

xRoute Pro Intelligent Control System

Innovative Solutions for Contemporary
Explorers





Effortlessly Retain Complete Control

INTELLIGENT LIVING AT YOUR FINGERTIPS



STATIC DISPLAY

Enhance your comfort with the 4-inch touchscreen, whether utilized as a standalone display or by installing a screen in each room.



MOBILE

Remain connected while on the move. Oversee and control your caravan using our mobile application available for iOS and Android.



SMARTWATCHES

Access vital functions directly from your watch. swift, efficient, and consistently available

Daytime & Night



Whether Single Screen or Dual Screen

- 4-inch Touchscreen
- 480x480 TFT LCD display.
- It accommodates multi-touch functionality, enabling swift and accurate interaction.
- 16.7 Million True Color Capability
- Automatic Screen Brightness Regulation



Optimal Control at Your Fingertips

Experience seamless RV management with xRoute's intuitive interface. Control lighting, temperature, battery status, and more from a streamlined and user-friendly dashboard. Remain connected and in command, no matter where your journey leads you!





Lighting Administration

Modify the brightness levels of each area independently.



Device Management

One-touch control for essential caravan electronics.



System Status

Date and Time, Battery Status, Energy Usage...



Tank Surveillance

Tank levels in percentage/liter values



Environmental Monitoring

Track critical environmental data in real time.



Level Sensor Monitoring

Ensure your caravan is impeccably level with the integrated tilt sensor.



Motorized System Management

Effortlessly control motorized features including sunroofs, power beds, TV lifts, and additional components.

Level Sensor Monitoring



Display Monitor



Settings



LOGO

Personalize Your Interface

Customize the home screen with your own logo, color scheme, or background images. Whether you favor a minimalist aesthetic, a distinct brand identity, or vibrant pop-art designs...

xRoute allows you to personalize it to your preferences.



xRoute Pro Mobile Application

Smart Control — Anytime, Anywhere

Manage your entire caravan directly from your smartphone. The xRoute mobile application, available on both iOS and Android, provides comprehensive access to lighting, devices, sensors, and system status, whether you are inside or in proximity to the vehicle.

Real-time system oversight Bluetooth remote management Intuitive interface synchronized with host tablet Dependable and accurate performance Always by your side.





Download the xRoute Pro application.

Begin by downloading the xRoute mobile application to your device:

Effortless configuration, immediate control:
Directly from your mobile device.



xRoute Pro Mobile Application Main Interface

A sophisticated and user-friendly control panel crafted for total autonomy.

Instantaneously display real-time data, including temperature, battery levels, and humidity.

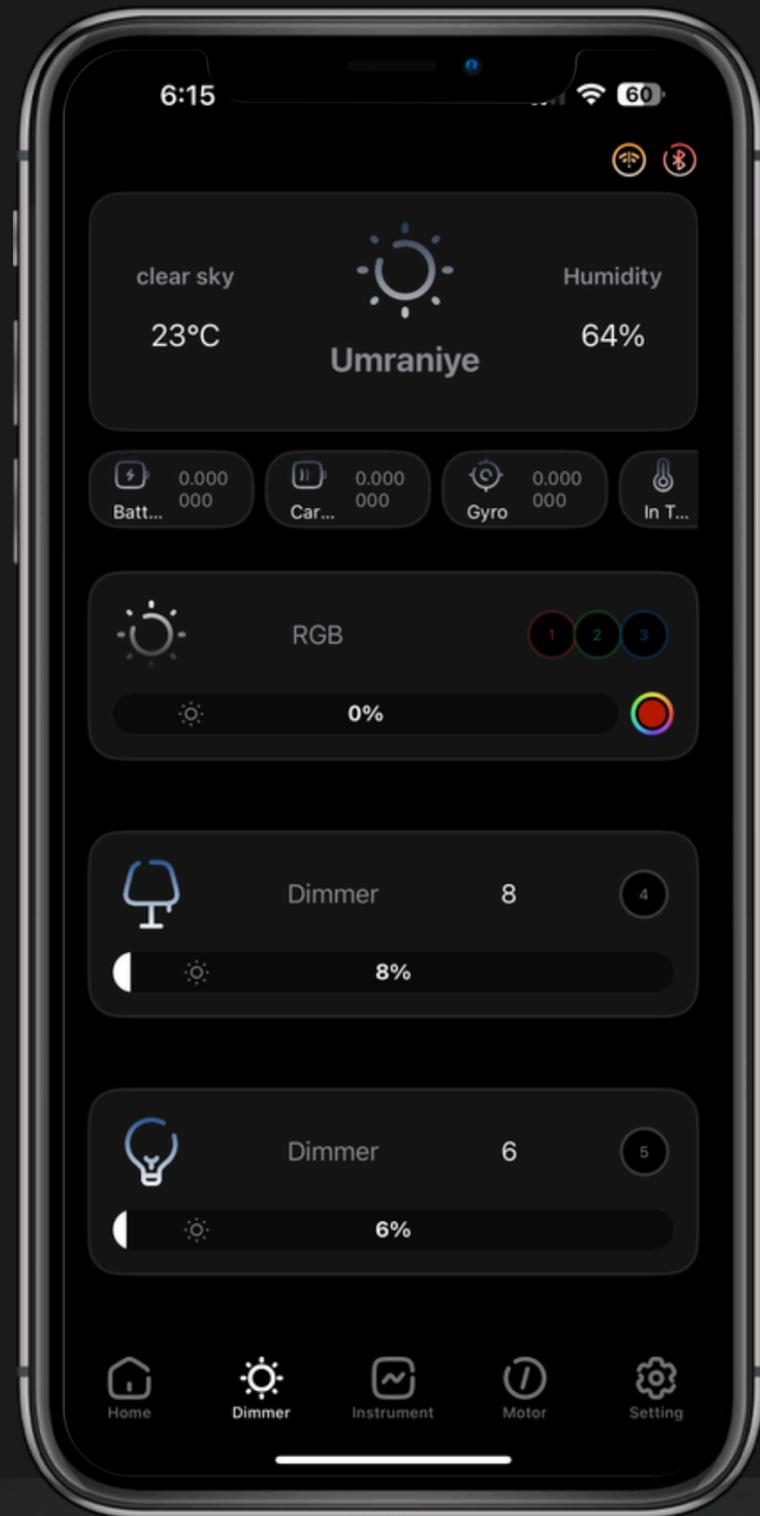
You can control lighting, USB ports, electricity, the refrigerator, and other essential devices with a single touch.

Navigate through the tabs labeled Dimmer, Instrument, Motor, and Settings.

Clear icons and a dark mode design ensure optimal visibility, whether during the day or at night.

The control center of your caravan is now in your hands.





Dimmer Control Interface

Lighting, Precisely as You Desire

Effortlessly modify the brightness levels of each lighting zone in your RV, ranging from ambient illumination to targeted task lighting.

Control RGB lighting through personalized color selection. Adjust individual dimmers with accurate percentage control. Immediate feedback for prompt lighting response. Weather and humidity data is presented for context-aware management.

Consistently ideal lighting – directly from your phone.

Dashboard

Stay Informed with Real-Time Information

Diligently oversee essential system metrics and environmental parameters:

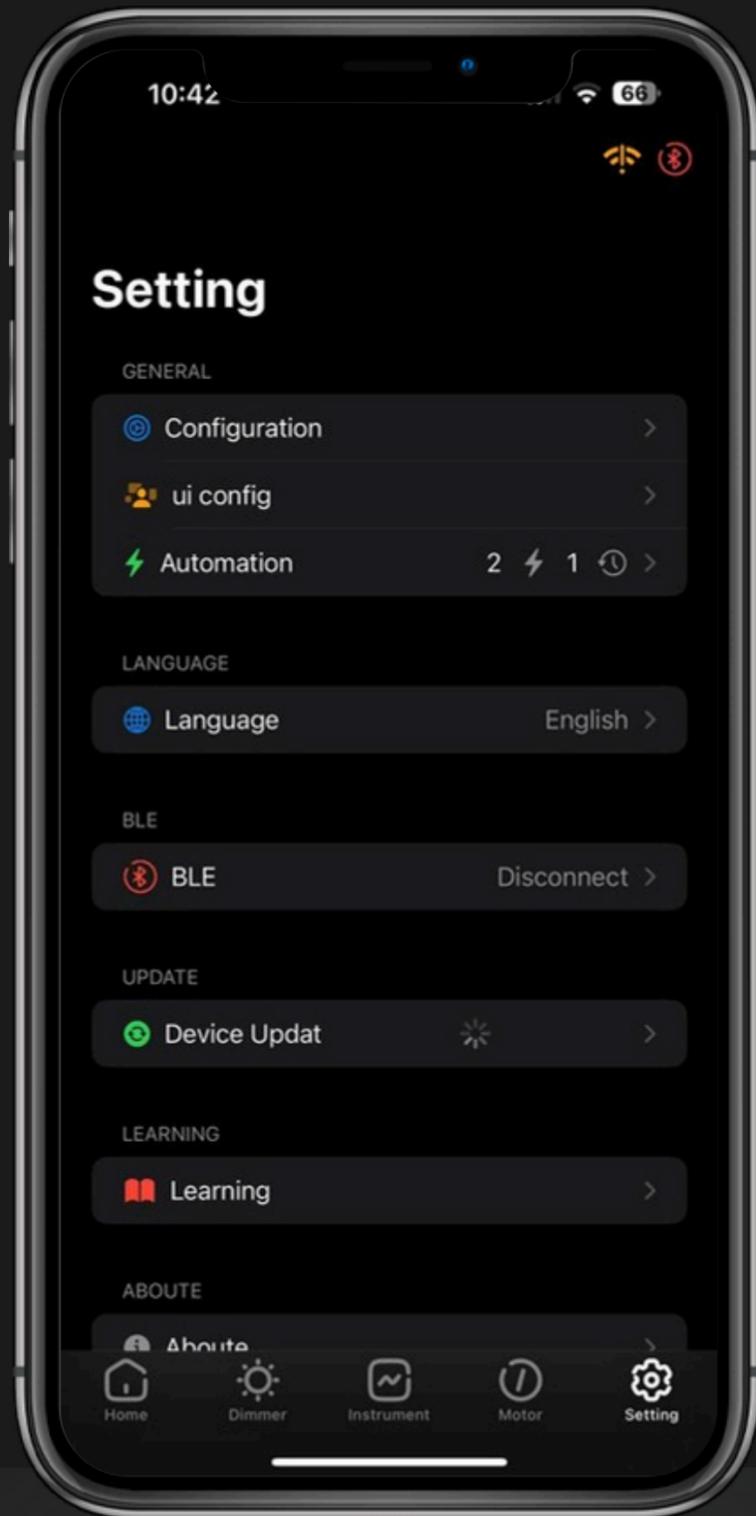
Battery Monitoring: Access real-time voltage and performance graphs for both the main and vehicle batteries.

Gyroscope Sensor: Immediately visualize the pitch and alignment of your caravan.

Weather and Climate Data: View outdoor temperature and humidity at a glance.

Every significant detail is consistently at your disposal.





Settings Menu

Total Configuration. Entirely at Your Discretion.

Customize every facet of your xRoute system via the mobile application settings:

Configuration: Administer system settings

UI Configuration: Tailor the interface aesthetics

Automation: Establish rules and triggers to produce intelligent responses.

Language Selection: Kindly choose your preferred language.

Bluetooth Management (BLE): Connect or disconnect your device.

Device Update: Ensure your system is consistently updated.

Learning Mode: Discover and understand all the functionalities.

About Section: Display version and device information

Straightforward. Potent. Tailored to your needs.

Engine Control Interface

Accurate Motion, Flawless Command

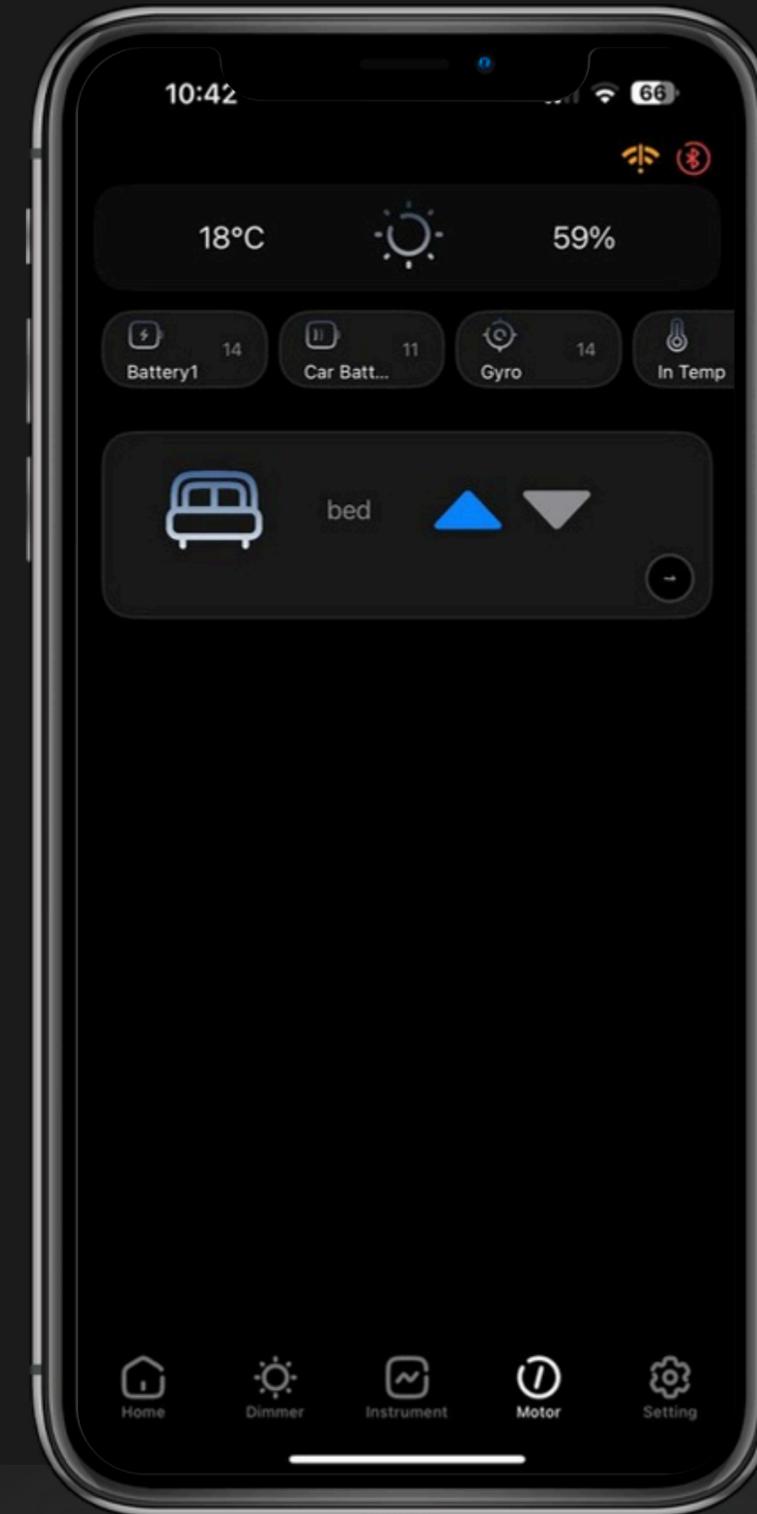
Control motorized elements such as power beds, sunroofs, or sliding mechanisms directly through your mobile device.

Intuitive up/down controls provide real-time feedback on voltage and current.

A secure working environment featuring automatic stop and timer functionality.

Monitor environmental conditions (temperature, humidity, slope)

- Navigate your system with assurance; seamless, intuitive, and agile.



Completely customizable and highly adaptable.

xRoute provides you with comprehensive flexibility to tailor your system to your precise requirements.

Every element is customizable, encompassing button functions, screen layout, sensor behavior, and automation rules.

Whether you are a novice user or a seasoned installer, every detail is available to you.

This is not merely intelligent control; it is also your control.



Key Configuration

Design Your Custom Interface, One Button at a Time.

Define the appearance and functionality of each device within the xRoute system:

Assign distinct names and port numbers to relays.

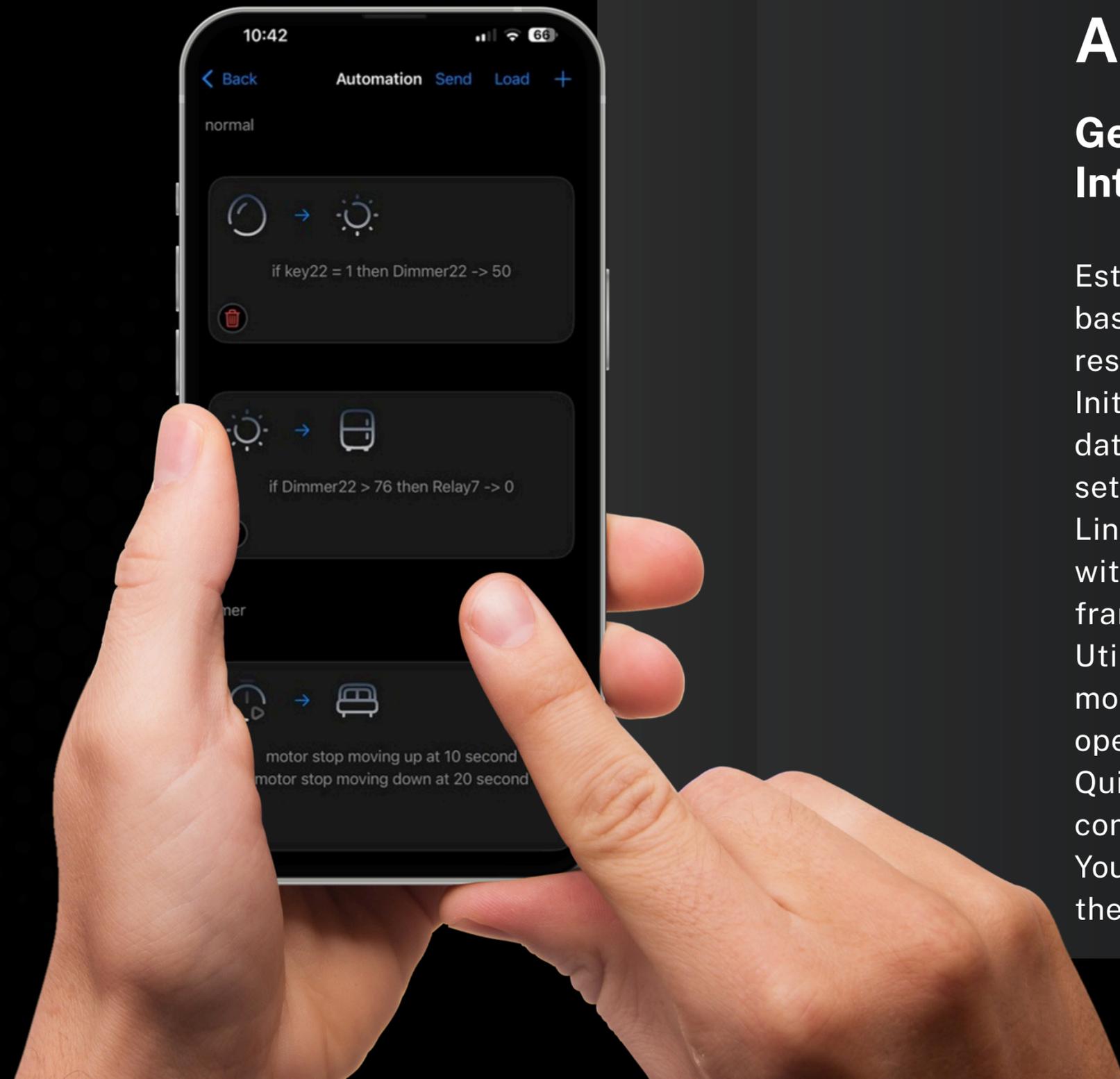
Select from an extensive array of intuitive icons for precise identification.

Effortlessly modify, remove, or incorporate new devices through the application.

Adjust your control panel to align seamlessly with your current installation.

Refrigerator, illumination, heater or





Conditional Automation Alternatives

Generate Boundless Intelligent Scenarios

Establish effective automation rules based on any condition — there are no restrictions.

Initiate actions in response to sensor data, button activations, dimmer settings, timers, and additional inputs. Link several conditions and responses within a straightforward logical framework (e.g., if-then).

Utilize timers to accurately automate motor functions (for instance, cease operation after 10 seconds).

Quickly apply, modify, or revoke conditions directly from the app.

You establish the logic; xRoute manages the remainder.



xRoute Functionality on Apple Watch

Take complete control of your RV without the need to reach for your phone or tablet.

Quickly adjust power, lighting, and RGB configurations.

Modify the dimmer levels by sliding.

Monitor critical system parameters, including temperature and battery levels.

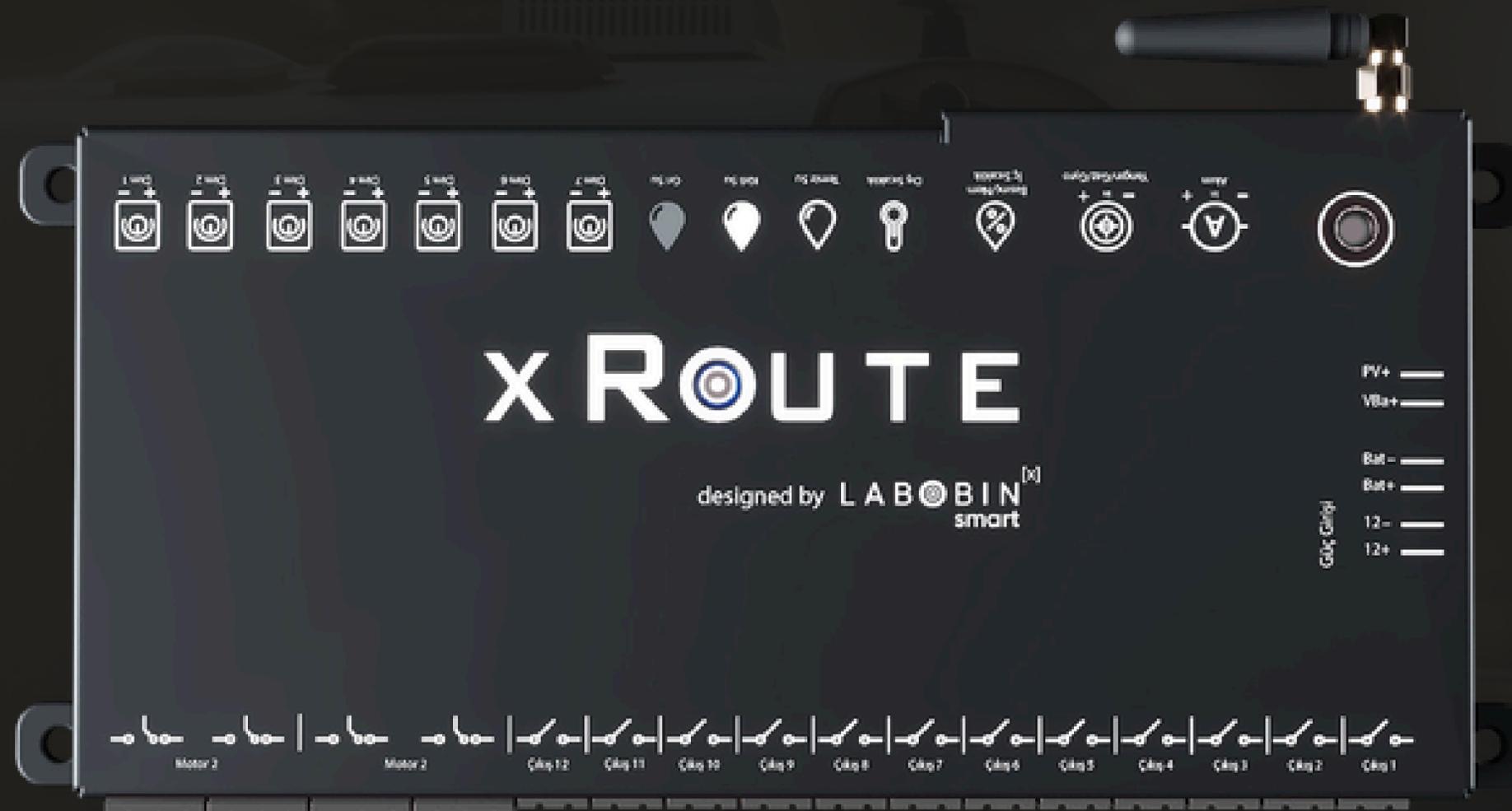
Perfect for convenient access during travel or leisure activities outdoors.

Minimum effort, maximum control is now accessible on your smartwatch.



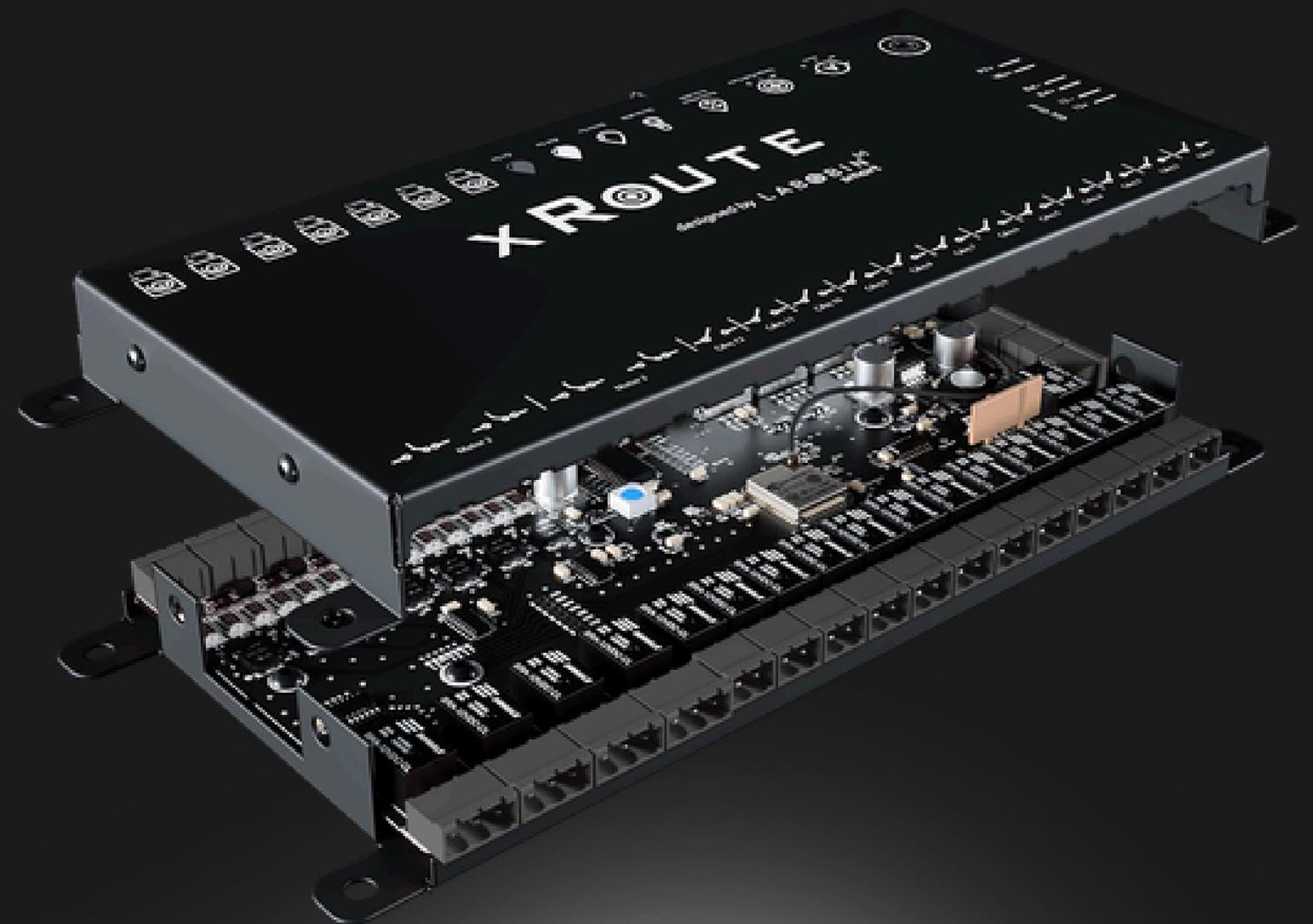
Download on the
App Store

xRoute Controller



System Components

- Power System
9–24V DC input, 16A internal thermal fuse, reverse polarity protection mechanism.
Ultra-low standby power consumption (approximately 1.8W)
 - Relay Outputs
8 outputs (6 devices + 2 motor controls)
20A at 12V DC / 4A at 220V AC
PWM relay management for enhanced energy efficiency
 - Dimmer Outputs
 - 5 channels (4A each)
 - 24-bit PWM featuring RGB calibration.
- PWM Half Mode for 12V LEDs in 24V Systems



Battery Current Sensor

- Accurate real-time current monitoring
- State of charge (SoC) and battery health estimation
- Deep analysis of battery usage trends

PT100 Temperature Sensor

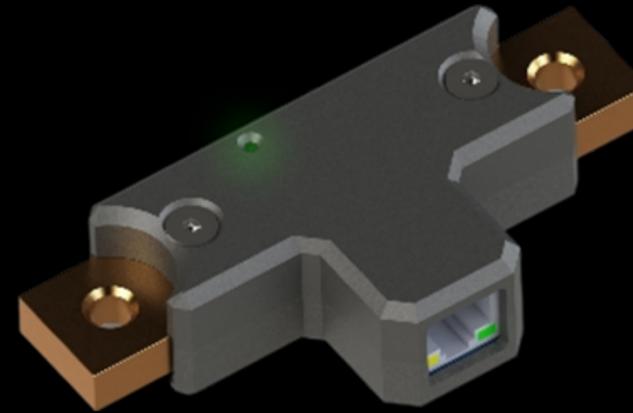
- High-precision temperature sensor using a resistive platinum element
- Measures from -40°C to $+100^{\circ}\text{C}$
- Ideal for measuring water tanks, external environment, or engine area

Temperature & Humidity Sensor

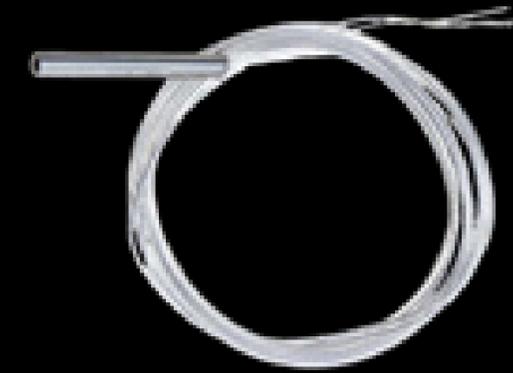
- Measures ambient temperature and humidity
- Compact, ventilated enclosure with status LEDs
- Ideal for indoor climate monitoring and automatic ventilation control

Gas Sensor

- Detects LPG, methane, or other gas leaks
- Triggers alerts or automated cutoffs when gas is detected
- Important for camper safety systems



Battery Current Sensor
(Shunt Type)



PT100
Temperature Sensor



Temperature &
Humidity Sensor



Gas Sensor

xRoute Detailed Feature Overview

Intelligent Control Hub

Centralized management for all devices, lighting systems, sensors, and automation processes. It is accessible through a tablet, mobile application (iOS and Android), smartwatch, or voice commands. A completely customizable user interface that provides real-time feedback.

Robust Output Architecture

- 8 Relay Outputs
- 6 standard outputs and 2 motor control relays, each capable of supporting up to 20A DC or 4A AC.

Galvanically isolated to ensure safety and enhance flexibility. PWM compatible for low-power signal applications.

Robust Dimmer Architecture

- Five dimmer outputs feature 24-bit PWM resolution, delivering exceptionally smooth lighting. RGB channel support includes three dedicated channels, each capable of handling 4A with internal protection.
- Offers support for "PWM Half Mode" for 12V LEDs within 24V systems.

xRoute Detailed Feature Overview

Environmental and Sensor Integration

- 2x Water Level Inputs – Accommodates robust sensors
 - PT100 Sensor - Accurate temperature measurement
- Temperature and humidity monitoring
- LPG/gas leak identification
- Battery current monitoring
 - 3-Axis Accelerometer – Measurement of pitch and roll angles for leveling applications
 - Altitude and Humidity Monitoring

Connection and Configuration

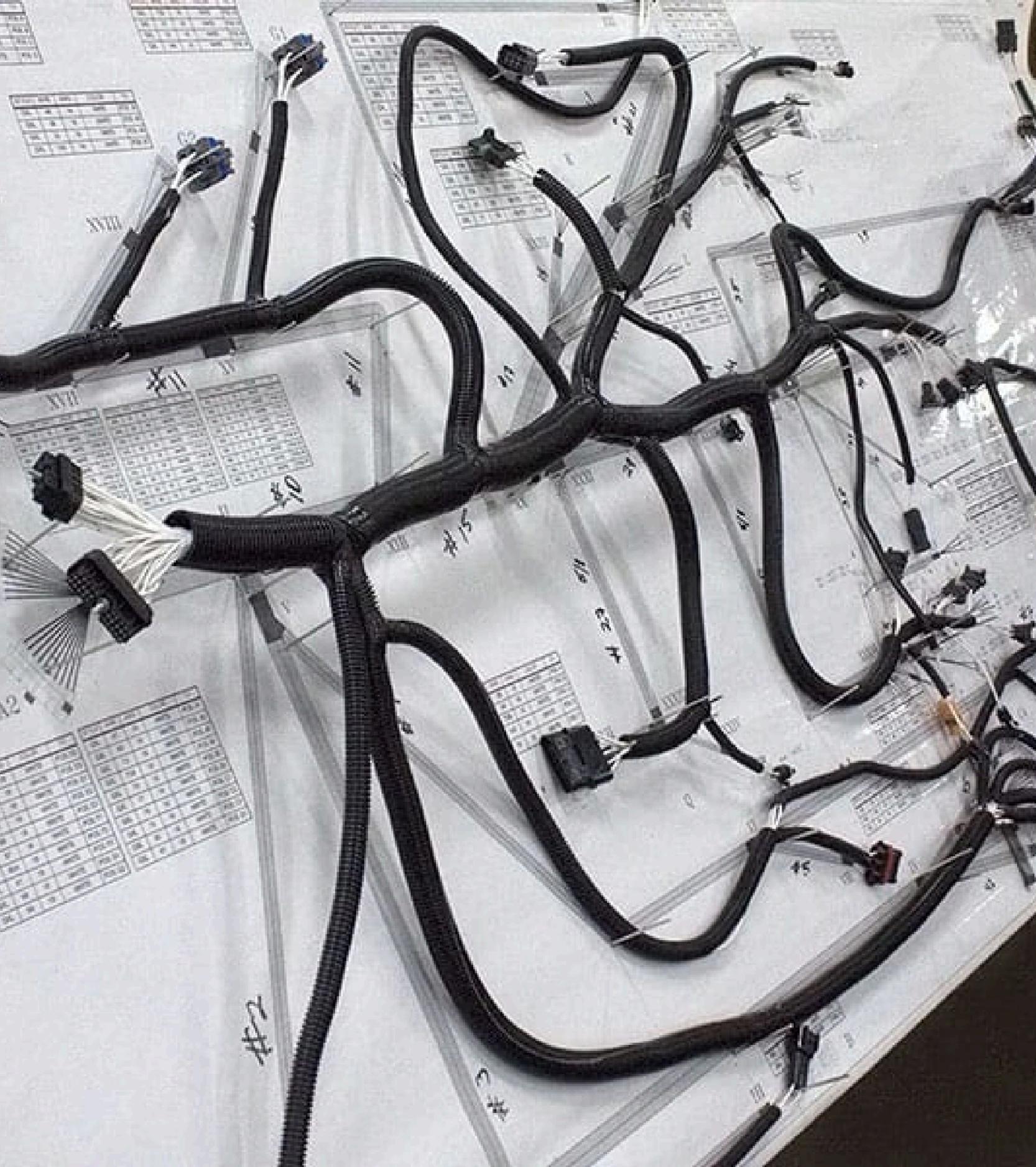
- Bluetooth Connectivity
- OTA Firmware Enhancements
 - RS485 Port - Compatible with Modbus RTU
- Advanced Settings Interface
 - Logic-Based Automation – Boundless condition-driven rules (IF-THEN logic)

Energy Monitoring and Security Solutions

- Battery Voltage and Current Monitoring – Immediate visualization of energy consumption
- Shunt Sensor Compatibility – Battery monitoring in fuel gauge style
- Reverse Polarity Protection System
- Internal Resettable Thermal Fuses
- Dedicated voltage sensing lines for solar energy and battery systems.

User-Centric Design

- Customizable icons, labels, and button configurations
- Adjustable display elements (font size, dimming characteristics)
- The background may incorporate logos, color schemes, or images.
- Multilingual user interface



Harness Wiring

One of the most contemporary and secure methods employed in caravan electrical installation is the harness wiring system. This approach enables the installation of all electrical circuits within the caravan to be conducted using pre-planned, functionally grouped, labeled components, all enclosed in protective sheaths, rather than being installed individually and in a haphazard manner.

The harness system is a specialized cabling methodology employed in the automotive, defense, and aviation industries, now adapted for the caravan sector.

It standardizes, enhances, and prolongs the lifespan of the entire electrical infrastructure of the caravan.

Harness Wiring

The use of protective spirals and specialized sheaths for the cables significantly diminishes the risk of insulation damage and abrasion.

It mitigates improper cable connections, short circuits, and overheating issues.

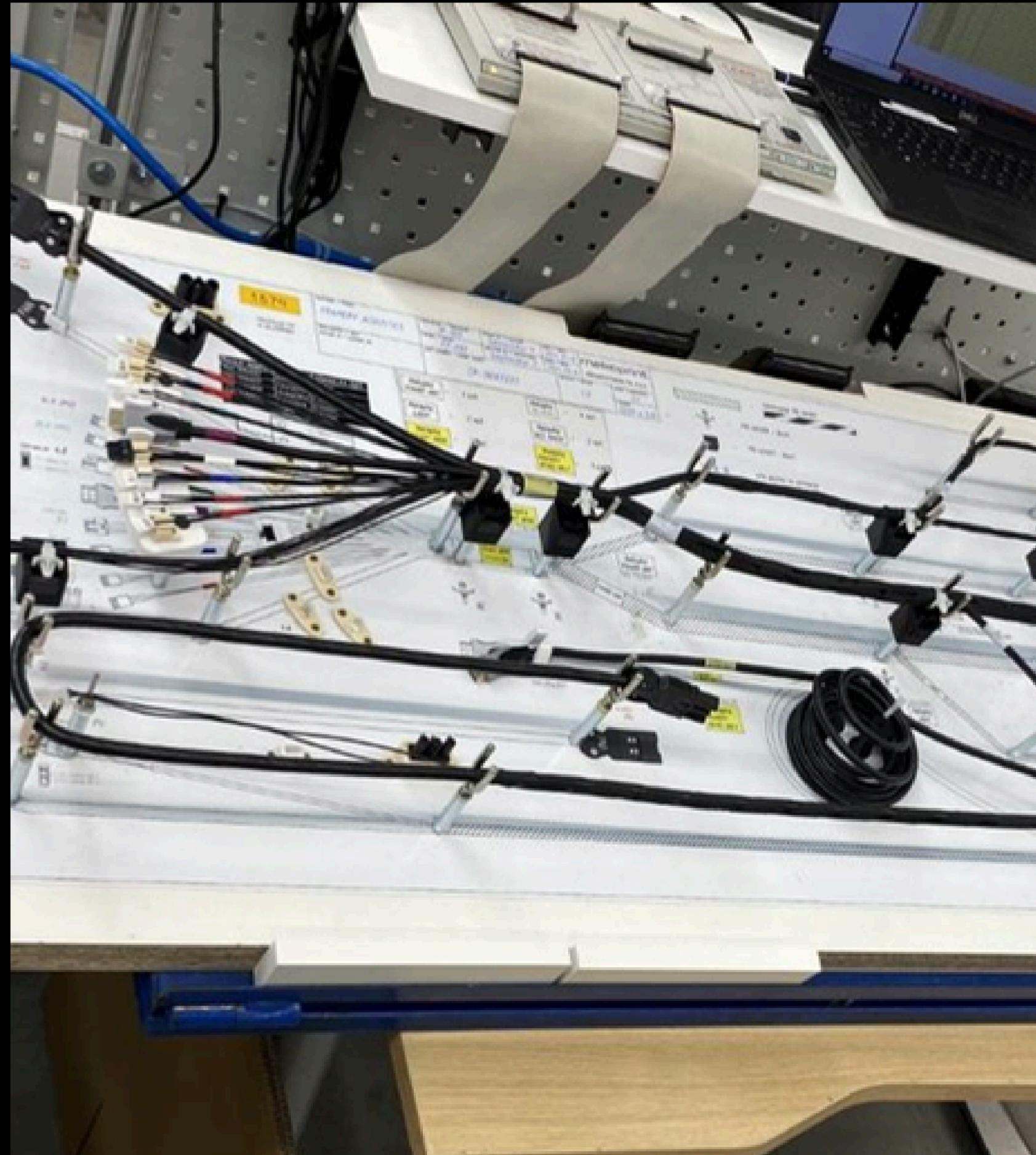
With all cables organized into a bundle, the interior of the caravan appears significantly neater.

As the cables are provided in pre-assembled bundles, the installation time is considerably reduced.

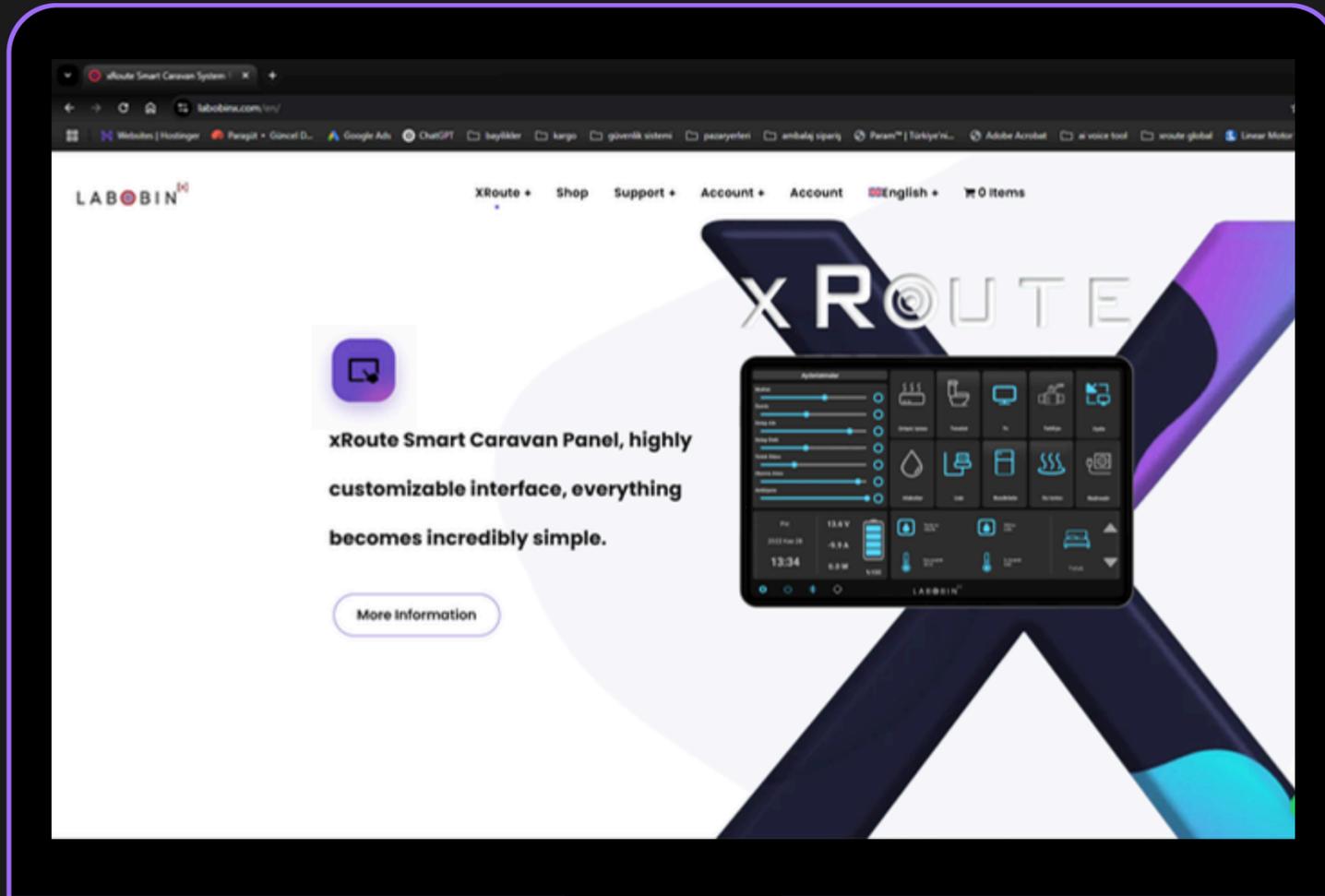
The labeled lines facilitate a clear understanding of cable placement, allowing for fault detection to be completed within minutes.

Factory-prepared harness bundles provide enhanced stability and consistent quality.

Caravans endure continuous vibration during transit. The harness structure guarantees that the cables are firmly secured and protected from damage.



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