



TraffiClair Monthly Updates

2025.05

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EXT-AirLink

The Smarter Way to Power & Connect Your Traffic Detection System



Upgrade your intersection technology with EXT-AirLink, the compact yet powerful accessory kit designed to simplify and enhance your TraffiClair traffic detection system. By combining power extraction and wireless communication, AirLink eliminates complex cabling, reduces installation time, and ensures seamless connectivity between video detectors and central controllers.

Why Choose EXT-AirLink?

- **Power Over Ethernet (PoE) Distribution** – No need for separate power lines! AirLink extracts power directly from traffic signals and delivers it to detectors via PoE.
- **Integrated WiFi Access Points** – Wirelessly collect data from multiple detectors across an intersection, cutting cable clutter.
- **Scalable & Efficient** – One AirLink-Master connects up to 6 AirLink-Slave units and integrates smoothly with signal controllers or AI boxes via Ethernet.
- **Faster Deployment** – Minimize construction hassles, reduce costs, and accelerate your intelligent traffic management rollout.

[Product Page](#)

EXT-AirLink

Enable Power Extraction & Wireless Communication for Signaling System



[Product Page](#)

	EXT-AirLink-Master	EXT-AirLink-Slave
Interface	Power Input: R/Y/G AC 220V, extracted from traffic light. Output: DC 12V (1.25A) Connector Type: M12 plug (A-coded, 8-pin) Provides PoE power (IEEE 802.3af/at PoE++ compliant) and data transmission for cameras. Output Power:15W Protection Rating: IP67 Output: Connector Type: M12 plug (X-coded, 4-pin) Protocol Support: Gigabit Ethernet Protection Rating: IP67	Power Input: R/Y/G AC 220V, extracted from traffic light. Output: DC 12V (1.25A) Connector Type: M12 plug (A-coded, 8-pin) Provides PoE power (IEEE 802.3af/at PoE++ compliant) and data transmission for cameras. Output Power:15W Protection Rating: IP67
WiFi	Standard: IEEE 802.11ac Max Data Rate: 40 Mbps Encryption: WPA2-PSK Operation Mode: AP (Access Point) Max Connected Slaves: 6 devices	Standard: IEEE 802.11ac Maximum Data Rate: 40 Mbps Security: WPA2-PSK encryption Operation Mode: Station mode (connects only to host AP)

EXT-IO

Seamlessly Integration between Lagacy & Modern



The EXT-IO is a high-performance interface conversion module designed to bridge TraffiClair AI-based detectors with legacy traffic controllers or third-party systems. It enables bidirectional signal conversion between Ethernet (TCP/IP), RS485, and digital I/O, ensuring compatibility across different generations of traffic detection hardware. The EXT-IO help realize seamless integration between legacy & modern Traffic Control Systems.

Key Features & Benefits

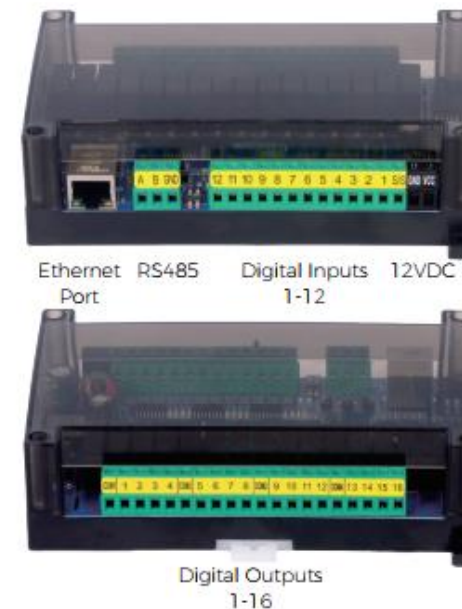
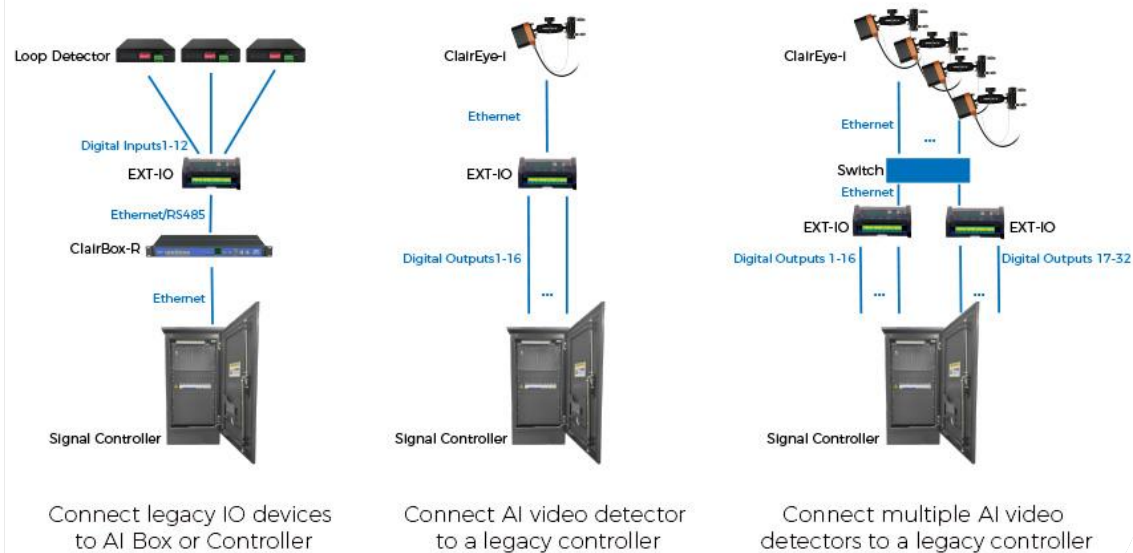
- ✓ **Flexible Signal Conversion**
 - Converts Ethernet-based detection data (from TraffiClair) to digital outputs for legacy controllers.
 - Translate digital inputs (from inductive loops/push buttons) to Ethernet or RS485 for modern AI-based systems.
- ✓ **High-Capacity I/O Expansion**
 - 12 opto-isolated digital inputs (supports 24V DC/5V logic) for sensor/loop detection.
 - 16 configurable digital outputs (relay/transistor) for signal lights, barriers, or PLCs.
- ✓ **Scalable & Fail-Safe Operation**
 - Expandable via Ethernet—connect multiple EXT-IO units for larger systems.
 - Configurable failsafe mode—outputs can default to continuous "0" or "1" if no input is detected (e.g., camera failure).

[Product Page](#)

EXT-IO

Seamlessly Integration between Lagacy & Modern

Application

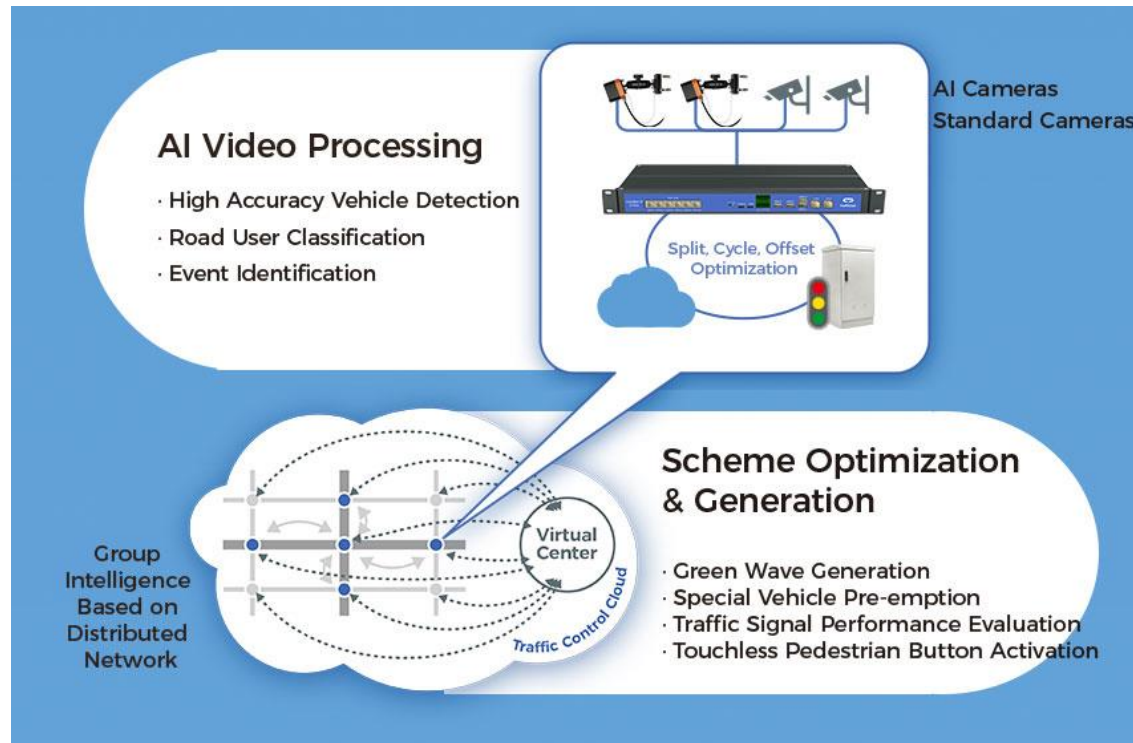


[Product Page](#)

- **Interface Ethernet**
- Port Type: 10/100Base-TX, RJ45
- Supported Protocols: MODBUS TCP, TCP/IP
- **Interface RS485**
- Interface Type: RS485 (Terminal Block)
- Baud Rate: 9600 bps
- Communication Format: Default 8 data bits, 1 stop bit, no parity
- Transmission Distance: Up to 1200 meters (at 9600 baud rate for RS485 serial communication)
- **Digital Inputs**
- Input Channels: 12
- Voltage Level: 24VDC
- **Digital Outputs**
- Output Channels: 16
- Output Type: Relay (SPST-NO, Form A)
- Max. Switching Capacity: 2A per point
- Mechanical Isolation

ClairBox-R

AI Box for Video Processing & Signal Optimization



Key Features

- Support standard and existing cameras for video detection
- AI & neural network video processing for high accuracy vehicle detection, road user classification & event identification
- Control optimization including split, cycle, offset optimization and scheme generation
- Open protocol to any type of legacy controllers

Traffic Data Output

- Vehicle presence, traffic flow, occupancy, and road user identification.
- Road user identification
- Identification targets include truck, car, motorbike, bicycle, pedestrian, light rail.
- Event identification like fog, smoke, illegal reversing on expressway, road congestion, vehicle abnormal driving event and accident detection.

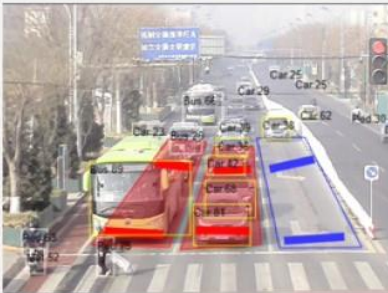
AI Signal Optimization

- Control Scheme Optimization: Split, cycle, offset optimization.
- Control Scheme Generation: Full scheme generation.

[Product Page](#)

ClairEye-i

Brilliantly Compact Traffic Video Detection



- AI Powered Super Intelligence
- Superior Vision and Video Quality
- Efficient Design and Connectivity
- A Plug-and-play Tool for Signal Optimization



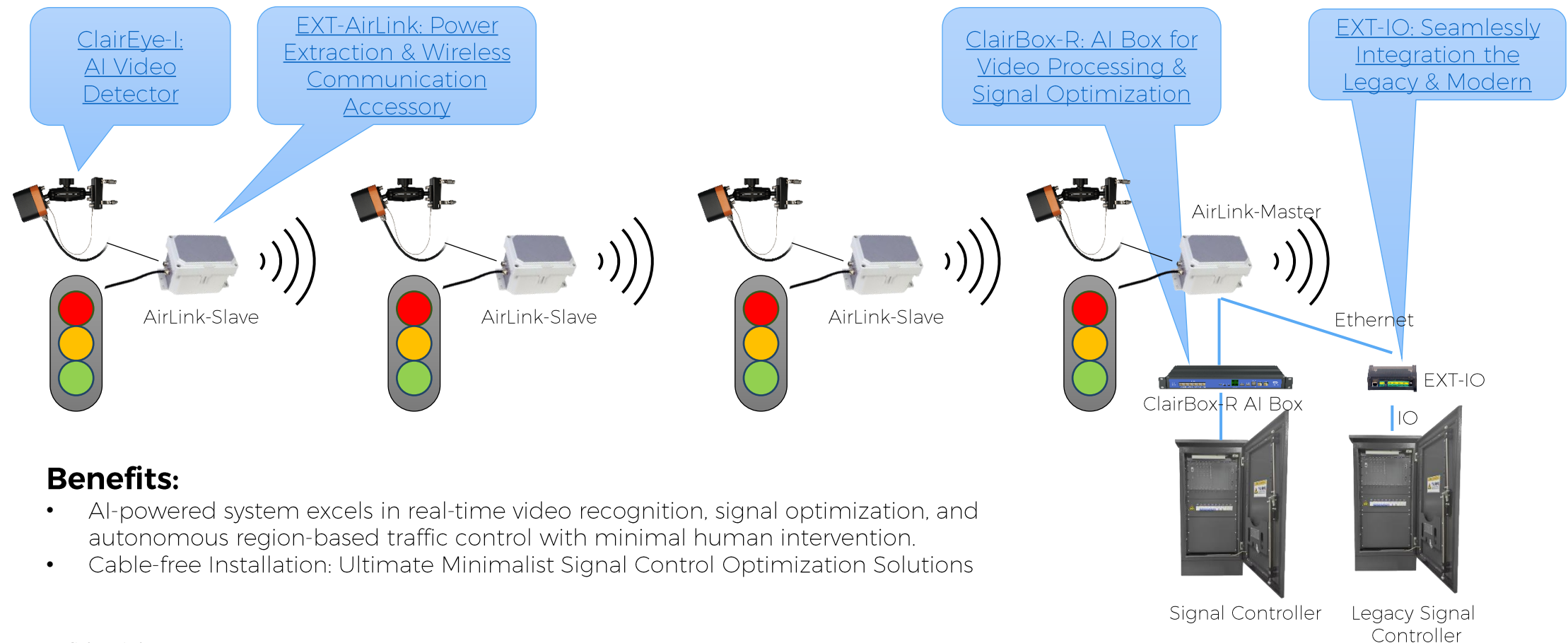
Key Features:

- Fusion of traditional machine learning and deep learning
- Targeted large-sample training is carried out for various weather conditions such as rain, snow, fog, for various environmental brightness such as day, dusk, evening, and early morning, and for different density of vehicles on the road such as flat-peak hours, peak hours, etc.
- AI training model is based on a huge quantity of real traffic data.
- Real-time traffic data output includes presence, traffic flow, occupancy, and road user identification.
- Identification of 80 different targets including truck, car, motorbike, bicycle, pedestrian, and scenarios like fog, fire, accident, traffic jam etc.

[Product Page](#)

Signal System Architecture

Powered by AI Video Detector & AI Box Compatible with Legacy Controller



Case Study

Traffic Data Collection Systems in Fujian Using ClairLup-V8F Loop Detectors



Key Applications and Benefits:

- [Multi-Lane Traffic Flow Monitoring](#)

The ClairLup-V8F's 8-channel loop connectivity enabled simultaneous detection across 4 lanes, capturing critical parameters such as vehicle count, occupancy, speed, headway time, and following vehicle percentage. This granular data helped traffic authorities analyze congestion patterns and adjust signal timings dynamically.

- [High-Speed, High-Accuracy Detection](#)

With a response time of <3ms, the system ensured real-time vehicle detection, even in high-speed scenarios like Fujian's expressways. The hardware-based FPGA algorithm guaranteed interference resistance and measurement precision, critical for enforcement systems (e.g., speeding detection) and security checkpoints.

- [Intelligent Adaptive Features](#)

The detector's background frequency auto-update tracked environmental changes (e.g., temperature, loop degradation), maintaining accuracy over time. Its anti-lock algorithm prevented data loss due to loop abnormal performance, reducing maintenance needs.

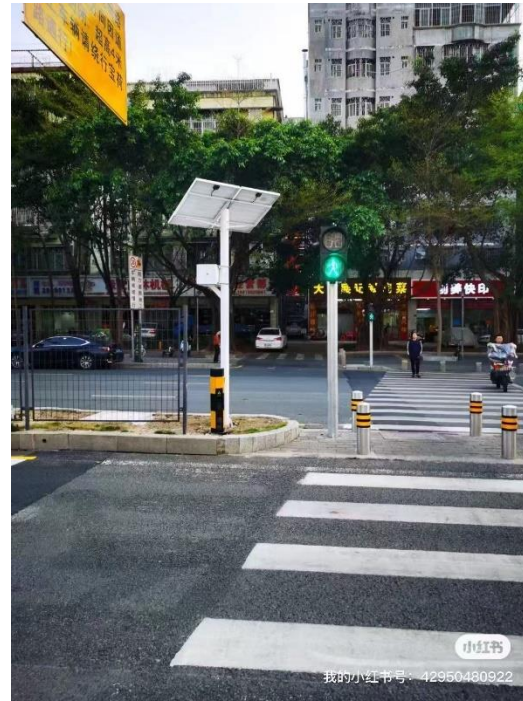
- [Enhanced Diagnostics and Visualization](#)

Real-time vehicle waveform displays allowed engineers to visually verify loop performance and diagnose installation issues (e.g., improper sealing, cable faults). The system's loop fault detection (open/short circuit alerts) enabled rapid troubleshooting, minimizing downtime.

[Full Story](#)

Case Study

ClairSaf-LS Laser Signal Smart Crosswalk Warning System

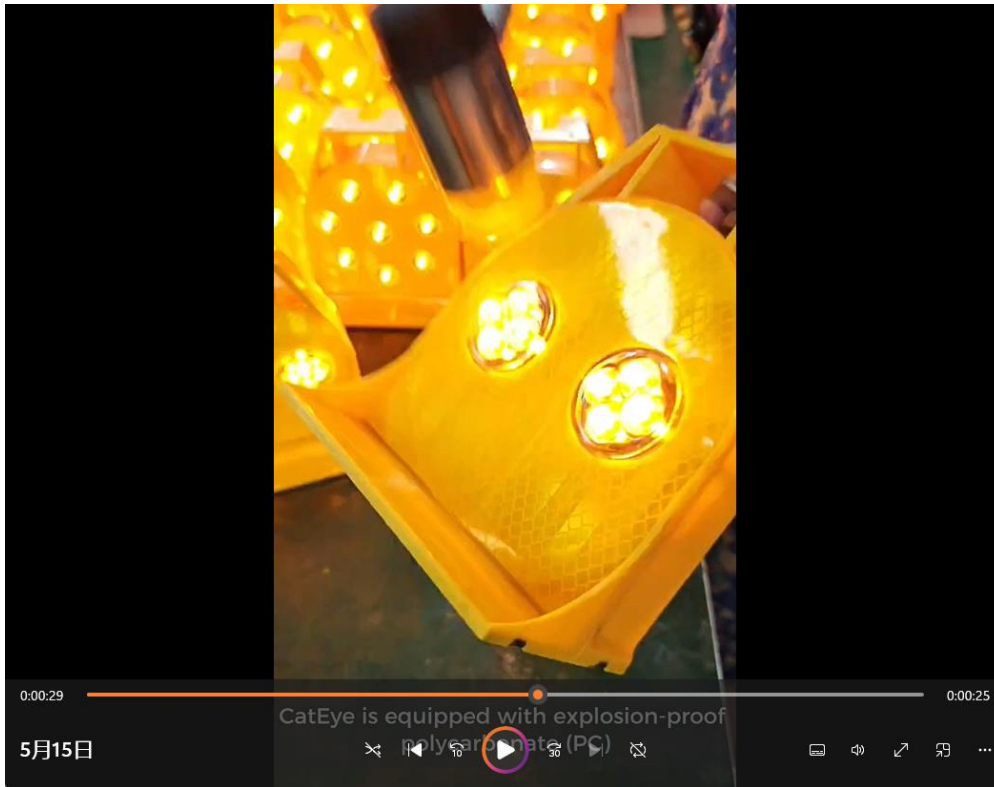


- Dual alerts for drivers and pedestrians,
- Visual and auditory warnings,
- Quick and easy installation with no road closures or demolition required.

[Product Page](#)
[Youtube Video 1](#)
[Youtube Video 2](#)

ClairSaf-CatEye

Impact Resistance Test



Solar-powered Synchronized Warning Light for the Highway Barrier

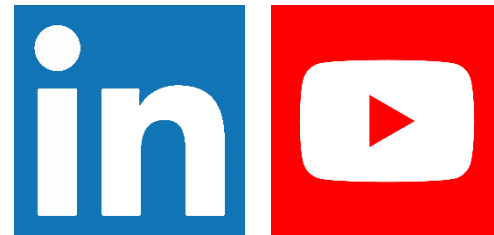
Highway durability, proven! Watch CatEye warning lights take a hit and keep shining.

Durability matters on the highway. CatEye warning lights are built with explosion-proof PC and rigorously tested to withstand blunt impacts—without compromising performance. Watch as we put them to the test!

[Youtube Video](#) [Product Page](#)

Join the journey towards the future of mobility.

Follow us on LinkedIn and YouTube as we unfold the next exciting chapter in traffic innovation!



[202502](#), [202503](#), [202504](#), [all previous issues...](#)



Thanks

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