Speed Alert (OBD2)

INSTALLATION GUIDE

For the very latest information and extra installation advice go to:
www.cartekmotorsport.com/downloads

For off-road use only   *Made in UK*

CARTEK
MOTORSPORT ELECTRONICS

INTRODUCTION

The **SPEED-ALERT** from **CARTEK** is a dashboard mounted device that plugs into the car's OBD2 socket and is designed to alert a driver when they are approaching, or exceeding, a preset road speed. This can be used for rally events where a maximum speed on stage is set and penalties applied to drivers who exceed it.

The Speed Alert therefore behaves in a similar way to a Sequential Shift Light where the multi-coloured LEDs will begin to display at a speed that is below the maximum and increase as the maximum speed is approached ending with a flashing display when maximum speed is exceeded.

The Speed Alert is plugged directly into the OBD2 port and is therefore compatible with most vehicles fitted with this type of diagnostic connector. It is supplied with a dedicated 1.5 metre OBD2 cable and connector so no additional wiring is necessary.

On first installation and power-up, the Speed Alert OBD2 will search for the correct OBD2 protocol and store this to memory.

When the engine is switched off, the Speed Alert will enter sleep mode to minimise battery consumption but will re-awake as soon as the engine is re-started.

INSTALLATION

The Speed Alert should be mounted securely on the dashboard where the LEDs can be clearly seen by the driver. Mounting can be by two M3 screws from the underside or two M3 screws from the rear of the unit. If mounting using M3 screws from the underside then please note the maximum thread depth is 8mm.
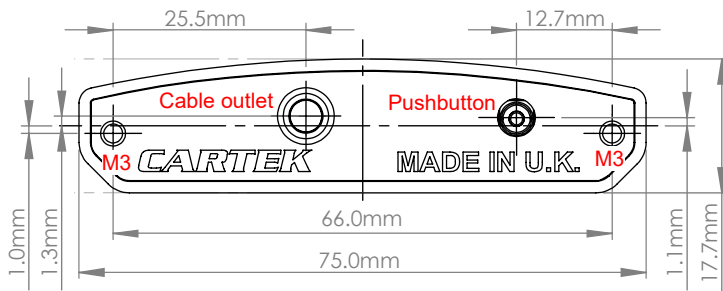
Rear View of Speed Alert

After installing the Speed Alert, and with the OBD2 cable plugged in, Configuration Mode can then be entered where the following four settings can be checked or adjusted:

Configuration Menu	LEDs Displayed	Description
1	1	LED Brightness Level
2	2	LED Speed Alert Pattern
3	3	Speed Alert Pattern Start Speed
4	4	Speed Alert Pattern End Speed

Configuration Mode is entered by pressing and holding the pushbutton on the rear of the unit for 2 seconds. All 8 LEDs will flash White during this time. Configuration Mode will commence when the display changes to 1 White LED. This single White LED will indicate that Configuration Menu 1 can be entered by releasing the pushbutton. If you wish to go directly to another Configuration then simply continue to hold the pushbutton until the required Configuration number is displayed, e.g. 4 White LEDs represents Configuration Menu 4, etc..

Note 1:
Each Configuration is described in more detail below. Any changes to a Configuration are saved immediately. There are 3 ways to exit a Configuration Menu:

1. Unplug OBD2 connector.
2. Press and hold the pushbutton for **2** seconds, and release when the LEDs are flashing.
3. Press and hold the pushbutton for **4** seconds. Doing this will go back to the Configuration menu selection as above, starting from the next Configuration Menu item.

Factory Reset
If you wish to go back to the factory/default settings then a 'Factory Reset' needs to be performed. To do this, unplug the OBD2 cable then, while pressing and holding the pushbutton, re-connect OBD2 cable. The outer LEDs will display Blue. Continue to hold the pushbutton until the outer LEDs begin flashing, which will indicate that the default settings have been restored. The pushbutton can now be released.

Factory/default settings are as follows:

1 - LED Brightness Levels: Day Brightness (Maximum brightness), Night Brightness (Half Brightness)
2 - LED Speed Alert Pattern: Pattern 1 (Blue + Red display)
3 - Speed Alert Pattern START SPEED: 110 KPH
4 - Speed Alert Pattern END SPEED: 130 KPH

Configuration 1 - Brightness:

There are two adjustable brightness levels which allows the Speed Alert to be run in a Day brightness mode or Night brightness mode. To toggle between the two brightness levels press the rear button momentarily. Four LEDs will light up momentarily on the left if you are in Day mode, and 4 LEDs will light up momentarily on the right if you are in Night mode. To adjust either brightness setting, enter Configuration Menu 1 by pressing and holding the rear button for 4 seconds. Release the button when the first LED has lit up. Four white LEDs on the left will now be displayed indicating you are in Day mode. A single press of the rear button will change this brightness level (9 to choose from). Once you are happy with the brightness level press and hold the rear button for 4 seconds until 4 white LEDs on the right light up. You are now in Night mode. Once you have chosen your brightness levels then refer back to Note 1 to either exit configuration or move onto the next Configuration Menu.

Brightness Level 1
(Default brightness = Max)

Brightness Level 2
(Default brightness = Half)

Configuration 2 - Speed Alert Pattern:

On entering Configuration Menu 2, the LEDs will demonstrate the current selected Speed Alert pattern. Subsequent quick presses of the pushbutton will cycle through each of the 6 available Speed Alert Patterns below:

Pattern 1 - Linear

Pattern 2 - Linear

Pattern 3 - Linear

Pattern 4 - Linear

Pattern 5 - Converging

Pattern 6 - Converging

Once you have chosen your Speed Alert Pattern then refer back to **Note 1** to either exit configuration or move onto the next Configuration Menu.

Configuration 3 - Speed Alert START SPEED:
There are two methods available for setting the Speed Alert Pattern START SPEED. This can be done by either using the pushbutton to enter an exact SPEED value required, or driving the car at the precise speed.

3.1) Speed Alert Pattern START SPEED using the pushbutton (Engine must be stationary)

Firstly, consider the actual road speed (KPH) that you wish the display to start. This KPH value will be entered as separate numbers, i.e. 100, 10 and 1. Any KPH value can be entered up to 299 KPH in steps of 1 KPH. Perhaps write the required speed onto a piece of paper, e.g. 95 = 095.

On entering Configuration 3 when the engine is stationary, the display will show one Red LED followed by 2 Green LEDs on the **left** side of the display. This will be displaying the current 100 KPH setting. Static, (no flashing) will represent 0x 100, 1 flash will represent 1x 100, 2 flashes will represent 2x 100. Quick presses of the pushbutton will allow the value to be adjusted, however, only three values are available, 0x 100 1x 100 and 2x 100.

Pressing and holding the pushbutton for a minimum of 4 seconds will cause the configuration to move onto the next KPH factor, 10 KPH. This value can also be adjusted with quick presses of the pushbutton which will result in the value incrementing, e.g. static, (no flashing) will represent 0x 10 KPH, 9 flashes will represent 9x 10 KPH.

Pressing and holding the pushbutton again for a minimum of 4 seconds will cause the configuration to move onto the last KPH factor, 1 KPH. This value can similarly be adjusted with quick presses of the pushbutton which will result in the value incrementing.

If you now want to check or adjust the **end** KPH speed then hold down the push button for a minimum of 4 seconds to move onto the next Configuration Menu (4) as shown by 4 White LEDs, or to exit the Configuration Menu refer back to **Note 1.**

3.2) Speed Alert Pattern START SPEED using speedometer (Car must be driven)

This method of setting the display sequence **START** SPEED will require the car to be driven at the precise required speed. **Make sure this operation is performed in a safe and legal manner.**

To indicate that the Speed Alert is waiting to measure and store the road speed for the pattern **START** SPEED, the four LEDs on the **left** side will flash Green. At this point the driver needs to drive the car at the precise speed they wish the LED sequence to begin. When the driver is satisfied that they are driving at the required speed, the pushbutton should be quickly pressed. The Speed Alert will then measure the road speed and store it in memory as the Speed Alert Pattern **START** SPEED value. This will be acknowledged by the four LEDs changing to Red.

If you now want to set the **END** SPEED Limit then hold down the push button for a minimum of 4 seconds to move onto the next Configuration Menu (4) as shown by 4 White LEDs, or to exit the Configuration Menu refer back to **Note 1.**

CONFIGURATION SPEED ALERT (OBD2)

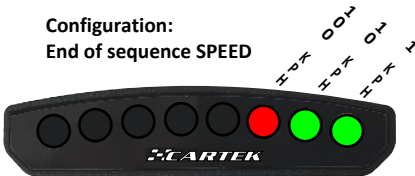**Configuration 4 - Speed Alert Pattern <u>END</u> SPEED:**
As with Configuration 3, the same two methods are available for setting the Speed Alert Pattern **<u>END</u>** SPEED: Entering the specific road speed value using the rear pushbutton, or driving the car at the precise required speed.

4.1) Speed Alert Pattern <u>END</u> SPEED using the pushbutton (Engine must be stationary)
This procedure is identical to Menu 3.1 but the LEDs are now displayed on the **right** side of the Speed Alert. Follow the same instructions as Configuration Menu 3.1 to check or adjust the **<u>END</u>** SPEED value.

Configuration:
End of sequence SPEED

Example:
End of sequence = 125 KPH

4.2) Speed AlertPattern <u>END</u> SPEED using speedometer (Car must be driven)
This procedure is identical to Menu 3.2 but the LEDs are now displayed on the **right** side of the Speed Alert. Follow the same instructions as Configuration Menu 3.2 to set the **<u>END</u>** SPEED value by driving the car at the precise required **<u>END</u>** SPEED. **Make sure this operation is performed in a safe and legal manner.**