
FREQUENTLY ASKED QUESTIONS

THE MOBILEYE[®] COLLISION AVOIDANCE SYSTEM

Mobileye is a collision avoidance system that alerts drivers to potentially dangerous situations. However, the System does not replace any functions drivers would ordinarily perform while driving a motor vehicle nor does it decrease the need for drivers to stay vigilant and alert in all driving conditions. Follow all safe driving standards and practices, and obey all traffic laws, rules, and regulations.

Mobileye is not an automated driving system and is not a substitute for any aspect of a driver's control of the vehicle or safe driving practices. Drivers are strongly cautioned not to rely, even to the slightest degree, on the Mobileye System as a substitute for their exercise of due caution in assuring that they are driving safely and avoiding crashes.

Mobileye is a forward-looking vision sensor with a 38-degree aperture. It is not a backup camera, a blind spot detector, or an in-cabin camera.

Mobileye is automatically activated when the car is started. Following system initialization, the Mobileye EyeWatch[™] displays this main screen:



This is an indication that the system is fully functioning.

IMPORTANT NOTE: To prevent possible deterioration of system accuracy, do not remove or tamper with the vision sensor unit or the windshield mount.

MOBILEYE SYSTEM LIMITATIONS

- Mobileye is intended for use on paved roads with clear lane markings.
- Mobileye only detects fully visible rear ends of vehicles (day and night), fully visible pedestrians (day only), and rear ends of bicycles. Therefore, the detection of crossing, oncoming, and passing vehicles is not supported.
- Weather conditions, such as fog, heavy rain, and heavy snow can adversely affect the Mobileye System's recognition and response capabilities.
- Any conditions that partially or fully block the vision sensor's view will result in reduced or non-functionality of the Mobileye System.

MOBILEYE ALERTS

FORWARD COLLISION WARNING (FCW)

A forward collision warning (FCW) alerts drivers of an imminent rear-end collision with a car, truck, or motorcycle ahead.

- Active when driving at all speeds.
- The System will issue a series of loud, high-pitched beeps.
- FCW cannot be disabled or muted.
- Red vehicle icon warns of an imminent rear-end collision up to 2.7 seconds in advance.





URBAN FORWARD COLLISION WARNING (UFCW)

This alert is differentiated from the FCW by the sound of the alert. UFCW alerts with a double-beep vs. FCW that alerts with a series of beeps. The UFCW provides an alert before a possible low-speed collision with the vehicle in front, thus assisting the driver at low speeds in densely heavy traffic.

- Active when driving under 19 mph, however, Mobileye may adjust the minimal speed configuration occasionally.
- Red vehicle icon warns of a possible low-speed collision.
- UFCW cannot be disabled or muted.

UFCW FAQ:

Why does Mobileye issue a UFCW when I am pulling into my driveway behind a parked vehicle?

This warning is *NOT* a false alert. This is the UFCW, which is specifically designed to work at low speeds. It is designed to work in very heavy traffic conditions and to address the situation that, when in such conditions, people tend to get more preoccupied with other tasks rather than driving. In those situations, many people don't pay attention and their foot pressure releases from the brake enough to slowly drift into the car in front of them. The UFCW is there to alert them right before this happens at low speed. The system does not distinguish between when the driver is in traffic or in her/his own driveway nor does it know whether the driver is fully aware of the environment or completely distracted and therefore it issues an alert.

HEADWAY MONITORING & WARNING (HMW)

The headway monitoring and warning (HMW) helps drivers maintain a safe following distance from the vehicle ahead by providing visual and audible alerts if the distance becomes unsafe. The HMW displays the time, in seconds, to the vehicle in front. Please note that the Mobileye HMW is being calculated differently from the Smith Driving System.

- Active above 19 mph.
- Displays the amount of time, in seconds, to the vehicle in front when that time becomes 2.5 seconds or less.

- A green icon is displayed from the moment a vehicle is detected and remains green, as long as the headway is greater than the predefined headway time threshold.
- The car icon changes to red when the headway is equal or lower than the predefined headway time threshold.



HMW FAQs:

When does Mobileye begin to warn me that I am following too closely to a car in front of me?

Depending on your settings, the Mobileye EyeWatch will typically signal with a green vehicle icon when following a vehicle by 2.5 seconds or less. A single ding warning will be issued when you are driving below a predetermined following time. For sedans, this range is typically set to a number between 0.6 seconds to 1.0 second following time, depending on company policy. This ding will repeat every five seconds if that gap between you and the car in front of you remains below the predefined headway time threshold.

Why does Mobileye warn me when a car moves into my lane from the right or left within its warning threshold? Doesn't the System know this is not my fault?

Mobileye does not distinguish between you closing the distance to the car in front of you or a car cutting you off and immediately closing that distance due to no fault of yours. Mobileye's job is to warn drivers of hazards in order to avoid a collision and not to determine fault. Mobileye will warn you in all cases of danger to ensure that you are not otherwise distracted.

Does Mobileye recognize a vehicle coming directly at me or if a vehicle crosses perpendicularly in front of me?

No, the Mobileye vision sensor is programmed to recognize the rear ends of vehicles. It will typically not warn of impending head-on or crossing collisions.

LANE DEPARTURE WARNINGS (LDW)

The LDW provides an alert when the vehicle unintentionally departs from the driving lane. An unintentional departure is defined by departing from the driving lane without using the turn signals. If the turn signals are used when changing lanes, an alert is not generated.

- Active when driving 35 mph or faster.
- Issues a series of short, sharp beeps
- Displays the corresponding lane that has been crossed.



The LDW will not issue alerts when:

- Lanes are unmarked or poorly marked.
- The speed of the vehicle is less than 35 mph.
- The appropriate turn signal is activated.



LDW FAQs:

When does the Mobileye LDW initiate?

The LDW is only active when driving 35 mph or faster. The LDW provides an alert when the vehicle unintentionally departs from the driving lane. An unintentional departure is defined by departing from the driving lane without using the turn signals. If the turn signals are used when changing lanes, an alert is not generated.

Does Mobileye keep displaying the LDW until I fully travel into a new lane?

No, the EyeWatch Display holds the warning for a second or two, but it does not sustain the warning until you are completely in the new lane. However, this could appear to happen based on the speed of travel. The EyeWatch will turn off the warning if you activate the turn signal or after a few seconds.

PEDESTRIANS AND CYCLIST DETECTION AND COLLISION WARNING (PCW)

The PCW notifies the driver of a pedestrian or cyclist in the danger zone and alerts drivers of an imminent collision with a pedestrian or cyclist.

- Active under 31 mph.
- A green pedestrian icon will be displayed when the system recognizes pedestrian(s) considered to be in the vehicle path but not in danger of a collision.
- A series of loud, high-pitched beeps will be issued along with a red, flashing pedestrian icon to warn of an imminent collision with the pedestrian or cyclist.
- Operational during daylight only.



SPEED LIMIT INDICATOR (SLI) (OPTIONAL)

The SLI detects visible speed limit signs and provides visual indication when the vehicle's speed exceeds the posted speed limit. A speed limit sign will flash when the vehicle exceeds the speed limit. The SLI is based on the most recent speed limit sign detected by the System.

- Detected speed limit sign is shown as a large speed limit icon for one second, and then minimizes and is shown as the last posted speed sign.
- Last known speed limit sign is displayed in upper left-hand corner.

SLI FAQs:

How does Mobileye determine the speed limit on a roadway?

The Mobileye vision sensor reads the numbers of speed limit signs to determine the posted speed limit. It will read those numbers if they are on white, yellow, or orange signs, which conform with the standard of the Vienna Convention on Road Signs and Signals.

Why doesn't Mobileye's speed threshold change when I see the speed limit sign?

Mobileye does not change the speed threshold when you are in range to read the speed limit sign. It waits until the vehicle reaches the sign, which is when the new speed becomes active.



Does Mobileye know what speed limit is in effect, if there are certain of hours when the speeds change?

Mobileye cannot put the speed limit numbers in context. If you see a sign that says 25 mph during 3:00-5:00 p.m., Mobileye will read that as a 25 mph speed limit at all times. The same goes for construction signs that might say 40 mph when crews are working. Mobileye will only recognize the 40 mph. However, if a speed limit changes dynamically such as on a highway or overhead sign, Mobileye will recognize those speed limit changes.

Why does Mobileye measure me against the correct highway speed and then suddenly tell me I am driving in excess of the speed by a wide margin, only to revert quickly back to being in compliance with the speed limit?

Mobileye's vision sensor reads any speed limit sign it sees within its 38-degree field of vision. Therefore, you could be traveling down a highway with a posted speed limit of 55 mph and, depending on the placement of an exit ramp speed limit sign, Mobileye might read an exit speed limit and give you a warning that you are exceeding the posted speed. In most cases, this does not happen, as the exit ramp speeds are generally well to the right of the main travel lane, but this does occur on occasion. The Mobileye EyeWatch display will flash the speed limit sign as a warning for a few seconds and then recalibrate your speed when it reads and gets to the next speed limit sign.

Why when I enter a highway, does Mobileye tell me I am exceeding the speed limit as I accelerate onto and then drive on the highway?

When you are entering a highway, generally the entrance ramp speed or local road speed is significantly less than the highway speed. The Mobileye vision sensor will read that entrance ramp speed or still retain the local road speed and then give you warnings that you are exceeding that speed limit as you accelerate and drive on the highway. Mobileye will not adjust until it reaches the next posted speed sign on the highway.



GENERAL FAQs

What are the components of the Mobileye system?

The System consists of a front-facing vision sensor mounted on the windshield behind the rear-view mirror, a display unit (EyeWatch) that is usually mounted by the left dash pillar or under the rear-view mirror in a manner which will not impede from vision, and an optional plug-in telematics system that captures and transmits vehicle and Mobileye alert-related data.

How does Mobileye calculate my driving score?

The System is only meant to warn you of impending or perceived danger to avoid collisions ahead. It does not create a driving score like some mobile apps you might have seen.

Does the Mobileye System capture any data about my driving and report it?

The Mobileye System does not capture or transmit any data about driving behavior. However, your company may elect to install a telematics device, which will capture the vehicle driving data as well as the warnings and events generated by the Mobileye device. This data would be transmitted to a facility that generates reports on driving behavior with the goal of providing fleet managers with important safety information.

Why does the Mobileye EyeWatch show me symbols that are not in the Reference Guide? The reference document focuses on safety features and does not show all symbols, warnings, and non-alert icons. The EyeWatch display is not designed as the main method of alerting drivers; instead, audible alerts are utilized as the first notification because of the effectiveness. Therefore, Mobileye has chosen to just explain the key features in its documentation. If you have specific questions about a display or icon, please contact us.

Why does the Mobileye EyeWatch show symbols when no warning or danger exists?

The EyeWatch indicates when it “sees” cars, lanes, pedestrians, etc., even if they are not presenting any danger. This is mainly done so the driver will feel confident that the system is still operative.



Why do I see yellow lane markings or indicators on my EyeWatch display and at other times they are white?

The EyeWatch displays yellow lane markings to indicate that the LDW is not active. The LDW may not be active because the current driving speed is below the activation threshold for the LDW (35mph) or because the Mobileye is unable to detect the lane marking due to weather, road conditions, or simply the lack of markings.

Why does the System warn me before it is fully evident that an event exists?

Mobileye is constantly calculating and reevaluating distance, speed, and trajectory at a rate of 30 times/second. Humans' processing in a driving situation isn't close to this, so sometimes the System realizes before we do that the current situation presents a time to collision (TTC) that is dangerous. Since the brakes are not applied when the condition is recognized, the System will issue an alert. Even if we realize it 0.5 seconds later, the System has already confirmed the dangerous TTC 15 times during our delayed response.

Why is the EyeWatch positioned where it is in the vehicle?

The EyeWatch can be installed in a few different places in the vehicle as long as it does not obstruct vision or operation of the airbags and is visible to the driver. There are many installations that place it next to the mirror or on other places where it is more visible to the driver. Some drivers place it near the A-pillar. The placement is flexible, but it must be determined at the time of installation. The Mobileye vision sensor is designed to fit behind the rear-view mirror and is calibrated to a specific point based on your car's design.

For further and detailed information please refer to the Mobileye User Manual.