

# BRENDUHNET

Intelligent Control Systems

## Product Overview

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## EXECUTIVE SUMMARY

# A Unified Platform for Home and Vehicle Automation

BrenduhNet is an integrated hardware and software ecosystem that brings professional-grade intelligent control to two of the most important environments in modern life - the home and the vehicle. Built on a common firmware architecture and driven by a single mobile application, BrenduhNet products communicate seamlessly across Bluetooth, Wi-Fi, LoRa, and cellular networks, giving users unprecedented visibility and control from a single pane of glass.

The platform is engineered around a family of purpose-built ESP32-based controllers, each optimized for its environment: CarPotato for the vehicle, HomePotato for the home, and Home Fries for distributed room-level control. Together they form a cohesive ecosystem that scales from a single device installation to a whole-property intelligent control network - all without subscriptions, proprietary cloud lock-in, or dependency on third-party smart home platforms.

## THE PROBLEM WE SOLVE

# The Smart Home and Smart Vehicle Markets Are Fragmented

Consumers and professionals today manage a patchwork of incompatible apps, protocols, and platforms - one for lighting, another for security, a separate system for their vehicle accessories, and yet another for voice assistants. Integration is an afterthought, reliability is inconsistent, and true automation across environments has remained out of reach.

## THE PRODUCT FAMILY

# Three Products. One Ecosystem.

Every BrenduhNet device shares the same firmware architecture, the same communication protocols, and the same mobile application. Each is purpose-built for its environment while remaining deeply integrated with the others.

CarPotato transforms any vehicle into an intelligently managed electrical platform. Designed for automotive enthusiasts, fleet operators, overland travelers, and professional installers, it replaces traditional relay panels with a fully networked, remotely accessible controller that thinks ahead - protecting your battery, monitoring your environment, and executing complex automation sequences on command or on schedule.

HomePotato is the hub at the center of a whole-home automation network. It manages native I/O channels, coordinates a distributed network of Home Fry satellite nodes, and bridges the BrenduhNet ecosystem to the broader world of Zigbee, Z-Wave, and Matter - giving users complete control of their home alongside native voice assistant integration via Apple HomeKit, Google Home, and Amazon

Alexa.

Home Fries are compact ESP32 satellite nodes that extend HomePotato's reach to every corner of a property. They register automatically with the hub, report state changes in real time, and execute local automation rules even when the hub is unreachable. Three hardware variants address every deployment scenario - from Wi-Fi - connected interior rooms to LoRa - linked outbuildings hundreds of meters away.

#### MOBILE APPLICATION

## One App. Every Device. Every Environment.

The BrenduhNet Controller app is the unified command center for the entire ecosystem. A single installation manages CarPotato, HomePotato, and Home Fries simultaneously - switching context automatically as the user moves between home and vehicle, or supporting both side by side on a split view.

#### TECHNICAL ARCHITECTURE

## Built on a Foundation Designed to Last

BrenduhNet's competitive advantage is its architecture - a single hardware platform, a common firmware core, and a protocol stack designed for reliability in challenging RF environments. Every design decision favors longevity, repairability, and extensibility over cost-cutting compromises.

#### MARKET OPPORTUNITY

## Two Large Markets. One Integrated Solution.

BrenduhNet sits at the intersection of two of the fastest-growing consumer technology segments - home automation and connected vehicle accessories. Its cross-environment architecture and open ecosystem position it uniquely in both.

#### COMPETITIVE DIFFERENTIATION

## What Makes BrenduhNet Different

- **Cross-Environment Unification** No competitor operates across both home and vehicle automation with a single app and common architecture. BrenduhNet is the only platform that follows the user from driveway to living room without context switching.
- **Local-First, Cloud-Assisted** Unlike cloud-dependent competitors, BrenduhNet is fully functional with no internet connection. Cloud capabilities are additive - remote access, voice assistant relay, and push notifications layer on top of a system that already works.

- **Massive I/O Scalability** With 520+ addressable channels per controller, BrenduhNet serves installations that competitors with 8- or 16-channel limits simply cannot address - commercial properties, large homes, and complex vehicle builds.
- **Open Protocol Stack** Support for Zigbee, Z-Wave, Matter, BLE, Wi-Fi, LoRa, and cellular means BrenduhNet integrates with virtually every existing device category. Users are not locked into a single manufacturer's ecosystem.
- **Matter Bridge Architecture** By acting as a Matter Bridge rather than individual Matter devices, HomePotato can expose an unlimited number of channels - including Zigbee and Z-Wave devices - to HomeKit, Google Home, and Alexa through a single pairing step.
- **No Subscription Model** BrenduhNet's value proposition is ownership, not rental. Remote access, cloud relay, voice assistant integration, and OTA firmware updates are included without monthly fees - a significant differentiator in a subscription-fatigued market.
- **LoRa for Outbuilding Reach** LoRa radio capability enables reliable communication across hundreds of meters without Wi-Fi infrastructure - a capability that directly addresses the overland, agricultural, and rural property markets that competitors ignore.

## PRODUCT ROADMAP

### Where We Are. Where We're Going.