armas
ELEKTRONİK

NAMLock-10

Breath Alcohol Ignition Interlock
Device for Monitoring DUI

www.armaselektronik.com

NAMLock-10 is an in-vehicle Alcohol Control System designed to ensure traffic safety by being installed in vehicles and monitoring alcohol consumption through breath analysis. The system helps prevent driving under the influence of alcohol and systematically eliminates the risk of alcohol-related accidents.

The system has the feature of locking the ignition to prevent the engine from starting if an alcohol level above the preset cutoff value is detected. Alternatively, in vehicles where the ignition locking is not desired, the NAMLock-10 breathalyzer can measure the alcohol level, save the result, and transmit the data using wireless communication methods or communicate with other vehicle tracking systems to send measurement data. The system is designed to perform alcohol tests on the driver while the vehicle is stationary or in motion.

ARMAS, the NAMLock-10 In-Vehicle Alcohol Control System, meets the requirements of Europe (CENELEC), Canada, and the USA (DOT/NHTSA). The measurement and control parameters in the system can be adjusted according to the regulations implemented in the countries.

The Parts of the System

NAMLock-10CU
Vehicle Breath
Alcohol Tester Control Unit

Day-Night Camera

NAMLock-10A
Vehicle Breath
Alcohol Tester

Reliable and Accurate Measurement

NAMLock-10 is a breathalyzer system capable of reliable and precise alcohol measurement through breath analysis. With advanced sensor technology, it maintains high accuracy in both low and high temperatures without compromising its performance. The device is designed to to start the measurement in a short period even in frigid weather. The device is ergonomically designed and equipped with a removable hygienic mouthpiece, a color display readable in sunlight, and navigation buttons for user-friendly use.

The breath alcohol tester displays the result in a numeric value (optional) on the screen and according to a predefined cutoff value, also presents the measurement results in positive, negative as “ALCOHOL”, “CRITICAL” or “NO ALCOHOL” and acts accordingly based on the result.

The ignition interlock system requires the driver to blow into the device NAMLock-10 to start the vehicle while the car is parked. If no alcohol is detected in the driver-'s breath sample, the vehicle engine is allowed to start. In vice versa, if the system detects alcohol use, the vehicle engine is not started and/or acts according to the predefined guidelines in the system (sending information to the authority, sending information to the police station, etc.)

NAMLock-10 randomly requires breath samples (requires the driver to blow into the mouthpiece of the device) while the vehicle is in motion for interim monitoring of the existence of alcohol. If the driver does not blow within a certain period, information is sent to the relevant parties according to predefined guidelines, or the functions of the vehicle are controlled by the system. If no alcohol is found, the system approves and the journey continues. In vice versa, in the existence of alcohol, the system acts according to predefined instructions (sending a message to the center, sending information to the police station, turning on the vehicle's horn and lights, limiting the vehicle speed, etc.)

Various important data such as measurement results, date and time, driver information, photo of the driver at the moment of blowing, GPS coordinates, etc. are encrypted and stored in memory. Additionally, the data can be sent to the center, if desired. The data can then be transferred to the computer and the measurement report received.

Technical Specifications

Sensor	ARMAS Electrochemical (fuel cell)
Sensitivity	Only Alcohol
Measurement Range	0.00 – 6.8 promil (0.00 – 3.00 mg/l)
Operating Temperature	400C/+850C
Operating Voltage	10 – 36V DC
Screen	Sunlight readable color TFT
Communication (optional	CanBUS, Bluetooth, Wi-Fi, GSM (LTE)
GPS	Yes, (optional)
Lgnitional Lock Control	Yes, (optional)
Calibration	12 months
Data Logging	Yes
Data Encryption	AES 128 bits
Bypass Access Code	For a limited period
Test	Before starting the vehicle, while the vehicle is in motion (optional)
Result Display	"Alcohol", "Critical" or "No Alcohol" according to the preset cutoff value or alcohol value (optional)
Camera	Optional (photo capture during blowing)
Weight (Handheld)	150 gr.
Dimensions (Handheld)	133x60x33 mm

Some features are not standard and are provided as optional. Armas Elektronik reserves the right to change the specified features without notice.

Security and Secure Data Transfer

In the interlock system, along with basic features such as locking the ignition to prevent the engine from starting due to alcohol consumption and temporarily unlocking the engine, deceptive and misleading actions like tampering with the measurement system, bypassing it, tampering with connection cables, disabling the breathalyzer, or attempting to move the vehicle without authorization are also logged. If the system is disconnected from the vehicle's battery, the system records the event using its internal battery and reports it to authorized personnel or institutions.

Thanks to the optional camera (day-night feature), the image taken during the alcohol measurement records that the person being measured is the driver. With the optional driver identification, the person who blows can be compared with previously recorded driver data. Besides the camera, optional identity verification methods such as user identification, password entry, ID card reading, and fingerprint scanning are offered for secure measurement.

The recorded data is transferred to the external environment with AES-128 bit encryption via optionally offered communication methods such as GSM/LTE, Wi-Fi, Bluetooth, and USB. The vehicle's location at the time of alcohol control can be determined using the GPS coordinate detection system.

Specifications

Sensor
Electrochemical Armas Fuel Cell

Calibration
Dry Gas and Vapor

Screen
Sunlight Readable

Wireless Communication (Optional)

Operating Temperature
Between -400C & +850C

Wired Data Transfer
USB-PC

Positioning
GPS (Optional)

Camera
Photo Capture (Optional)

Product Tests and Certifications

EN50436-1: Vehicle Breathalyzer Test and Performance Requirements (Driving Under the Influence of Alcohol, Offender, and General Preventive)
EN50436-2: Vehicle Breathalyzer Performance Requirements (General Use)
ECE R10: EMC, RFI, LVD
EN60068-2-6: Vibration (sinusoidal)
EN60068-2-64: Vibration (broadband random)
EN60068-2-27: Shock