMP	NOT SET	~
HEAD TEMP	NOT SET	<u></u>	HEAD TEMP	NOT SET	
EXHAUST TEMP	NOT SET	<u>×</u>	EXHAUST TEMP	F_ECT F_IAT	
OIL TEMP	NOT SET	<u>ال</u> د	OIL TEMP	F_IAT_PID F_EXT_AMB_TEMP	
OIL PRESS	NOT SET	1	OIL PRESS	F_EXT_AMB_TEMP	
BRAKE PRESS	NOT SET	H	BRAKE PRESS	NOT SET	2
THROTTLE POSITION	NOT SET	.	THROTTLE POSITION	NOT SET	1
BRAKE POS	NOT SET	_	BRAKE POS	+ NOT SET	2
CLUTCH POS	NOT SET	<u>.</u>	CLUTCH POS	NOT SET	2
STEER POS	none available		STEER POS	none available	
LAMBOA	none available		LAMEDA	none available	
LATERAL ACCEL	···· NOT SET ····	-	LATERAL ACCEL	···· NOT SET ····	-
LONG ACCEL	NOT SET	1	LONG ACCEL	··· NOT SET ····	
FUEL LEVEL	NOT SET	.	FUEL LEVEL	NOT SET	
BATTERY	NOT SET	1	BATTERY	NOT SET	2
Enable Channel for all Functions			Enable Channel for all Functions	Ja	

If you find the channel you are looking for, select it and associate it with SmartyCam function. If you do not find it in the list, select the "Enable Channel for all Functions" checkbox to verify that the channel is being supplied by the EVO4 (ECU and others) as all available channels will be shown.

When you have all of the channels set that you are interested in, click on the "OK" button and then the "Transmit" button at the top of the page. The "Functions to Channels" information will then be automatically sent to the SmartyCam.

----- SMARTYCAM -----

REC: ON

BUSY

5D: 5.71 GB

SmartyCam HD





In G-Dash Menu, the SmartyCam page follows the GPS page:

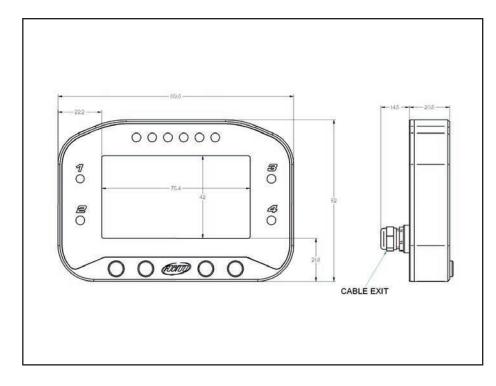
The path is Menu>>Display Setup>>Page Setup>>Smarty.

This page displays if the SmartyCam is currently recording (REC: ON). Also displayed is the amount of memory is left on the MicroSD memory card inserted in the SmartyCam.



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G-Dash



Graphical Display
Aluminum body
Grey backlight
4 RGB Alarm LEDS
6 RGB Shift Lights
Dimensions: 119x82x20 mm
Weight: 350g
Waterproof IP67



Our web site **aim-sportline.com** is constantly updated.

We try to share with you our experiences about our products and how to use them in the tracks all over the world.

Please, constantly check it and download the last versions of the firmware of your products.

