

Mobileye E-box

User manual v0.6

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1. Introduction

The Mobileye E-box (Enhancement box) is a new adapter that allows us to install the Mobileye system in any vehicle, regardless of CAN-bus availability.

The E-box supports up to 6 analog signals inputs and 2 analog outputs (for various devices/applications.)

The E-box can be used for a full Analog Mobileye system installation, for a Mixed CAN/Analog Mobileye system installation or just as a source for 2 additional analog outputs.

NOTE →

Mobileye E-box is supported by Mobileye 5 series from firmware version AWS2 2.10 V1.10i or Mobileye 6 any firmware version

2. E-box Components

The Mobileye E-box has 3 components:

1) E-box unit

2) A-box I/O Signals Cable (CAB000133)

3) Mobileye 5 to A-box Cable (CAB000131)

E-box

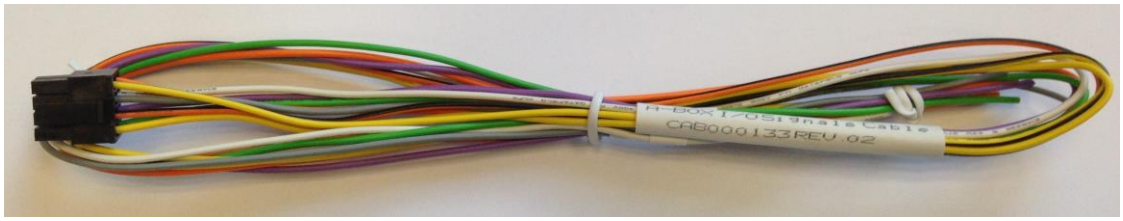




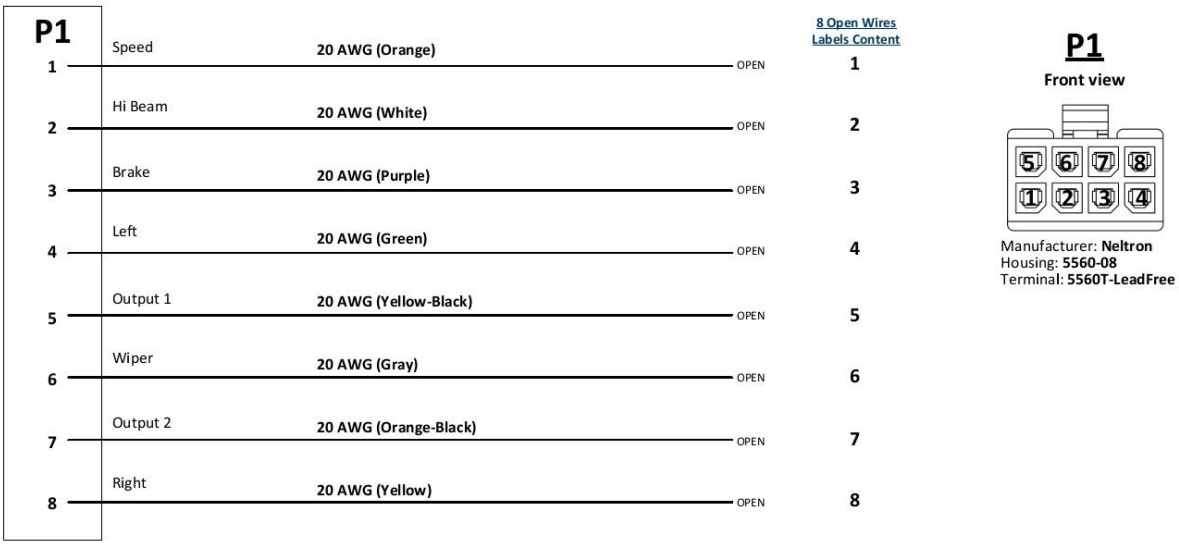
	Port name	Function	Connect to	Color
1	Analog signals I/O	Analog signals Input/output	A-box I/O Signals Cable (CAB000133)	Multiple
2	EW I/O (1)*	1) 5V Power supply to E-box (from Mobileye unit) 2) Analog Signals input to Mobileye 5 from E-box (via Mobileye RS485 protocol)	Mobileye to A-box Cable (CAB000131)	
3	EW I/O (2)*	See "EW I/O (1)"above	EyeWatch Cable (CAB000087)	

*** Note: The Ports "EW I/O (1)" and "EW I/O (2)" functionality is the same and both can be used as described above.**

A-box I/O Signals Cable (CAB000133)



	Cable Label	Function	Connect to	Color
	A-box I/O Signals Cable (CAB000133)	Analog signals Input/output cable	A-box - Analog Signals I/O port	Multiple
1	"1"	Speed	Vehicle Speed Signal	Orange
2	"2"	High Beams	Vehicle High beams Signal	White
3	"3"	Brakes	Vehicle Brake Signal	Purple
4	"4"	Left	Vehicle Left Turn Signal	Green
5	"5"	Output 1		Yellow/Black
6	"6"	Wipers	Vehicle Wipers Signal	Gray
7	"7"	Output 2		Orange/Black
8	"8"	Right	Vehicle Right Turn Signal	Yellow

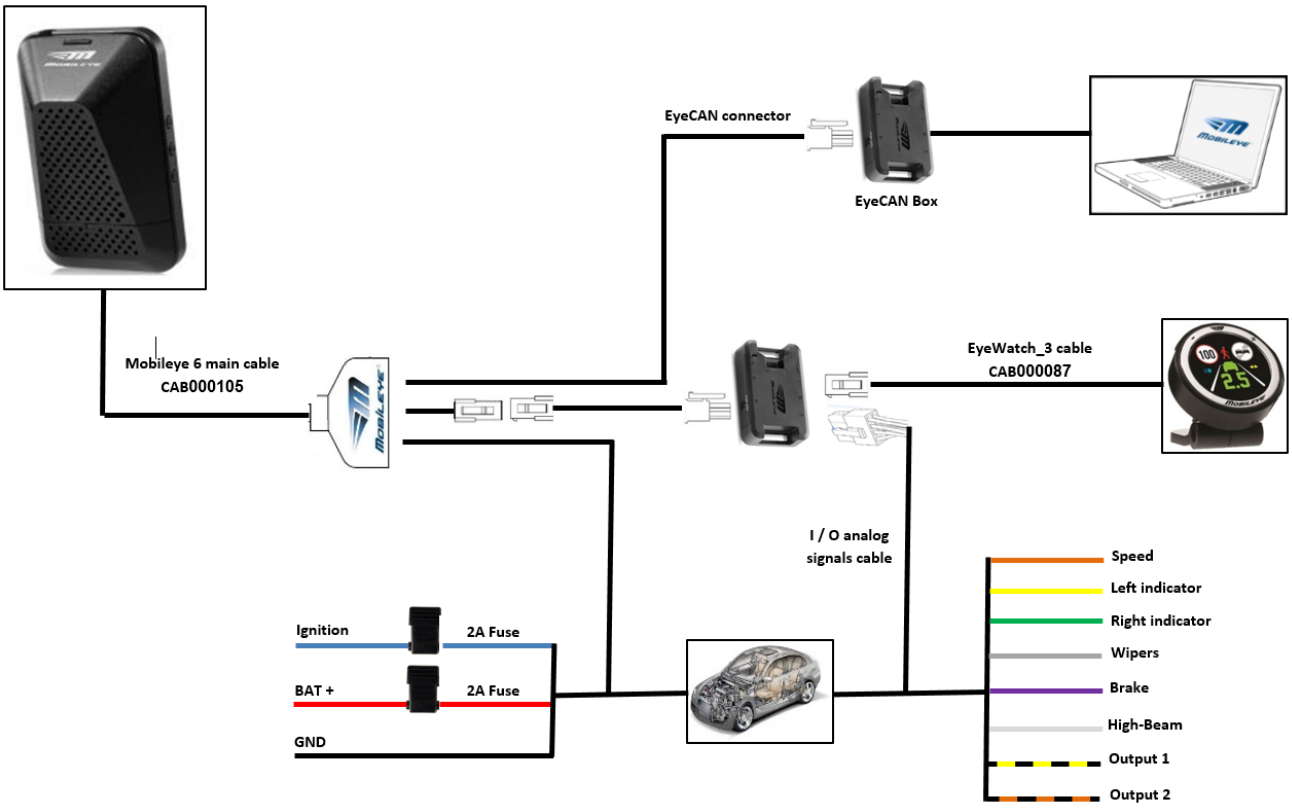


Mobileye to A-box Cable (CAB000131)



	Cable Label	Function	Connect to	Color
1	Mobileye to A-box Cable (CAB000131)	1) 5V Power supply to A-box (from Mobileye unit) 2. Analog Signals input to Mobileye 5 from E-box (via Mobileye RS485 protocol)	Mobileye cable, 4 pin connector labeled "EyeWatch"	
2			Any E-box port labeled "EW I/O"	

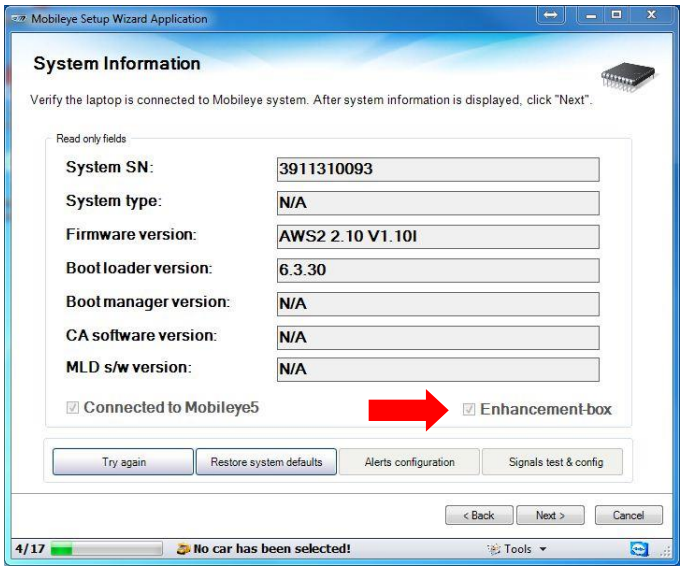
3. E-box Connection Scheme



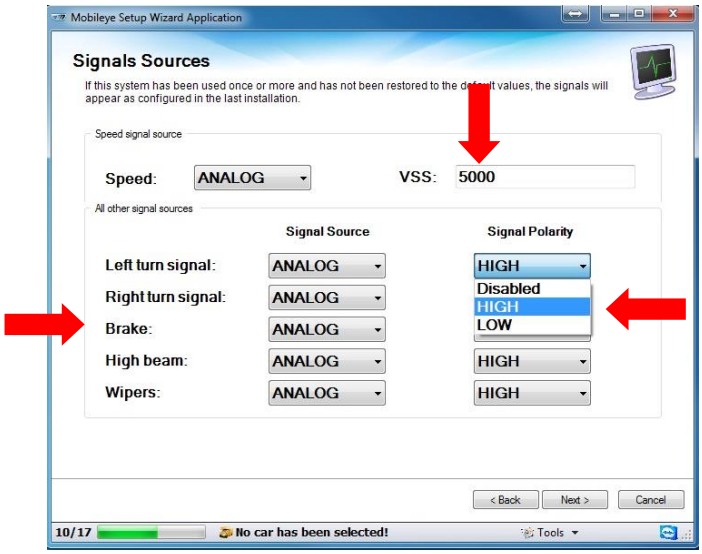
4. E-Box configuration

When installing a Mobileye system using the Mobileye ***E-box*** make sure to:

- Connect the Mobileye E-box to the Mobileye system prior to system Power ON and confirm the E-box has been recognized (indicated by a V in the Enhancement–box check box).
- Press "***Next***" to continue with the installation.

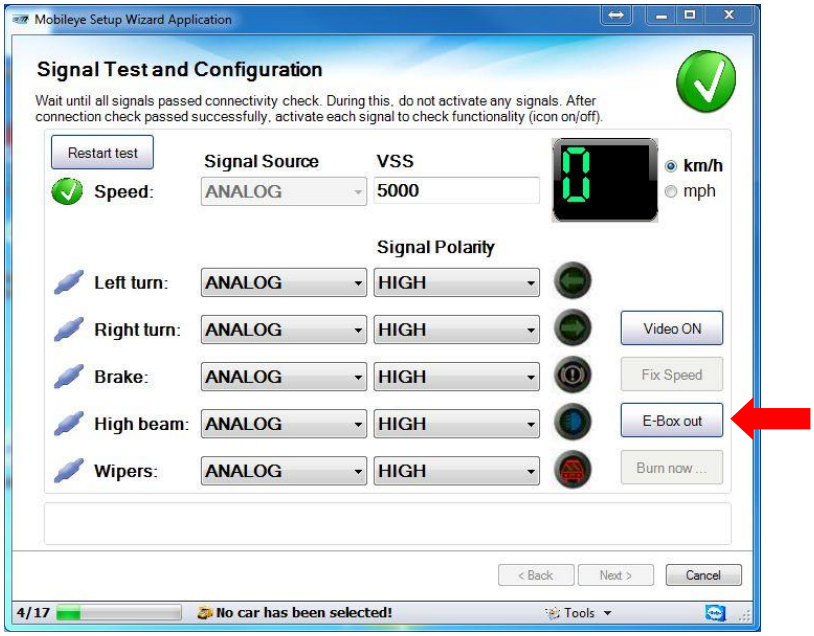


- Enter the Speed Params (vss rate) if connected to the vehicle's Analog Speed Signal.
- Choose the polarity of the Analog signals (choose between High, Low and Not connected)
- Click "Next" to continue with the standard calibration procedure



When E-Box is connected the “E-Box out” button will appear.

Enhancement Box features 2 additional independent configurable analog Outputs.



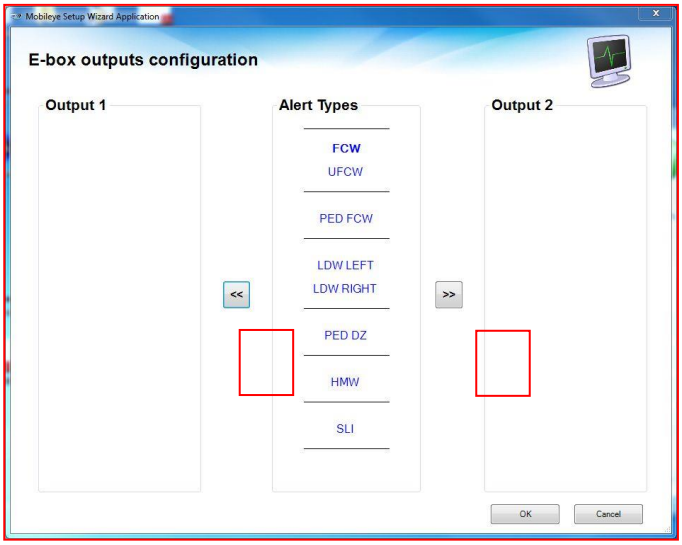
1.1E-Box outputs configuration

Choose the alert type from the list and assign it to the relevant output by clicking Left or Right arrows.

Note:

- Up to 3 Alert Types can be assigned to each output.

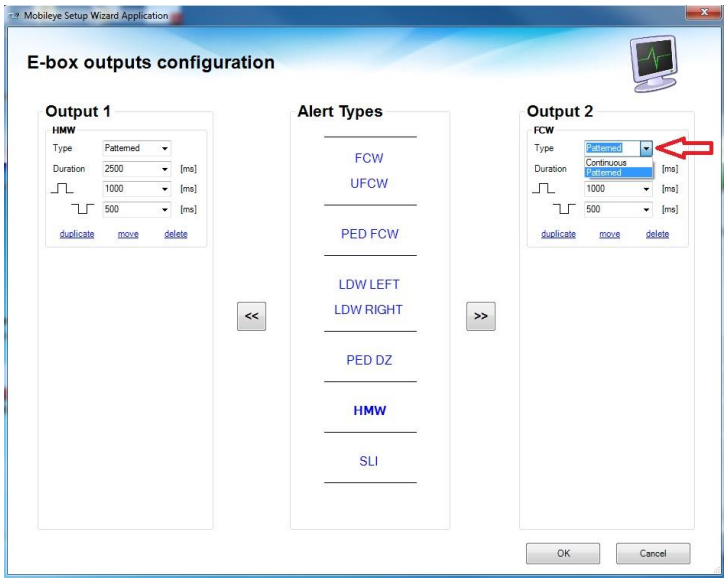
- SLI Alert Type cannot be assigned with other Alert Types



Choose ***Alert Output Type***:

Continuous **-** Output will be active for as long as the alert is active

Patterned **-** Output can be configured according to user demands.



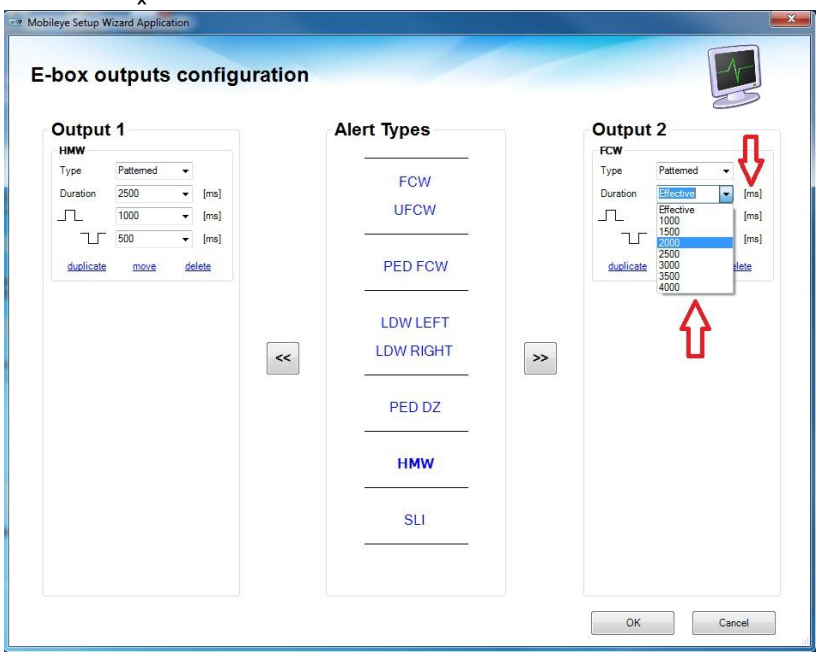
If you choose Alert Output Type: "***Patterned***" Choose the output ***Duration-***

Effective – Output will be active for as long as the Alert is active (On/Off)

Or

Choose to limit the Output Duration by choosing any of the time options in the list.

Using the options you can configure the output pattern duration (in milliseconds)

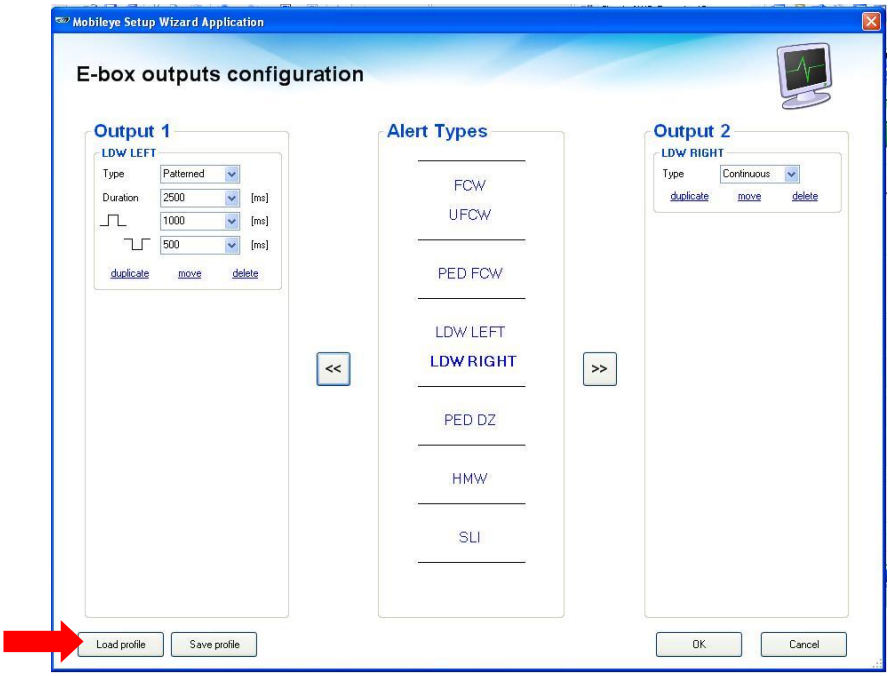


Use the "***duplicate***" button to copy the Alert Type to the second output option.

Use the "***move***" button to move the Alert Type to the second output option.

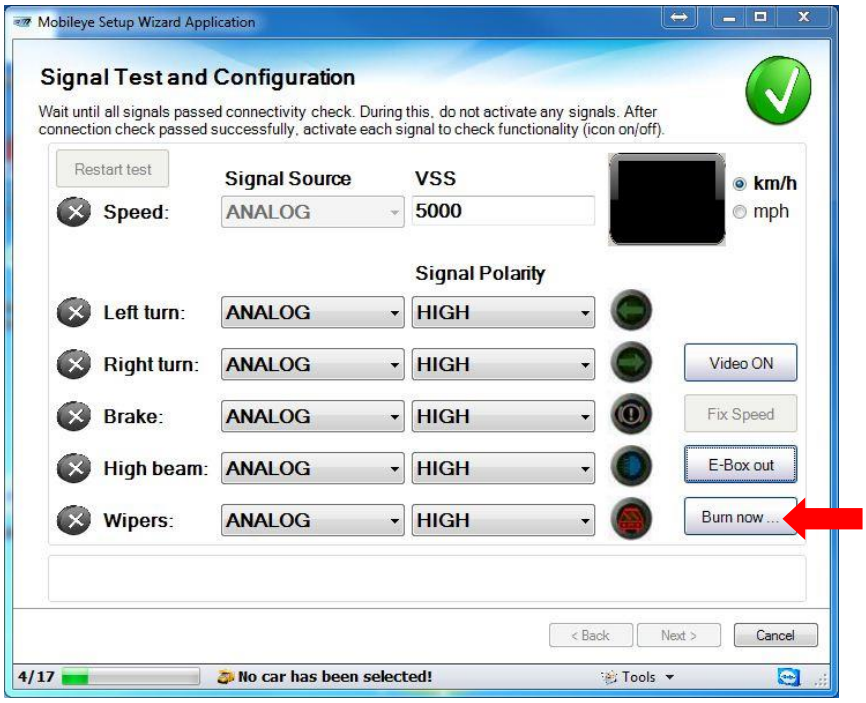
Use the "***Save profile***" button to save your E-box outputs settings for future use.

Use the "***Load profile***" to upload an E-box outputs settings profile you saved before.



* Load profile and save profile buttons will be available only in the Mobileye Setup Wizard version 4.3.15 or higher

After E-Box configuration is complete press "***Burn now***" to burn the new outputs settings



5. E-box Technical Specifications

E-box unit		
Physical Characteristics		
Length:	90mm	
Width (without lens):	58mm	
Height:	25mm	
Weight:	50g	
Color:	Black	
Case Material:	Plastic	
Electrical Characteristics		
Input Voltage:	4.5-5.5VDC	
Input current:	5V → 50mA	
Limited Power source	200mA max at normal and single fault conditions	
Environmental Characteristics		
Operating Temperature:	-20°c to +85°c	
Storage Temperature:	-40°c to +105°c	
Signals Input Support		
Signal Name	**Direction**	**Electric Spec**
Speed	Input	3.3-28V / 0-1KHz
Hi-Beam	Input	3.3-28V / Logic Level
Brake	Input	3.3-28V / Logic Level
Left Winker	Input	3.3-28V / Logic Level
Output (active Low)	Output	Open collector 3.3-28V (100mA max)
Wiper	Input	3.3-28V / Logic Level
Output (active Low)	Output	Open collector 3.3-28V (100mA max)
Right Winker	Input	3.3-28V / Logic Level
Hi-Beam	Input	3.3-28V / Logic Level
Signals Input – High Voltage (Pos)		3.3v – 28v
Signals Input – Low Voltage (Neg)		< 2.8v
Mobileye to A-box Cable (CAB000131)		
Cable Length:		400mm
Cable Diameter:		4mm
A-box I/O Signals Cable (CAB000133)		
Cable Length:		650mm
Cable Diameter (each):		24 AWG