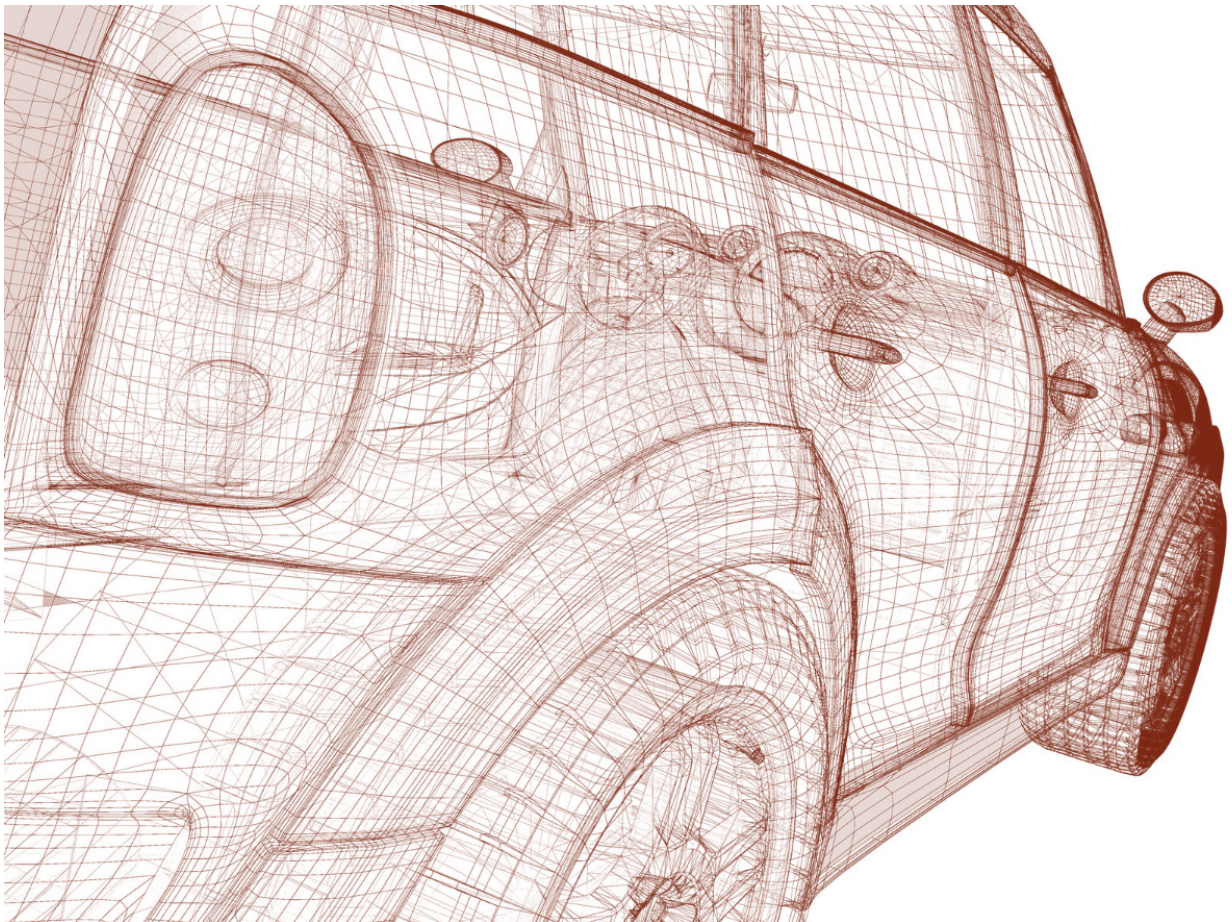


Technical Specification

DRIVE SENSE 12X

Integrated Home Automation and Security
System for Automobiles and Private Fleets



1. Product Description

DriveSense 12X is a next-generation intelligent control and monitoring system developed in Germany that integrates home automation, telematics, and advanced vehicle security within a single platform.

The device connects any vehicle to a home or office automation network, enabling full control and seamless interaction between the car, the home, and the driver's digital environment.

With DriveSense 12X, every vehicle becomes a connected smart terminal, capable of communicating in real time with smart home systems and security devices.

The system offers precise monitoring of the vehicle's mechanical and electronic parameters, real-time diagnostics, and intelligent automation — from opening the garage with a voice command to tracking the car's location and safety status from anywhere.

2. Main Functions

- Remote vehicle control via mobile app or web dashboard.
- Automatic garage or gate opening through voice command, biometric recognition, or license plate detection.
- Instant notifications for abnormal events such as unauthorized movement, door opening, impacts, or theft attempts.
- Complete vehicle diagnostics, including:
 - Fuel level and battery charge
 - Tire pressure monitoring
 - Engine temperature and mechanical status
 - Electronic diagnostics via OBD-II
- Predictive maintenance analysis to prevent faults and reduce repair costs.
- Driving behavior monitoring (acceleration, braking, speed, and fuel efficiency) with automatic reports.
- Real-time GPS tracking with centimeter-level accuracy.
- Digital access management for family members, drivers, or service personnel.
- Automated reports on fuel, maintenance, and usage costs.
- Integrated alarm system for theft attempts, impacts, or threshold violations.

3. Technical Specifications

Parameter	Description
Software version	DriveSense 12X (release 2025)
Home automation compatibility	KNX, Z-Wave, Matter, Apple HomeKit
Vehicle connections	ECU (Engine Control Unit), OBD-II, CAN Bus
Geolocation system	GPS / GLONASS / Galileo – accuracy up to 1.2 m
Data communication	LTE / 5G, Wi-Fi, Bluetooth 5.2, Ethernet (optional)
Encryption	AES-256 certified EU Cyber Security 2025
User interface	iOS / Android app + web dashboard
Software updates	OTA (Over-The-Air), automatic or manual
Internal OS	Embedded Linux (modular architecture)
ERP compatibility	REST API for integration with ERP and fleet systems
Supported sensors	RFID, license-plate recognition, biometric, accelerometer, impact sensors
Power supply	12 V DC (automotive standard)
Power consumption	< 3.2 W operating
Internal memory	128 GB industrial SSD (expandable to 512 GB)
Operating temperature	–20 °C to +70 °C
Protection rating	IP65 (dust and splash resistant)
Main unit dimensions	160 × 110 × 45 mm
Net weight	540 g
Housing material	Anodized aluminum with passive heat dissipation
Vehicle compatibility	All models equipped with OBD-II (2008 onward)

4. Data Security and Protection

- Two-factor authentication for all remote access.
- End-to-end encryption for all communications and cloud storage.
- Multi-level user management (Admin, Fleet Manager, Driver, Guest).
- Full compliance with GDPR and EU Data Protection Regulation 3.2.
- Certified under EU Cyber Security 2025 for information security and system resilience.

5. Applications

Sector	Use Case
Private users	Smart control of vehicle access, garage automation, and remote safety monitoring.
Corporate fleets	Real-time driver analytics, cost optimization, predictive maintenance.
Rental companies	Remote tracking, automatic incident alerts, digital key management per vehicle.
Smart home integration	Complete interaction with home automation systems for security and energy efficiency.

6. Certifications and Compliance

- DIN EN ISO 9001:2024 – certified production and quality management.
- EU Data Protection Regulation 3.2 – full GDPR compliance.
- E-Mobility Integration Framework (EMIF) – interoperability with e-mobility systems.
- IoT Safety Protocol 2.0 – certified IoT connectivity and cybersecurity.
- CE / RoHS Compliant – European conformity and sustainability standards.

7. Remote Control and Management

- Unified control panel for multiple vehicles and automation devices.
- Real-time dashboards with interactive data visualization.
- Statistical analytics for routes, fuel consumption, and driving patterns.
- Customizable alerts and notifications via SMS, email, or app.
- Maintenance scheduling with automatic reminders.

8. Accessories and Optional Modules

- Biometric vehicle-access sensor.
- Enhanced LTE/5G module with multi-network SIM.
- HD camera for continuous recording and event capture.
- NFC driver identification module.
- Universal mounting kit and plug-and-play wiring harness.

9. Maintenance and Updates

- Automatic firmware and software updates via OTA.
- Remote diagnostics and 24/7 online technical support.
- Cloud-based data backup and restore.

10. Warranty and Support

- Standard warranty: 3 years (extendable to 5 years).
- Customer service: multilingual technical support (English, Italian, German).
- Post-sale service: free software updates and customer portal access.