

DELLORTO

www.dellorto-pe.com

Technical contact: Paolo COLOMBO
Technical support: moto3@dellorto.it
Commercial contact: Simona RAVASI



DoDash

HANDBOOK

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DoDash HANDBOOK

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1. Description

This document contains all necessary remarks to understand the information displayed by the dashboard, messages, settings or lighting.

From 2016 season it is available the DoDASH dashboard with state-of-the-art TFT display, bringing advanced functionality. DoDASH employs the same electrical connector of previous Matrix 4, it includes up to 8 analog channel inputs and an integrated GPS device.

Since the World Championship Grand Prix 2014 season is required the implementation of Race Direction information, i.e. flag or other messages for riders to be displayed onto the dashboard, being this a safety relevant feature, Dellorto were requested to fulfil the following guidelines:

Dedicated flag signal light on a specific area of the dashboard.

Red lights exclusively used for flag warnings signals

With DoDash it is possible to control the backlight ratio and the background colour of the display.

Dashboard is driven by the DoPe2.0 and DoPe3.0 ECUs. It shows all the relevant information received from the bi-directional transponder X2.

Prerequisites to the new DoDash dashboard:

ECU DoPe2.0 , 17.004 firmware version and onwards / DoPe3.0

Software DoPe2.0 release DoPe_2_04_17 and onwards / DoPe3.0

Transponder X2 (to visualize the messages and lights of this transponder)

2. DoDash Display Information

The Display gives information to the rider and to the mechanics and engineers. Due to mechanics and rider do not need the same information type; there are 4 different pages, 3 for the rider (*Rider pages*) and 1 configurable to different needs for the mechanics (*Mechanics page*).

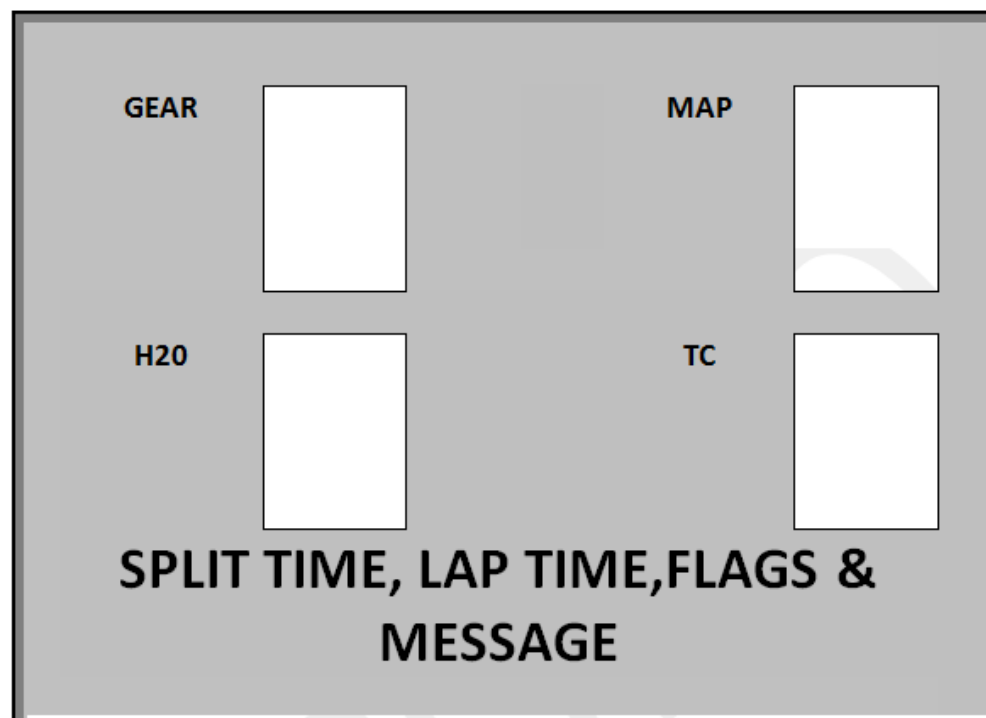
2.1 Rider-page

The first page is the *Rider-page*. There are 3 different pages to set as a *Rider-page*. The *DASH_RIDER_PAGE_TYPE* parameter indicates the page to use as a *Rider-page*.

NOTE: When **Front Speed** is greater than 5 km/h if one of the *Mechanics page* is showed, the display **changes** automatically to show the *Rider page*. Then, when the Front Speed is less than 5 km/h the page showed will change to the *Mechanics page* again.

The change of page is rolling type: 1->2->3->1->2...

If *DASH_RIDER_PAGE_TYPE* = 0



SPLIT TIME This area is reserved for the lap time, intermediate times and for error messages.

FLAGS Lap time and intermediate times are showed during & SHOW_LAP_SECTOR_TIME seconds.

MESSAGE For the FLAGS see next section 6 Race Direction messages and warning lights

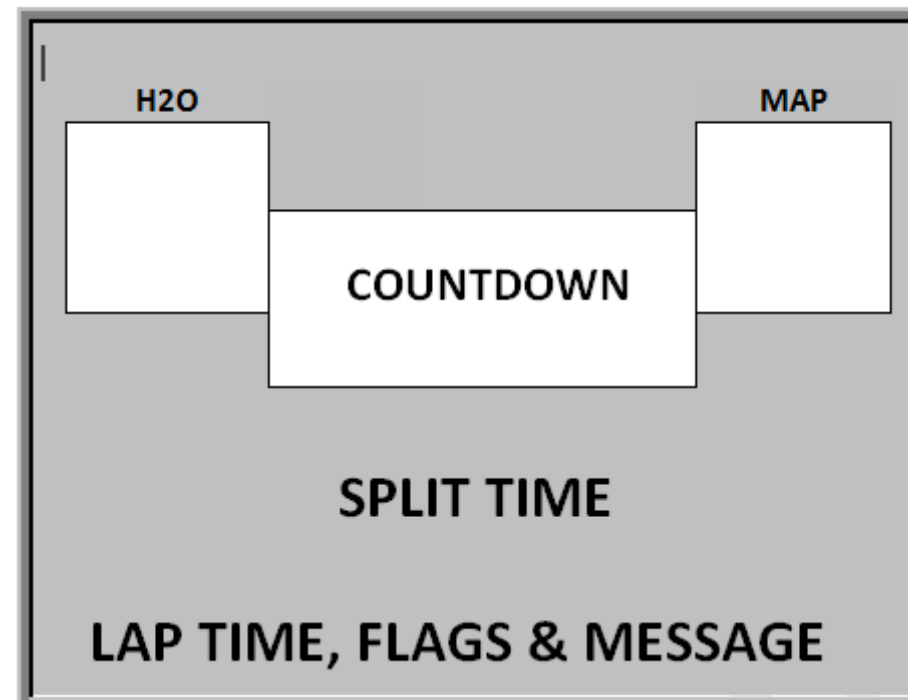
Error messages when an error occurs a message is displayed to identify the error.

-See next section: Type of errors-

Note: ERROR messages have priority to others.

MESSAGE is always visible, regardless of the page

If DASH_RIDER_PAGE_TYPE = 1 or 2



COUNTDOWN This area is reserve for the CountDown tool. (DoRealTime sw -> Menu DoPe -> CountDown)

SPLIT TIME This area is reserve for the intermediate times.

LAP TIME This area is reserved for the lap time, **FLAGS** and for error messages.

FLAGS & MESSAGE For the **FLAGS** see next section 6 Race Direction messages and warning lights.

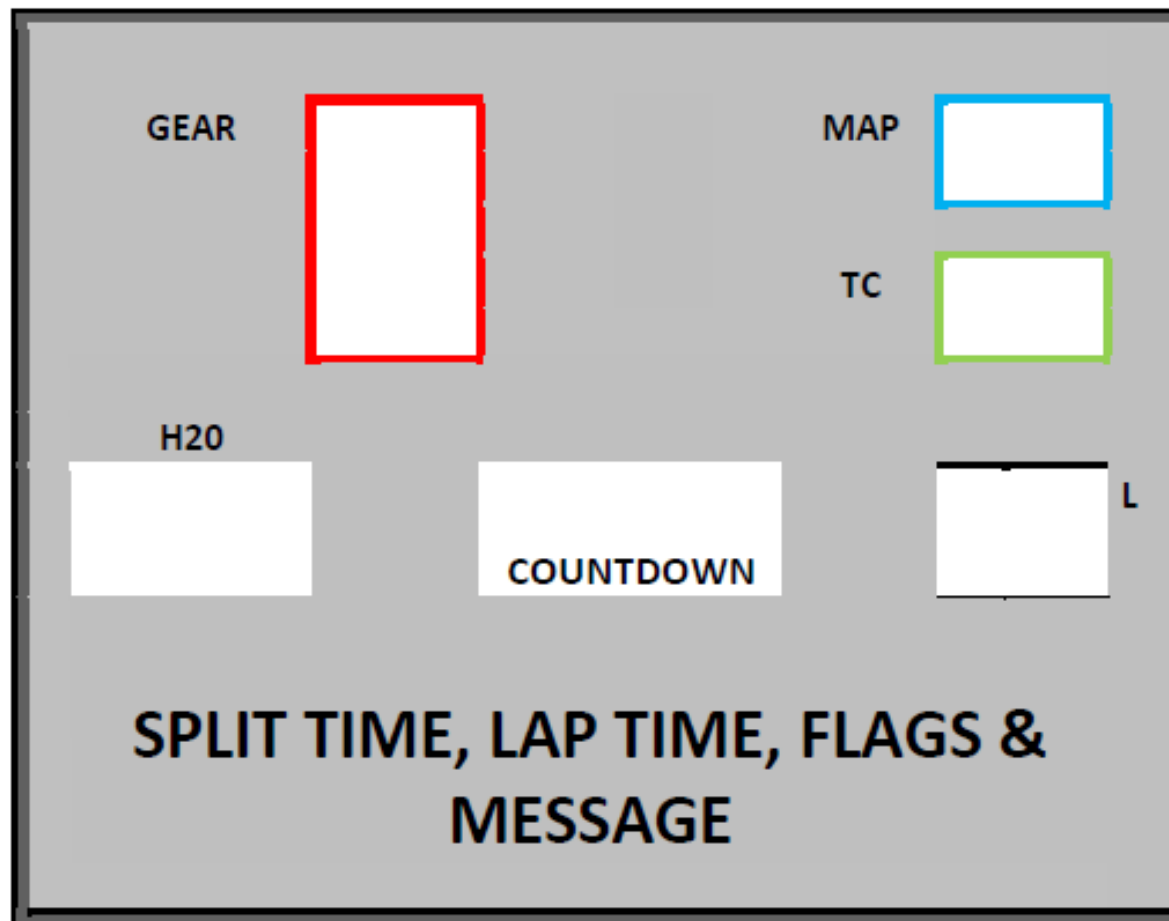
Lap time and intermediate times: are showed during SHOW_LAP_SECTOR_TIME seconds.

Error messages: when an error occurs a message is displayed to identify the error.

-See next section: Type of errors-

Note: ERROR messages have priority to others.

If DASH_RIDER_PAGE_TYPE = 3



COUNTDOWN This area is reserve for the CountDown tool. (DoRealTime sw -> Menu DoPe -> CountDown)

SPLIT TIME This area is reserved for the lap time, intermediate times and for error messages.

LAP TIME **Lap time and intermediate times:** are showed during SHOW_LAP_SECTOR_TIME seconds.

FLAGS For the FLAGS see next section 5.4 Race Direction messages and warning lights
& **Error messages:** when an error occurs a message is displayed to identify the error.

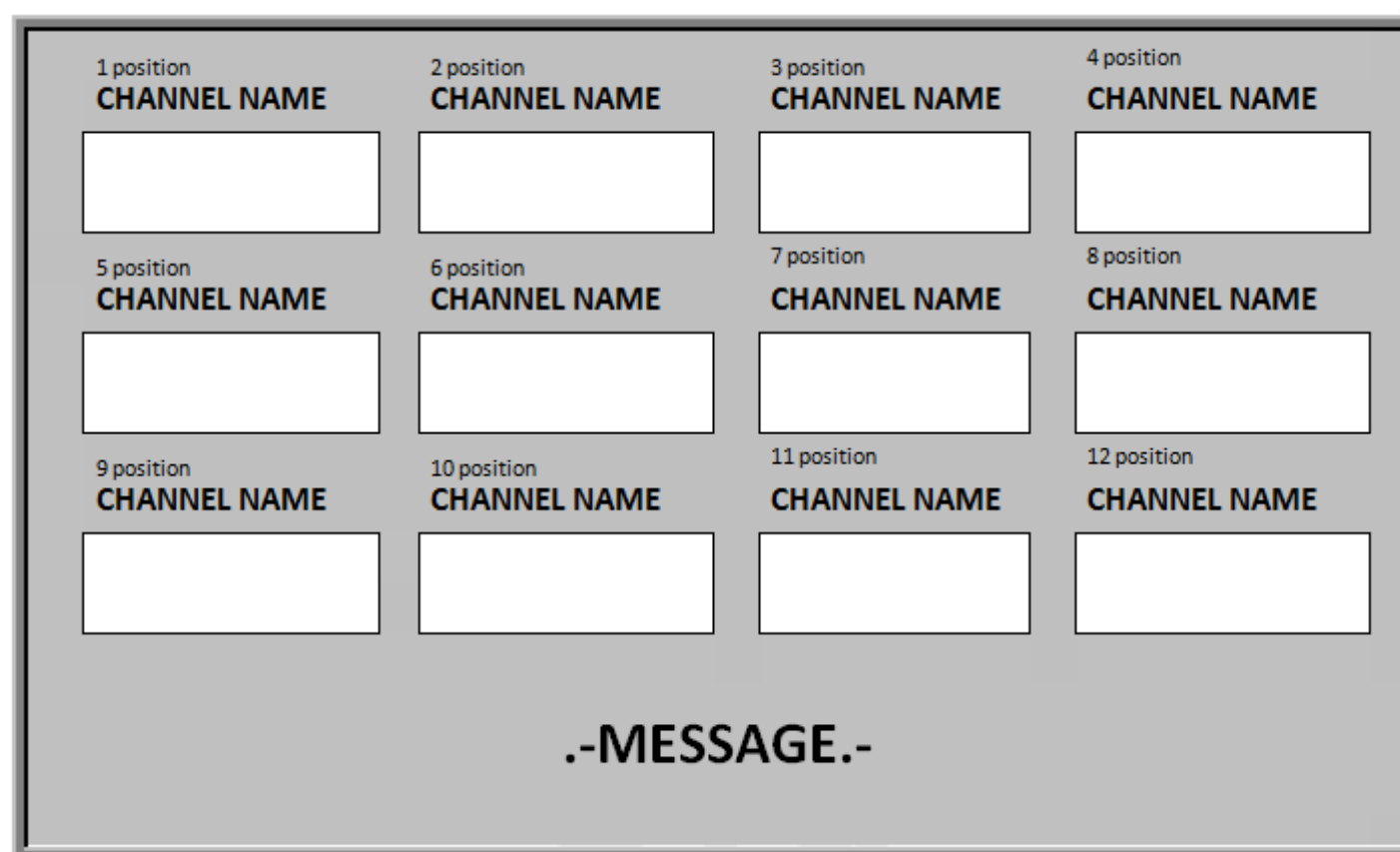
MESSAGE **-See next section: Type of errors-**

L Lap countdown: it starts from **DASH_LAP_COUNTER** calibrated value and it decreases every beacon (lap trigger) event.

Note: ERROR messages have priority to others.

2.2 Mechanical-page 1

There is one configurable page, *Mechanical-page 1*: 12 areas to set the desired channels as show the following figure:



1 position CHANNEL NAME <input type="text"/>	2 position CHANNEL NAME <input type="text"/>	3 position CHANNEL NAME <input type="text"/>	4 position CHANNEL NAME <input type="text"/>
5 position CHANNEL NAME <input type="text"/>	6 position CHANNEL NAME <input type="text"/>	7 position CHANNEL NAME <input type="text"/>	8 position CHANNEL NAME <input type="text"/>
9 position CHANNEL NAME <input type="text"/>	10 position CHANNEL NAME <input type="text"/>	11 position CHANNEL NAME <input type="text"/>	12 position CHANNEL NAME <input type="text"/>

.-MESSAGE.-

How to add a channel to the display.

Open the Acquisition Table in the MAT application of MARdata software.

Then select the channel to visualize in the display.

Click twice on it.

In the “Add / Update channel” window -> “Other” section there is the next option:



☒ Show in dashboard: (dashboard position, see documentation)

Click the checkbox to show the channel in the dashboard and select the displayed position from 1 to 12. (from 1 to 6 in the *Mechanical-page 1* and from 7 to 12 in the *Mechanical-page 2*).

2.3 Analogs inputs

The DoDash display gives the possibility to acquire up to 8 analog signals. Each of these channels can be enabled or not, and the acquired values can be sent through the CAN line as a 2 bytes value; channels settings can be separately changed, and for each dashboard analog inputs there is a different set of parameters (see table below).

Dashboard analog channel parameters (where xx is a number that goes from 00 to 07)

Parameter name	Unit	Description	Range	Example
<u>TFT_ANxx_EN</u>		Enable/disable the CAN dispatch of the <u>analog</u> input value.		
<u>TFT_ANxx_MA</u>		Check it to use a moving average filtering, to avoid aliasing when sampling the <u>analog</u> input value; if disabled, no moving average is computed.		
<u>TFT_ANxx_CAN_ID</u>	#	The id of the CAN frame used to dispatch the <u>analog</u> input sampled value.	1-2047	512
<u>TFT_ANxx_CAN_FREQUENCY</u>	Hz	CAN frame sending frequency. If two or more inputs share the same CAN frame, the resulting frame sending frequency will be computed as max(f1, f2, ...).	1-1000	200
<u>TFT_ANxx_OFFSET</u>	#	The offset of the 2 bytes value within the CAN frame.	0, 2, 4 or 6	2

2.4 Aspect

Two more parameters are available to set the appearance of the DoDash display.

Dashboard aspect parameters

Parameter name	Unit	Description	Range	Example
<u>TFT_NIGHT</u>		Black over white: black text, white background (DAY MODE) White over black: white text, black background (NIGHT MODE)		
<u>TFT_BACKLIGHT</u>	%	The backlight ratio: the less the value, the less bright the display.	10-100	50

2.5 Apply DoDash setting changes

To apply the desired settings to the DoDash display, the engine configuration has to be sent to the DoPe ECU connected with the DoDash; moreover, user settings have to be sent to the DoDash display performing a tuning operation (see also the “GOOD TO KNOW” section at the beginning of the manual):

TFT Dash Prog

TFT_PROG_STATE

IDLE

TFT_PROG_BUTTON

Set parameter

2.6 GPS beacon detect parameters

When a beacon point (finish line) is set using DoData software the ECU activates a lapTrigger/finish line GPS detection based on DoDash integrated GPS: when the bikes runs to that point the lapTime is calculated, distance reset and logger lap split. For further information see: “2016_DoDash settings” pfd.

Parameter name	Unit	Description	Range	Example
<i>TFT_GPS_BEACON_RADIUS</i>	M	Radius on beacon point for Finish Line detection		
<i>TFT_GPS_BEACON_COURSE</i>	Deg	Admitted course difference for Finish Line detection		

2.7 Launch test

@1kHz

The launch test is activated by a button. It can also be automatically activated with Launch control depending on *LTEST_ENABLE* calibration.

The state machine is made of the following steps:

1. “TEST L.” is showed on dash during *LTEST_LIGHTTIME*.. If Launch control is active (“LAUNCH” message on dash), the launch test messages have greater priority;
2. Dash message is turned off;
3. Dash leds are turned on;
4. After *LTEST_LIGHTTIME* leds are turned off;
5. *ACTIVATIONS[13]* bit is raised and internal chrono is started;
6. When *SPEED_RR* reaches *LTEST_SPEED* the chrono is stopped: the time is showed on dash in the format “ss.mmm” seconds and ms;
7. *ACTIVATIONS[13]* bit is cleared;
8. After *LTEST_SHOWTIME* dash time message is cleared.

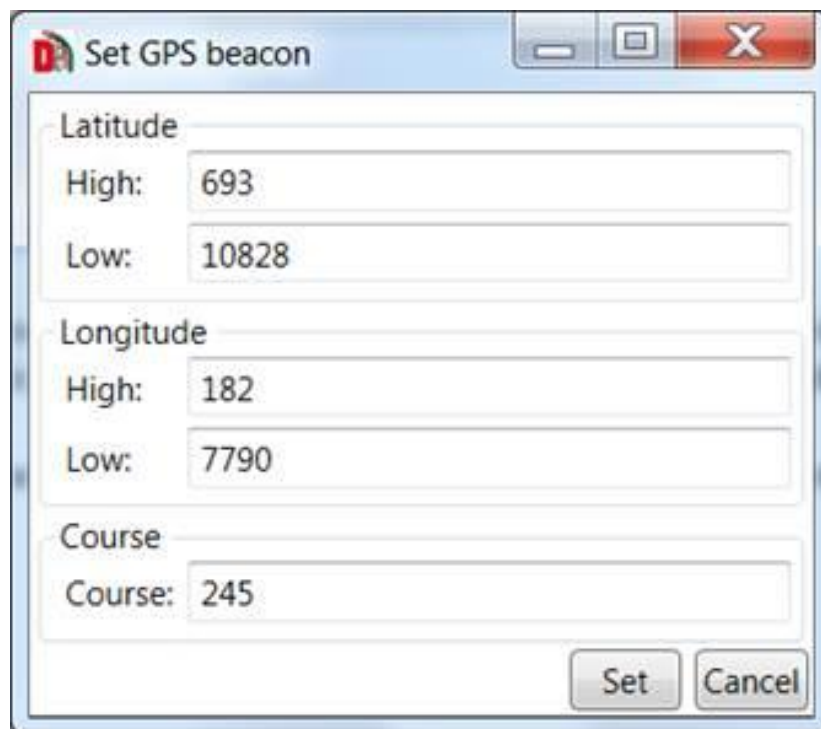
After 2. the state machine can restart following or another button trigger event or another Launch Control activations (if *LTEST_ENABLE* permits it).

Parameter name	Unit	Description	Range	Example
<i>LTEST_ENABLE</i>		General enable flag. Using “Enabled with CAM or with LaunchControl Activation” the test will be activated immediately after launch control button activation. <u>It is useful when CAM button is not available.</u> Remember to disable or set “Enable only with CAM input” during race.		
<i>LTEST_LIGHTTIME</i>	ms	Turning on time of dah leds #1-4,11-14	2s – 5s	
<i>LTEST_SPEED</i>	Km/h	When the rear speed overtakes this value the chrono is stopped		100
<i>LTEST_SHOWTIME</i>	ms	Dash chrono message showing time		

2.8 GPS setting

Please check that the MAT table contains the GPSC_xxx channels. Should you not see them, please download the [M3_DOPE2_16_08_v02.mat](https://www.dellorto-pe.com/dashboard-dodash/) file from <https://www.dellorto-pe.com/dashboard-dodash/>, open it in MAT realtime, copy all the channels to your current acquisition table, send it to the ECU and you should see the latitude and longitude values. We suggest you to log these values for a couple of laps in order to identify the finish line GPS coordinates.

Open DoPe, select the ECU and click on “DoPe ECU\Set GPS beacon”. Please enter the finish line coordinates values* into the box:



Set GPS beacon

Latitude

High: 693

Low: 10828

Longitude

High: 182

Low: 7790

Course

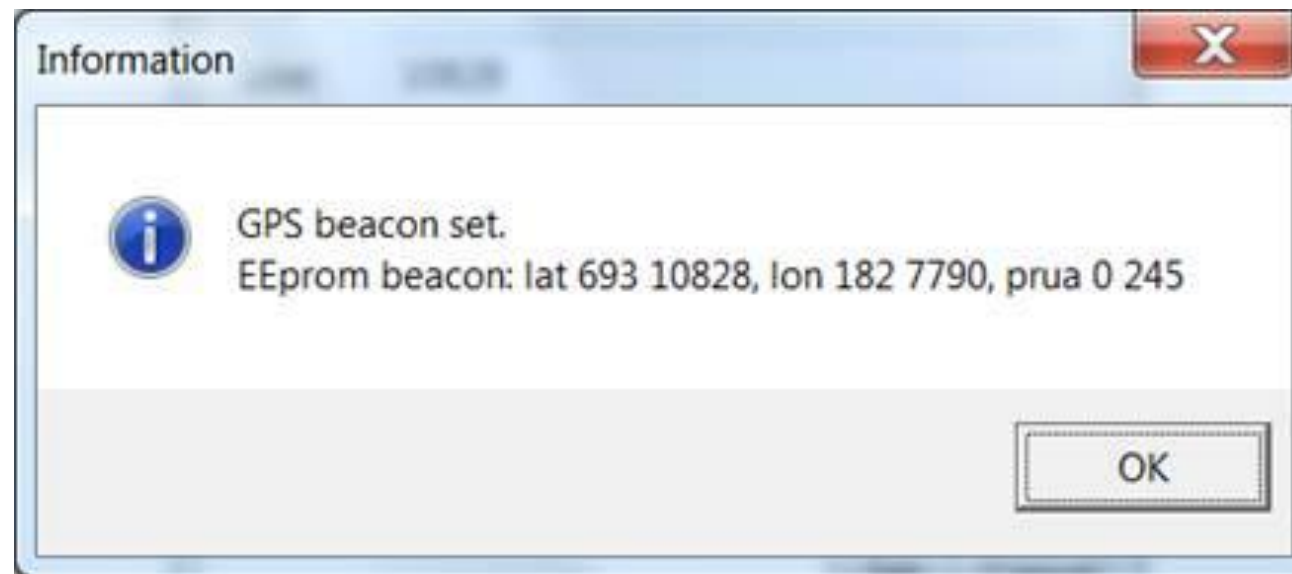
Course: 245

Set Cancel

The values to enter are those already acquired (from the top to the bottom):

GPSC_LAT_H
GPSC_LAT_L
GPSC_LON_H
GPSC_LON_L
GPSC_COURSE

Once entered, select “Set”. After a couple of seconds the following confirmation message will appear:



From the next time, when opening the beacon setting windows, DoPe will read the coordinates values previously set.

There is no calibration for enable/disable the GPS; when in a new circuit it is NOT necessary to disable the set coordinates in the previous race because they will be so far that won't be considered by the device.

The coordinates of the beacon in memory are logged in the GPSC_xxx channels at the beginning of the telemetry data. This is marked with GPSC_NSAT = 65535.

If you go back to race in a circuit where you have already set the beacon, just open the telemetry, look for GPSC_NSAT = 65535: you will find the coordinates to set to the ECU; you do not need to wait a couple of laps for having the coordinates.

After you used the GPS beacon system you desire to use the official X2 transponder in the same track, set all 0 in the box to avoid double beacon activations.

() Channels details:*

Should you have DoData software, the math library to compute the coordinates is in the download section of our website www.dellorto-pe.com.

For those who has not our software, the latitude in degrees (north positive) and longitude in degree (east positive) are:

$$GPSC_LAT = (IFGT(GPSC_LAT_RAW, 2147483647) * (GPSC_LAT_RAW - 4294967295 - 1) + IFLE(GPSC_LAT_RAW, 2147483647) * GPSC_LAT_RAW) / 1000000$$

$$GPSC_LAT_RAW = GPSC_LAT_H * 65536 + GPSC_LAT_L$$

$$GPSC_LON = (IFGT(GPSC_LON_RAW, 2147483647) * (GPSC_LON_RAW - 4294967295 - 1) + IFLE(GPSC_LON_RAW, 2147483647) * GPSC_LON_RAW) / 1000000$$

$$GPSC_LON_RAW = GPSC_LON_H * 65536 + GPSC_LON_L$$

To see it in googlemaps:

- export in ASCII (txt) format the GPSC_LAT, GPSC_LON (mathematics) and GPSC_NSAT to 20Hz, no interpolation on DoData.*
- open using excel, remove the first rows until the column value is: $3 < GPSC_NSAT < 65535$*
- remove GPSC_NSAT column*
- write "T" in a free cell and copy*
- select all the values in the first column(shift + ctrl + arrow) and paste*
- heading (first row): insert "type" in the first column, "latitude" in the second, longitude in the third*
- save as CSV file (say YES in the popup)*
- upload the file on <http://www.gpsvisualizer.com/>*

Should you have any problem/doubt get in touch with DELLORTO's team (moto3@dellorto.it).

3. Type of error messages

As it is showed in the previous sections, there is an area in each display to show the error message and also the lap time. There are two error groups: with priority and without priority.

With priority: this error message has priority to others (also to lap time message). Most of these error messages are related to Logic Diagnosis, next table show how to identify each error message.

Display timing of the error messages

All error messages are showed in the display while the corresponding error exists and thus the corresponding diagnosis is active. Once the error is solved and thus the diagnosis is deactivate the corresponding error message is showed during 5000 ms. With the exception of the “OIL ERR” message and the “TUN ERR” message:

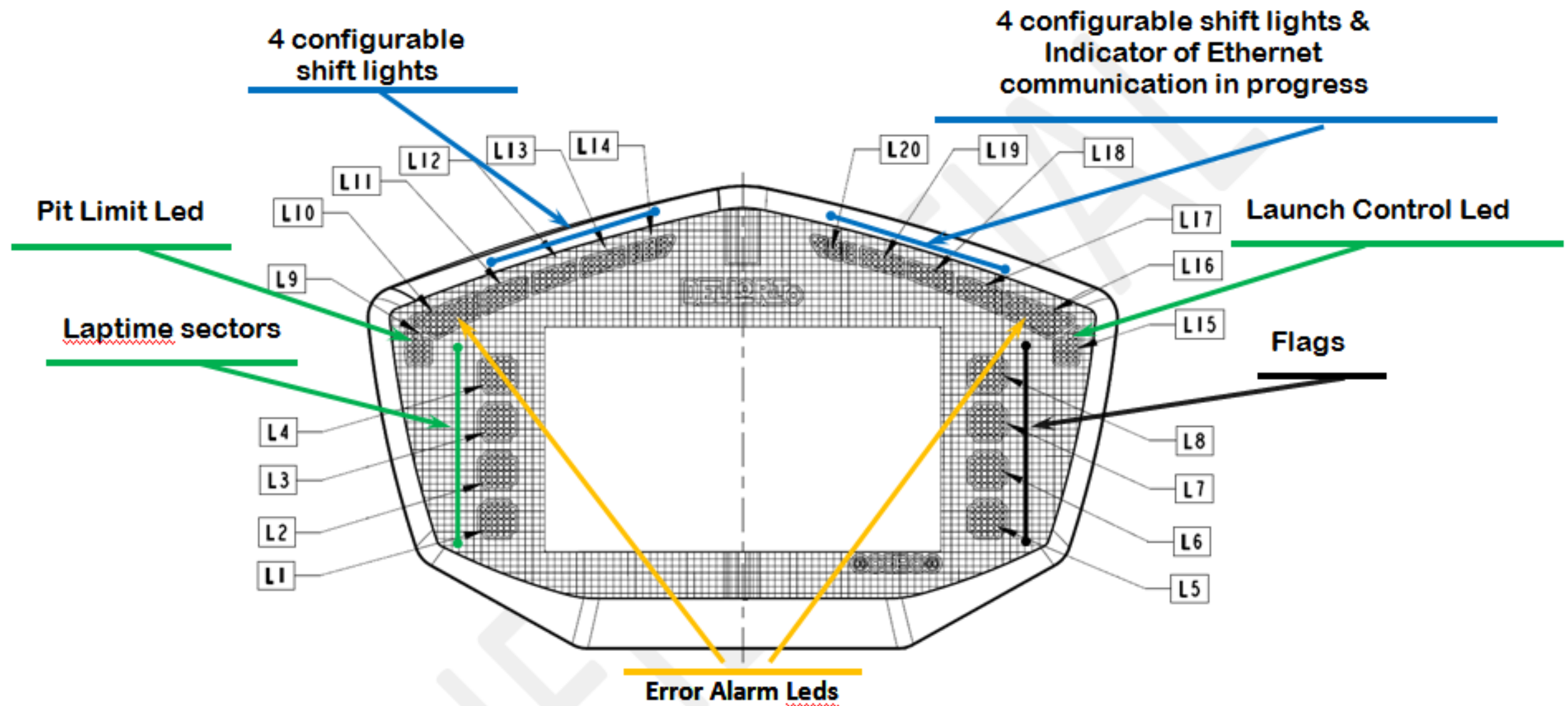
- The “OIL ERR” message is showed in the display during “DIAG_POIL_DASH_SHOW” ms after the corresponding diagnosis is deactivate. Where DIAG_POIL_DASH_SHOW is a settable parameter.
- The “TUN ERR” message is showed in the display during 1000 ms after the corresponding diagnosis is deactivate.

Showned in Display	Description
TCS ERR	Associated with the E26 TCS SPEEDS diagnosis.
TPS ERR	Associated with the E11 TPS AUX MATCH diagnosis.
TUN ERR	Associated with the E07 GEAR THR and E10 TPS THR diagnosis.
OIL ERR	Associated with the E15 P_OIL diagnosis.
CONFIG	Associated with the E13 FLAS MEMORY diagnosis.
X2 CAN	Associated with the E31 X2 TRANSPONDER diagnosis (and bike stopped). It has higher priority than LAUNCH and Speed (pit limiter, see below) meggages.
EngKill	Associated to Stop/drop/kill button
Speed	only when the “pit-limit” button is switch on the speed [km/h] is showed in the display.
Eng Temp	Associated with the E14 T H2O diagnosis.
xxx	Cfr. Launch Test procedure, section 3.14
LAUNCH	Associated to launch strategy
yyy	Cfr. Sensor zeroing procedure, section 7.3.17

Low level priority: all these error messages are also associated with the diagnosis, both logical and electrical.

To see low level priority message in the display check the parameter **SHOW_DASH_ERROR**. The message will be “E nn” with the number of the associated diagnosis. (e.g. “E 32” for Electric TPS diagnosis)

4. Light system



Led number	Led colour	Blinking/Fixed	Action	Description
1-4	Green	Fixed-Blinking	Split time communication	See next section 0 <u>Laptime</u> Sections Lights
5	Green	Fixed – Blinking	Warning Lights	Depending on the flag showed in the display this <u>leds</u> will light fixed or blinking. See next section 0 Race Direction messages and warning lights
6	Yellow			
7	Blue			
8	Red			
9	Green	Fixed	Pit Limit Led	This led is switched on when the pit limit (handlebar button) is active.
15	Green	Fixed	Launch Control	This led is switched on when the launch control strategy (handlebar button) is active (Switch off the led by switching off the corresponding handlebar button)
10, 16	Orange	Fixed	Error Alarm <u>Leds</u>	Thess <u>leds</u> are switched on when an error occurs. The Errors messages are explained in the previous section.
11-14, 17-20	Blue	Blinking DASH_RPM_FLASH_PERIOD DASH_RPM_FLASH_ON_TIME	Shift light	There are 8 configurable <u>leds</u> (4 on each dash side) for the shift light. The RPM_FLASH parameter configures the <u>leds</u> as a function of rpm.
17-20	Blue	Blinking	Ethernet communication	When these <u>leds</u> are blinking, there is an Ethernet communication with a PC in progress.
1-4, 11-14	Green, Blue	Fixed	Launch Test light	<u>Leds</u> are turned on as track launch red lights

When the E26 TCS SPEEDS diagnosis is active (see the corresponding section in chapter 4) the leds numbers 3 to 9 will blink during 10 seconds. After these 10 seconds, just the error alarm led will be fixed lighting.

5. RPM Shift lighting

The DASH_RPM_FLASH_PERIOD and DASH_RPM_FLASH_ON_TIME parameters set the rpm shift lighting.

The rpm leds (3-6 in the 2014 Dashboard version, 3-7 in the 2013 Dashboard version, 11-14 and 17-20 in the DoDash) are lighting on during DASH_RPM_FLASH_ON_TIME milliseconds. And the DASH_RPM_FLASH_PERIOD [ms] is the DASH_RPM_FLASH_ON_TIME plus the time that the leds are lighted off.

Obviously DASH_RPM_FLASH_PERIOD must be greater than DASH_RPM_FLASH_ON_TIME. If not, the ECU DoPe will set the following values as default:

DASH_RPM_FLASH_PERIOD = 10000ms

DASH_RPM_FLASH_ON_TIME = 200ms

NOTE 1: To set the rpm shift light as in the previous firmware version, set the DASH_RPM_FLASH_PERIOD and DASH_RPM_FLASH_ON_TIME parameter as indicated above. (Short flash light each time the rpm value exceed the RPM_FLASH parameter threshold).

NOTE 2: To a fixed rpm shift light set the DASH_RPM_FLASH_PERIOD and DASH_RPM_FLASH_ON_TIME to high values (20000ms and 10000ms).

NOTE 3: To fast blinking of the rpm shift light set the DASH_RPM_FLASH_PERIOD and DASH_RPM_FLASH_ON_TIME to low values (200ms and 100ms).

6. Race Direction messages and warning lights

As it is mentioned above, this 2014 season, with the transponder X2, Race Direction gives information to the transponder about the flags showed during test and races. So the new Dell'Orto Dashboard will display this new information to the rider: new message with the flags (personal and general flags) and leds.

Flags to display:

FLAGS1	Green Flag
	Yellow and Red Striped Flag
	White Flag with diagonal Red Cross
	White Flag
	Red flag
FLAGS2	Black Flag
	Black Flag with Orange disk
	Blue Flag
	Chequered Black/White flag

Also will display the penalties to the single rider:

PENALTY	Ride Trough
	Go to Position
POSITION	Position to come back after a overtaking under yellow flag (used on "Go to Position" Penalty)

Since 2017 season the penalty "Exceeding track limits" has been added.

Since 2018 season the time penalty has been added

Warning lights

Dedicated dashboard lights are used to attract the rider's attention.

This function is performed by a red light (number 8) and a yellow one (number 6); see DoDash dashboard sketch.

So these two leds are activated in the following way:

- Red Flag: both lights flashing (red flag is the most important signal and flashing lights are most likely to catch the riders attention).
- Black flag & black flag with orange disk: lights alternatively flashing
- Exceeding Track Limits, Ride Through & Go to Position: red light fixed on and yellow light flashing

Moreover, the DoDash dashboard has a blue light (number 7) and a green light (number 5) that are turned on in case of blue flag message and green flag message, respectively (for messages description see the section TFT Display Messages 0).

Laptime Sectors Lights

With respect to the Matrix dashboards, the DoDash has an additional feature to show the rider if currently running lap is better or worse compared to a predetermined lap; this signal is made using the 4 lights on the left side of the dash (from light number 1 to light number 4). This functionality acts in the same way **regardless the value of the parameter SHOW_SECTOR_TIME**.

Led number	
4	Between T1 and FL: ON if the elapsed lap time is better than the reference lap time
	At FL: BLINKING 5 times if the resulting lap time is better than the reference lap time
3	ON if the T3 sector time is better than the reference T3
2	ON if the T2 sector time is better than the reference T2
1	ON if the T1 sector time is better than the reference T1

Display Messages

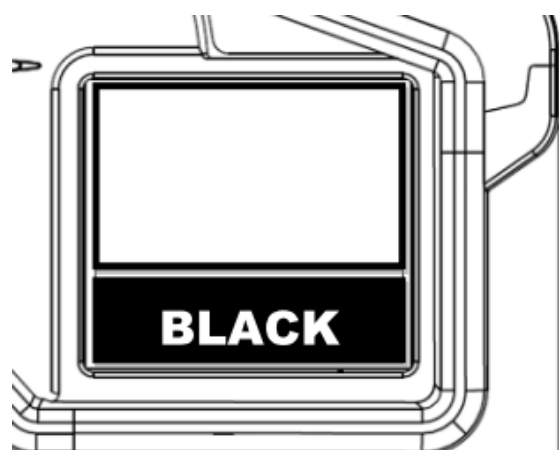
The Race Control messages are displayed as shown below.

The message with the highest priority will be shown in the bottom part of the display.

Signal can be displayed in black or with white with black surroundings, as in the example.


We will also make the message flashing on the screen in order to catch the rider attention when needed.

According to the Race Direction requirement for 2018 season Dellorto will adopted the following dashboard format:



Signal	LCD display	Dashboard Lights	Use	Notes
Red Flag	RED FLAG	Warning lights flashing together	All bikes at all circuit parts	
Black / Orange Disk	BLKORANG	Warning lights alternatively flashing	One bike at all circuit parts	
Black Flag	BLACKFLG	Warning lights alternatively flashing	One bike at all circuit parts	
Go to position	DROP-##	Warning lights one fixed, one flashing	One bike at all circuit parts	Include also the number of positions ## to go back.
Ride through	RIDETHRO	Warning lights one fixed, one flashing	One bike at all circuit parts	
Exceeding track limits	TRKLIMIT	Warning lights one fixed, one flashing	One bike at all circuit parts	
Time penalty	PEN ss.d	NO	One bike at all circuit parts	Include the penalty time in format seconds. decimals

We also may easily manage further information to cover all other following signals:

<i>Signal</i>	<i>LCD display</i>	<i>Dashboard Lights</i>	<i>Notes</i>
Yellow Flag	YELLOW	None	
Yellow Red Striped	SLIP	None	
White with Red Cross	RAIN	None	
Blue Flag	BLUE	light number 7	
White Flag	WHITE	None	
Green Flag	GREEN	light number 5	
Chequered black/white		None	
Text message	TEXT	None	Text message is showed in the display during SHOW_LAP_SECTOR_TIME seconds

Any active flag or penalty will be deactivated when receiving the corresponding message from Race Direction.

Priority and timing of the transponder info

The

The flags and penalty are received by the ECU in a single CAN frame. More than one flag could be set as active in the CAN info but the ECU is showing only one. According to the last Race Direction requirement the following list shows all the messages by descending order of priority (Green flag has highest priority).

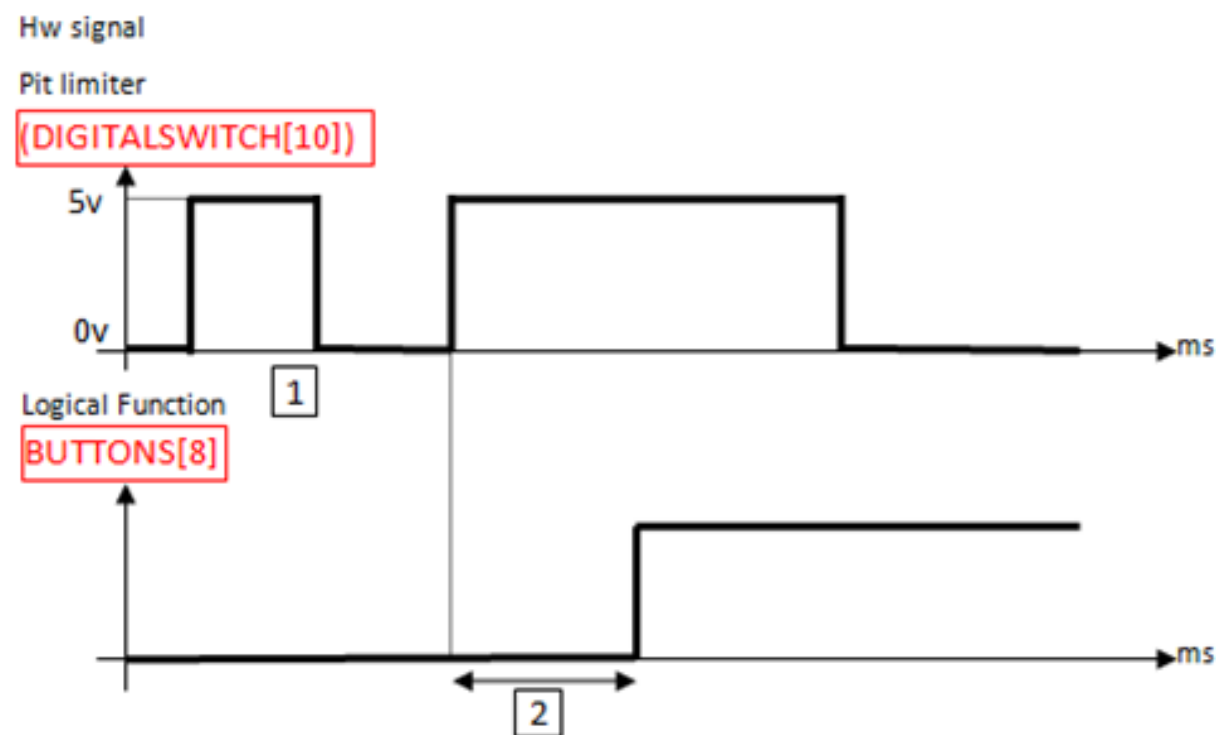
- Green flag
- Yellow and red striped flag
- White flag with diagonal red cross
- White flag
- Red flag
- Black flag
- Black flag with orange disk
- Blue flag
- Chequered black/white flag
- Ride trough
- Go to position
- Exceeding track limits
- Time penalty

All the flags and penalty are removed from the dashboard when a CAN frame is received with no flags or penalty set. Only Exceeding track limits and time penalty will be automatically removed in 10s.

7. Buttons

DASHBOARD PAGE Change

The Dashboard Page change signal has a debounce time of 2 seconds. Next figure explains the debounce strategy of the Dashboard Page change. This strategy uses the Pit limiter button.



The figure on the left indicates when the hw signal generates the logical function:

- 1 The hw signal is ON (5v) during less than 2 s, therefore the logical function is not activated.
- 2 The hw signal is ON (5v) during 2 s at least and the motorbike must be stopped (speed = 0 km/h), therefore the logical function is active.

8. DoDash on KTM bikes

Support

DELLORTO manufactured a support to fit Dodash on KTM bike.
It is available for sale on www.dellorto-pe.com

GPS area: do NOT cover this area as
the GPS signal could be blocked



If the loom dashboard connector is the one in the figure, the following example helps you to log the fuel pressure, front and rear brake pressure, temperature T_B2.

	V10 Dash	CAN-H	CAN-L	Engine-Gnd	AN1DASH (P-Fuel)	AN2DASH (T_B2)	AN3DASH (P-BF)	AN4DASH (P-BR)	RxD - Mouse	TxD - Mouse	Gnd/GPS-Mouse	+5V
AWG	24	26	26	24	26	26	26	26	26	26	26	26
PIN	1	2	3	4	5	6	7	9	10	11	12	13
AS 6 10-35 SN												
Dash (8)												

Dope configuration of the DoDash analog input sending via CAN bus to the ECU

Put the following calibrations value to send in a CAN frame (ID = 0x496) the first four analog channel of the dash.

Analog input 00

TFT_AN00_EN
☒

TFT_AN00_MA
☒

TFT_AN00_CAN_ID
1174

TFT_AN00_CAN_FREQ
100

TFT_AN00_OFFSET
☒ 0
☐ 2
☐ 4
☐ 6

Analog input 01

TFT_AN01_EN
☒

TFT_AN01_MA
☒

TFT_AN01_CAN_ID
1174

TFT_AN01_CAN_FREQ
100

TFT_AN01_OFFSET
☐ 0
☒ 2
☐ 4
☐ 6

Analog input 02

TFT_AN02_EN
☒

TFT_AN02_MA
☒

TFT_AN02_CAN_ID
1174

TFT_AN02_CAN_FREQ
100

TFT_AN02_OFFSET
☐ 0
☐ 2
☒ 4
☐ 6

Analog input 03

TFT_AN03_EN
☒

TFT_AN03_MA
☒

TFT_AN03_CAN_ID
1174

TFT_AN03_CAN_FREQ
100

TFT_AN03_OFFSET
☐ 0
☐ 2
☐ 4
☒ 6

After the trasmission of the above configuration, remember to apply (program the dash) the modifications as described in section:

Apply DoDash setting changes

In your logger table, delete the P_FUEL channel and add a new CAN channel as following pics.

Add / edit a channel

Info Format Elaboration Export to CAN

Type and name

Channel type: Can

Channel: P_FUEL

Name: P_FUEL

Comment: Absolute pressure [bar]

Address and offset

Address (HEX): 0x496

BYTE offset (HEX): 0x000

☐ Bit count: 1

☐ Use ENGINE CAN

Other

Measure unit: Adimensional

Frequency: 100Hz

☐ Show on dash: 1

Ok Cancel

Add / edit a channel

Info Format Elaboration Export to CAN

Data format

Data type: Signed short (2 bytes)

Data representation: Decimal

Decimal digits: 2

☐ Little endian

Ok Cancel

Add / edit a channel

Info Format Elaboration Export to CAN

Elaboration

Choose an elaboration type

Linear: $x' = (x * \text{Gain}) + \text{Offset}$

Pressure10bar0.5_4.5V_DoDash

Add Edit Remove

Ok Cancel

Edit elaboration (Pressure10bar0.5_4.5V_DoDash)

$x' = (x * \text{Gain}) + \text{Offset}$

Linear

☒ Coefficients

Gain: 0.01221001 Offset: -1.248474

☐ Points

X1: Y1:

X2: Y2:

Name: Pressure10bar0.5_4.5V_DoDash Description:

Ok Cancel

In your logger table, delete the P_BRAKEF channel and add a new CAN channel as following pics.

Add / edit a channel

Info Format Elaboration Export to CAN

Type and name

Channel type: Can

Channel: P_BRAKEF

Name: P_BRAKEF

Comment: From 2D 100bar connected to DoDash

Address and offset

Address (HEX): 0x496

BYTE offset (HEX): 0x004

☐ Bit count: 1

☐ Use ENGINE CAN

Other

Measure unit: Adimensional

Frequency: 100Hz

☐ Show on dash: 1

Ok Cancel

Add / edit a channel

Info Format Elaboration Export to CAN

Data format

Data type: Signed short (2 bytes)

Data representation: Decimal

Decimal digits: 1

☐ Little endian

Ok Cancel

Add / edit a channel

Info Format Elaboration Export to CAN

Elaboration

Choose an elaboration type

Linear $x' = (x * \text{Gain}) + \text{Offset}$

P_BRAKE_100bar

Add Edit Remove

Ok Cancel

Edit elaboration (P_BRAKE_100bar)

$x' = (x * \text{Gain}) + \text{Offset}$

Linear

☒ Coefficients

Gain: 0.09765625 Offset: 0

☐ Points

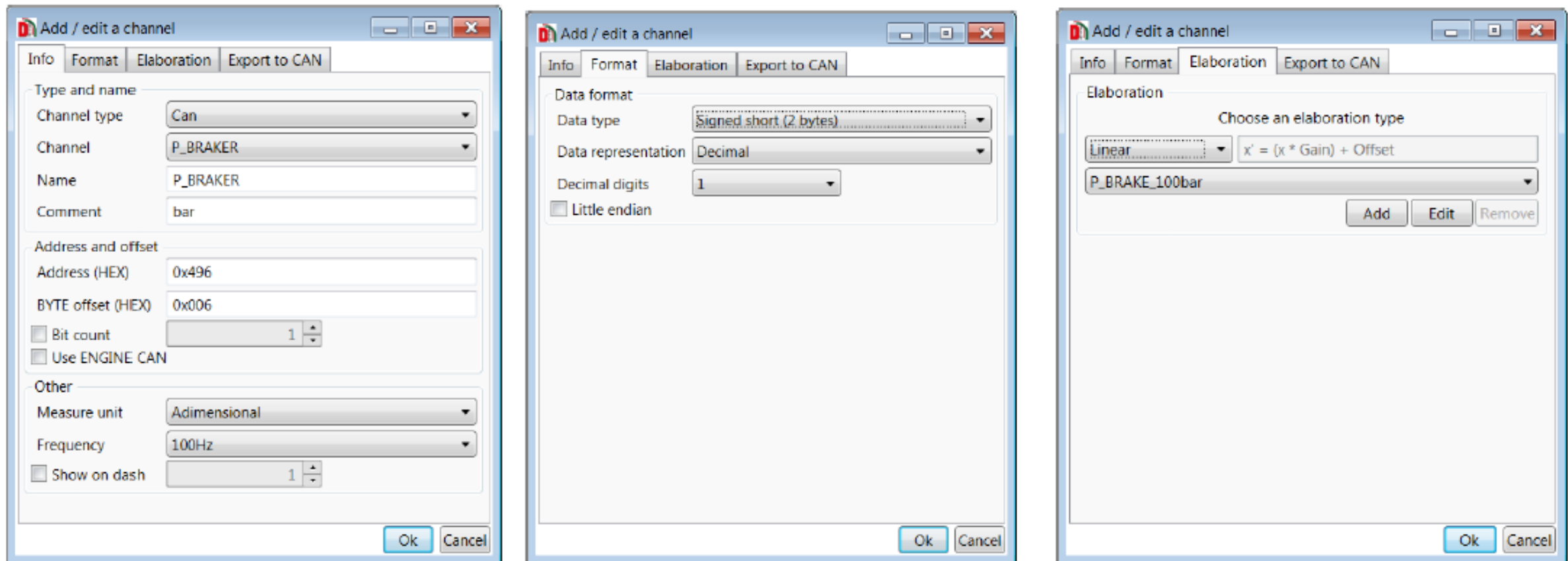
X1: Y1:

X2: Y2:

Name: P_BRAKE_100bar Description: 2D sensor via DoDash (10bit)

Ok Cancel

In your logger table, delete the P_BRAKER channel and add a new CAN channel as following pics.



The first screenshot shows the 'Info' tab with the following settings:

- Channel type: Can
- Channel: P_BRAKER
- Name: P_BRAKER
- Comment: bar
- Address (HEX): 0x496
- BYTE offset (HEX): 0x006
- Bit count: 1
- Use ENGINE CAN: ☐
- Measure unit: Adimensional
- Frequency: 100Hz
- Show on dash: 1

The second screenshot shows the 'Format' tab with the following settings:

- Data type: Signed short (2 bytes)
- Data representation: Decimal
- Decimal digits: 1
- Little endian: ☐

The third screenshot shows the 'Elaboration' tab with the following settings:

- Choose an elaboration type: Linear
- Formula: $x' = (x * \text{Gain}) + \text{Offset}$
- Channel name: P_BRAKE_100bar

The linearization is the same as above (P_BRAKEF)

In your logger table, delete the T_B2 channel and add a new CAN channel as following pics.

Add / edit a channel

Info Format Elaboration Export to CAN

Type and name

Channel type: Can

Channel: T_B2

Name: T_B2

Comment:

Address and offset

Address (HEX): 0x496

BYTE offset (HEX): 0x002

☐ Bit count: 1

☐ Use ENGINE CAN

Other

Measure unit: Degree

Frequency: 10Hz

☐ Show on dash: 1

Ok Cancel

Add / edit a channel

Info Format Elaboration Export to CAN

Data format

Data type: Unsigned short (2 bytes)

Data representation: Decimal

Decimal digits: 0

☐ Little endian

Add / edit a channel

Info Format Elaboration Export to CAN

Elaboration

Choose an elaboration type

Polyline Interpolation lookup table

T_B2_10Bit

Add Edit Remove

Edit elaboration (T_B2_10Bit)

Interpolation lookup table

Polyline / Thermocouple

X Y

Add new Set current

Remove current Clear all

43	100
57	90
77	80
104	70
142	60
193	50
225	45
261	40
302	35
348	30
399	25
453	20
510	15
569	10
628	5
686	0

Name: T_B2_10Bit Description: Temperature M35 Battery (30k NTC)

Ok Cancel

Dellorto provides a **sample table** with the four channels in www.dellorto-pe.com. In your logging table delete the four channels. Copy from the sample ones and paste over your table.

Line	Name	Address	Offset	Addr. (Off.)	Freq.	Type	Repr.	Dec.	Unit	Zero off.	Elaboration	Export
CAN	P_BRAKEF	0x496	0x004	0x496 (0x004)	100	2S	10 (1)	1	AD	0	P_BRAKE_100BAR [LINEAR]	
CAN	P_FUEL	0x496	0x000	0x496 (0x000)	100	2S	10 (2)	2	AD	0	PRESSURE10BAR0.5_4.5V_DODASH [LINEAR]	
CAN	P_BRAKER	0x496	0x006	0x496 (0x006)	100	2S	10 (1)	1	AD	0	P_BRAKE_100BAR [LINEAR]	
CAN	T_B2	0x496	0x002	0x496 (0x002)	10	2U	10 (0)	0	DEG	0	T_B2_10BIT [POLYLINE]	
Internal	LAPTIME - [LAPTIME]	0x02F	0x000	0x02F (0x000)	10	2U	10 (0)	0	AD	0	None	

Triggered channel

Exported channel

Triggered + exported channel

Read-only channel

Technical contact: Paolo COLOMBO
Commercial contact: Simona RAVASI



Via Kennedy, 7 – 22060 Cabiato (CO) – Italia

T. +39 031 7692111



www.dellorto-pe.com