

- English -

MiniDash KIT MD19 Manual

Revision History

Revision	Description	Release Date	Author
0	Initial Release	2020-05-20	PB

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1 Notes and symbols used in this Manual



These paragraphs contain tips and practical advice for working with the DTS System



In the paragraphs highlighted with this symbol, you will find additional information and it is very important that you follow the instructions given.



Documentation reference

➤ A user manual reference number is provided so the user can seek further assistance

“Software Parameter”

Monospaced text in quotation marks designates a software parameter, pages, tabs or tables in the 2D Software

“#Channel1”

Monospaced text in quotation marks with a leading hash mark designates a channel in the 2D Software

- *cross-reference* -

Italic, dotted underlined text designates a cross-reference to a different chapter of the manual

2 Introduction



The MD19 MiniDash is designed to be used in combination with a 2D Data recorder to show Lap time, GAP time, a series of bright shift LED's and warning alarms

It can be used independently, or in combination with the bike's standard display

Automatically switching over three pages

GAP Time function, constantly showing the rider when Lap Time is gained / lost

Freely programmable alarm channels to warn the rider of, for example, a high water-temperature or a low battery voltage, etc.

A small and crash resistant display, recognizable by the lack of buttons and the thinner housing, compared to the previous 2D MiniDash

3 The GAP Time Function

From the second complete lap on, the display constantly shows the time difference to the best lap yet in this run. This is shown in seconds on the display as well as by means of two bright LEDs (faster / slower).

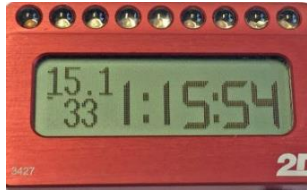
When crossing the finish line, the display shows for 10 seconds the Lap time and then switches back to the GAP time.



GAP Times after Power cycles

After the power is turned off, the display will restart without considering the best lap time from before the power was turned on. In other words, every time the power is switched off and back on, the display has 'forgotten' the last best Lap time.

4 Automatic Page switching



Page 1
(Lap time)



Page 2
(GAP, Laps and Temperature)



Page 3
("Mechanic / Engineer Page")

Page 3 is displayed when the display is switched on.

When the speed of the front wheel, rear wheel or GPS speed is above 10 km/h, the Dash automatically switches to page 2 with the GAP time, the faster / slower LEDs, the shift LEDs, the engine temperature and the driven laps.

When crossing the start / finish line, the display switches for 10 seconds to page 1 to show the lap time, then switches back to page 2, the GAP timing.

5 How to change the settings of the Dash

Not all settings can be changed by the user on the KIT MD19.

The settings that can be changed are:

- Set the RPM for shift light LED's
- Background lighting & Brightness shift LED's
- Setting an alarm
 - Set how long the Lap time is displayed before switching back to the GAP time
 - Switch off the GAP time function page, while keeping the LED's indicating faster / slower
- Switch off the GAP function altogether
- Adjust the GAP function to avoid GAP time mistakes when a shortcut is taken on track
- Set different shift LED's to Page3 only



To change the settings on the MD19 MiniDash, you need to:

- Have the 2D Software WinIt installed on your laptop
- The MiniDash should be connected to the data logger
- Switch on the 12 Volt power supply for the bike and data logger

6 Set the RPM for shift light LEDs

In WinIt go to “DASHLED” and fill in the rpm numbers for the LEDs nr 2 to 8. The 9 vertical steps represent the 9 LEDs.



If this doesn't work (as can be the case on our older software), then you have to do it like described in
- chapter 12 - Set different shift LEDs for Page 3 only ("Mechanic / Engineer Page") -



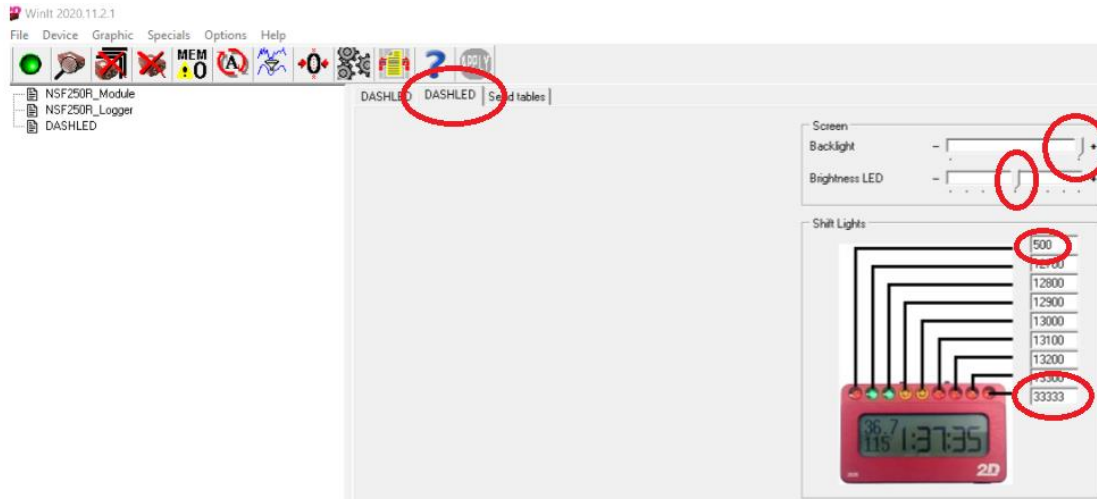
The first (500) and the last (33333) numbers should not be changed. These LEDs are reserved for indicating the rider a faster / slower GAP time.



It is advised to start with steps of 100 rpm between the shift LED's. This can later be fine-tuned at will depending on the type of bike and the rider's preference.

7 Setup of the Background Lighting & the Brightness of the shift LEDs

In WinIt go to “DASHLED” and set the backlight / brightness LEDs. See also - *Chapter 6 - Set the RPM for shift light LEDs* -



8 Alarm Setup



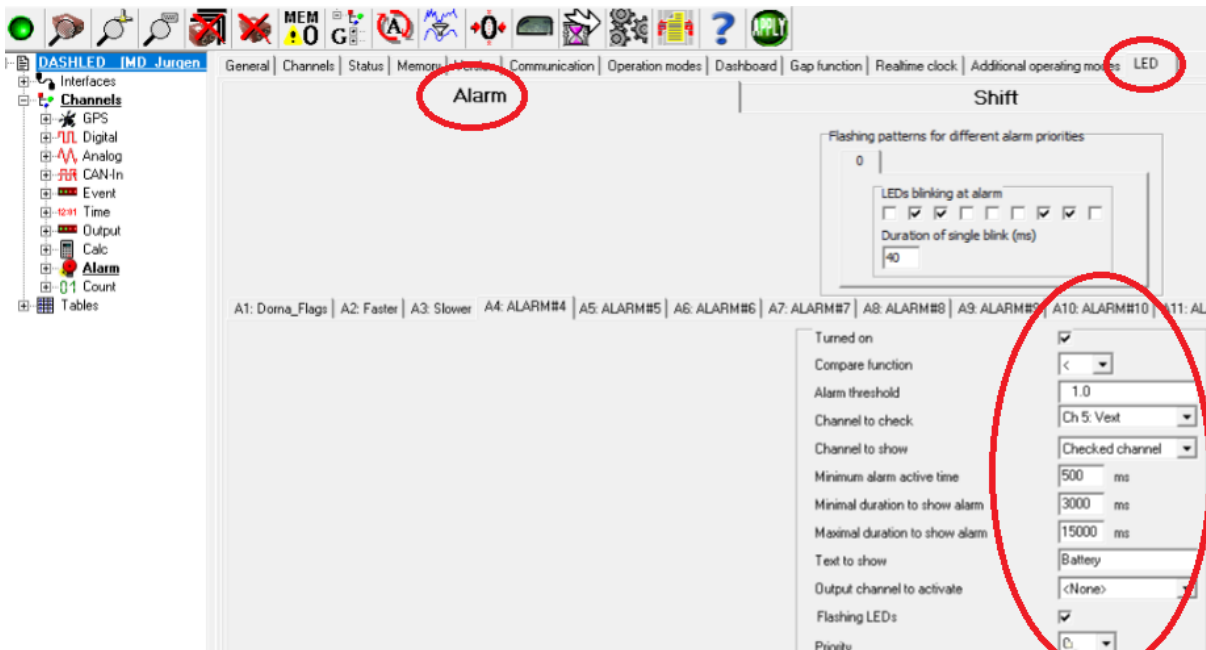
Full User Interface

Setting an Alarm is only possible via the full user interface.

Use the shortcut CTRL + ALT + K to switch between KIT & full user interface.

In WinIt go to “DASHLED” → “LED” → “Alarm”. In this example an alarm is set that will warn the rider when the battery voltage drops too much.

As soon as the Vext (battery) channel drops below 10 Volt for longer than 5 sec, the alarm will come up for a minimum time of 5 sec and at maximum 15 sec. The LEDs will flash and a message “Battery” will appear on the screen.



The first 3 Alarm channels are fixed in the configuration of the KIT MD19 and cannot be removed or changed.



Alarm Channels

➤ For a more extensive explanation on working with Alarm channels, you can download the Manual “Dash - Additional Manual” from our website at www.2d-datarecording.com

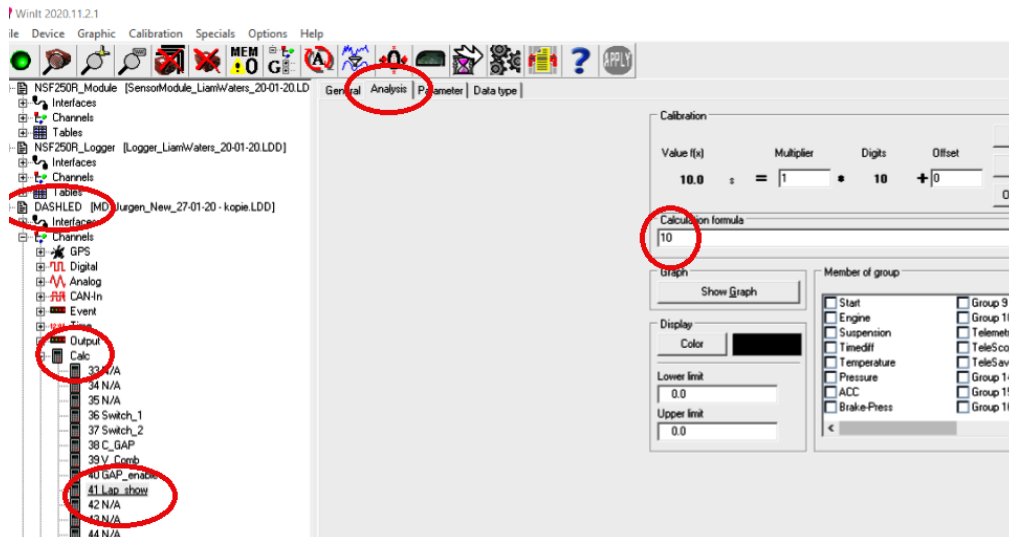
9 Setup how long the Lap time is displayed before switching back to the GAP time



Full User Interface

Setting an Alarm is only possible via the full user interface.

Use the shortcut CTRL + ALT + K to switch between KIT & full user interface.



Change the number “10” in the calculation formula of the channel “Lap_show” to a shorter / longer time (in seconds) that the lap time remains displayed after crossing the finish line. Click “Apply” to confirm the change.

If a value is set that is longer than the actual Lap time (in seconds), than the Dash will **NOT** switch to the Lap time page when crossing the finish line, but both LEDs indicating faster / slower will remain functional.

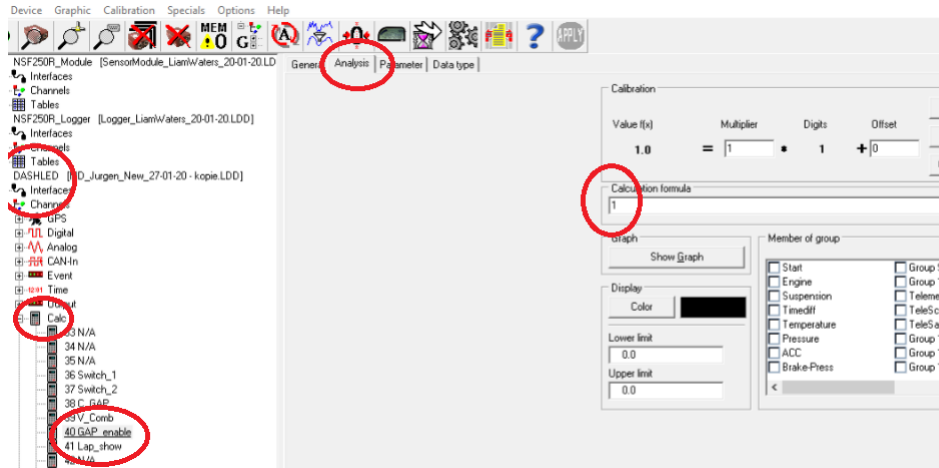
10 Switch off the GAP function



Full User Interface

Setting an Alarm is only possible via the full user interface.

Use the shortcut CTRL + ALT + K to switch between KIT & full user interface.



Change the number in the calculation formula of the channel “GAP_enable”.

1 = GAP function on

0 = GAP function off

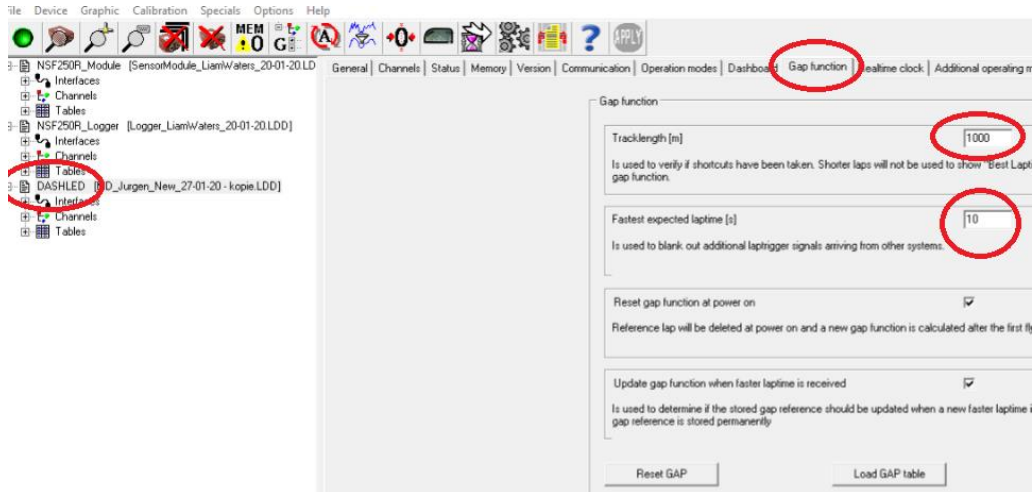
11 Adjust the GAP function to avoid GAP time mistakes when a shortcut is taken on track



Full User Interface

Setting an Alarm is only possible via the full user interface.

Use the shortcut CTRL + ALT + K to switch between KIT & full user interface.



Change the “Track length” and “Fastest expected Lap time” to expected values.



If track length or minimal lap time is set a lot smaller value than it is in reality, than the GAP time might be temporarily wrong after the rider took a shortcut on track.

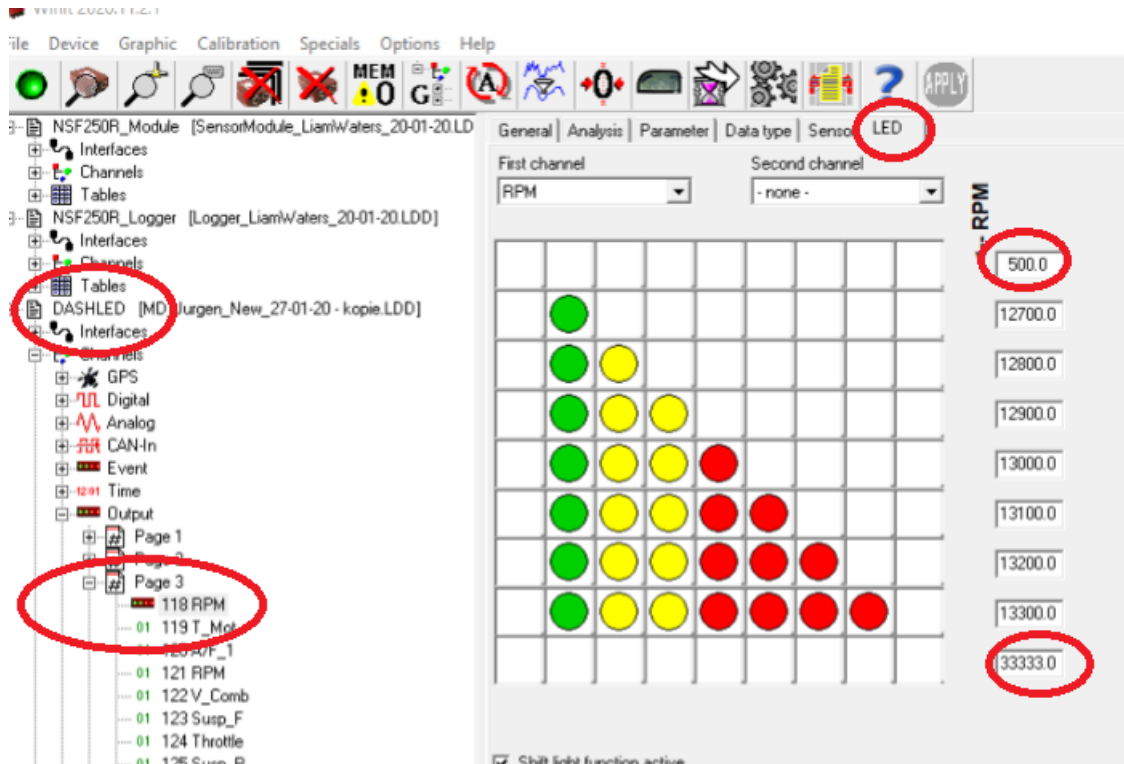
12 Set different shift LEDs for Page 3 only (“Mechanic / Engineer Page”)



Full User Interface

Setting an Alarm is only possible via the full user interface.

Use the shortcut CTRL + ALT + K to switch between KIT & full user interface.



The first (500) and the last (33333) numbers should not be changed. These LEDs are reserved for indicating the rider a faster / slower GAP time.



There are 4 pages in total but the KIT MD19 is not using page 4.

13 FAQ

13.1 The GAP time doesn't work / The lap time is not shown on the Dash

A properly working GPS is the base of the GAP and Lap timing. Please do the following checks in this order:

1. Check the quality of the signal "V_GPS" with the data analyzer, it should never be interrupted and it must be accurate all over the track and through all the laps (You can compare it with the front wheel speed).
2. If the "V_GPS" signal doesn't exist, the antenna or the wiring might be broken.
3. If the "V_GPS" signal has deviations or hitches, check the mounting position of the GPS antenna.



For more information about mounting the GPS antenna, see also our Manual "Generate Lap times with GPS", available on our website at www.2d-datarecording.com

4. Check if the lap times do exist in recorded data. If the "V_GPS" is fine but no laps appear after downloading, just only one long outing, than this track is not recognized by the lookup table inside the logger. The problem is in this case not the Dash. Create a start finish line and update this to the logger.



See also our Manual "Generate Lap times with GPS", available on our website at www.2d-datarecording.com

Check the parameters you have set at the TAB "GAP function/fastest expected lap time" please refer to - chapter 11 - Adjust the GAP function to avoid GAP time mistakes when a shortcut is taken on track - it might be set to high, longer than the expected Lap time.

13.2 The Dash is stuck on page 3 (the GAP time)

The display is stuck on page 2 (the GAP time), it does not switch to page 1 (Lap time) or page 2 ("Mechanic / Engineer Page"), even when the bike is at a standstill.

One of the speed signals doesn't go back to below 10 km/h, even when the bike is stopped. This can happen on one of the wheel speed channels, if no wheel speed sensor is connected but the channel has remained switched on. Switch off the wheel speed channel in the logger that has no sensor connected.

13.4 The Dash does not switch from page 3 (“Mechanic / Engineer Page”) when the bike is running on the track

The automatic switching of the page is based on the bike exceeding a speed limit of 10 km/h by either the front wheel speed, the rear wheel speed or the GPS speed signal. If one of these exceeds 10 km/h, the display will switch from page 3 (“Mechanic / Engineer Page”) to page 2 (the GAP time page). Simply turning one of the wheels up to > 10 km/h will make the display switch the page.

13.5 The GAP time is incorrect after taking a shortcut on the track

“I often take a shortcut on the track during my training sessions. After the first shortcut, the GAP time is not correct and remains wrong until I stopped and restarted the bike in the pits.”

- ➔ This can be avoided if you set the correct track length and the shortest expected Lap time. Please refer to - chapter 11 - Adjust the GAP function to avoid GAP time mistakes when a shortcut is taken on track -