TraffiClair

DYMEC
AMERICAN INDUSTRIAL

ClairBox Presentation

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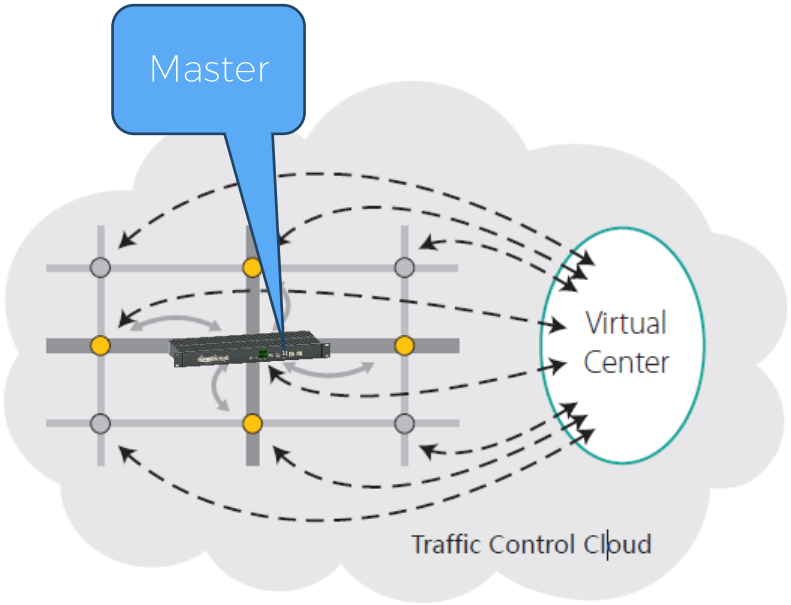
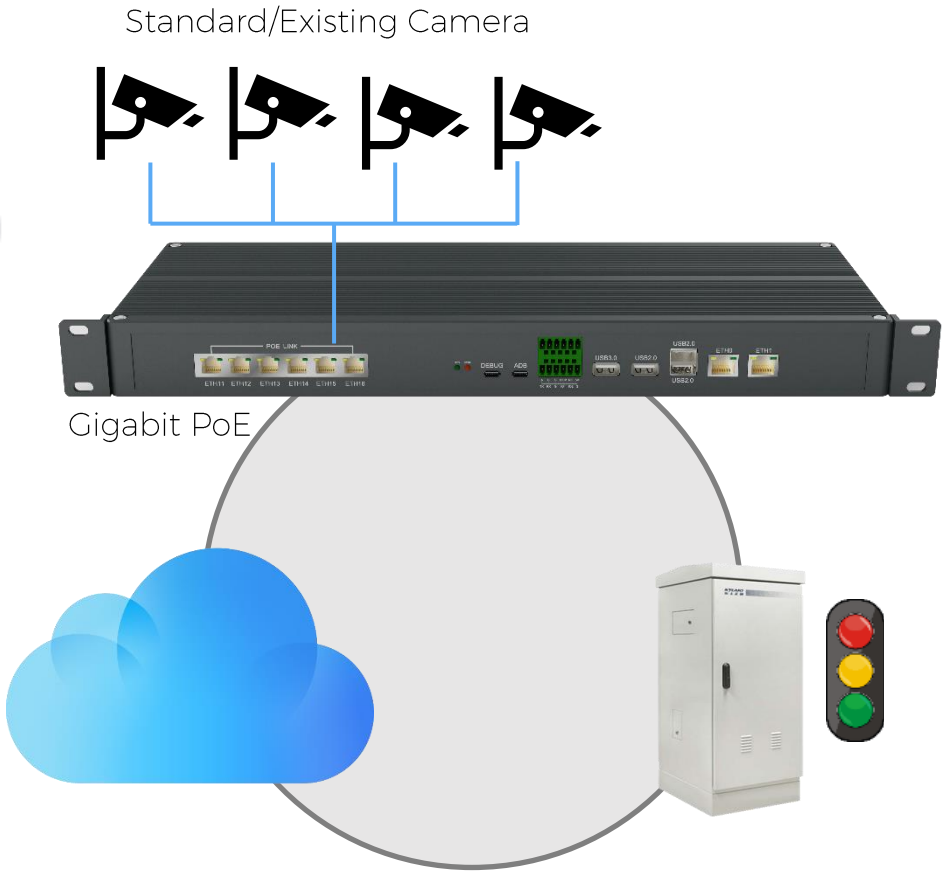
Distributed Control



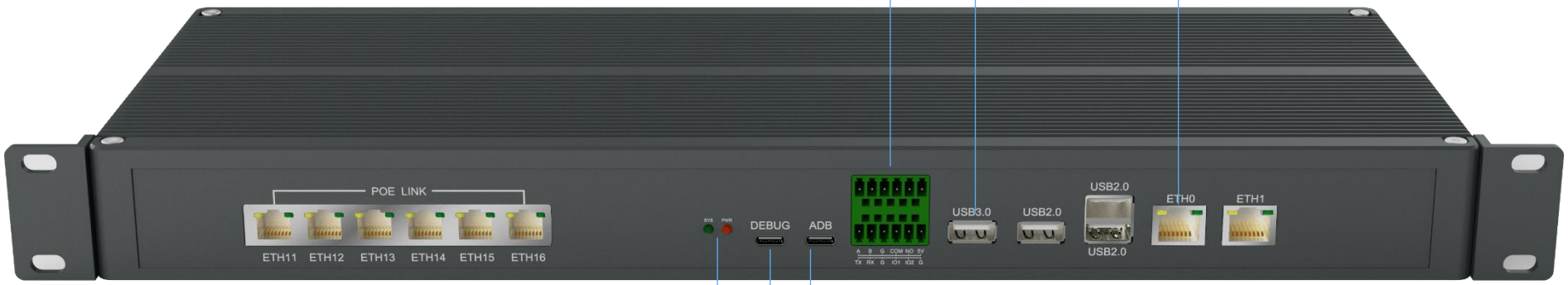
- Based on edge side computing, networked control
- Swarm Intelligent Dynamic Computing
- Computing based on a networked model
- Good real-time control, independent of central computing power



ClairBox-R Control Box
Video processing + signal optimization

- 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

Appearance



IO (For connecting 3rd party devices, e.g. controller)

3*USB2.0, 1*USB3.0 (for expanding all types of devices)

Ethernet outputs (directly connected to the CPU)

Gigabit PoE Ethernet Ports

ADB (Type C, for firmware upgrading)

Debug port

System operation
Power supply

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Hardware Specification

Hardware Spec	
Operating Temperature	-40 to 70°C (-40 to 190°F)
Humidity	0-95% non condensing
IP Class	IP40
Dimension	48.26cm * 16cm * 4.45cm
Power Supply	90-264 VAC 50/60Hz
Power Consumption	10W (without PoE), PoE 120W max
Mounting	Rack mounting
Storage	RAM8GB, EMMC32G Extendable: SSD(M.2) hard disk *1 or SATA hard disk *1 Detection data storage: 365 days (without extended storage)
Processor	NPU processor

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Software Features

	Software Features	
AI Video Detection (Optional)	Video Processing	Up to 8 * 1080P video stream @25fps
	Detection Objectives	• Stop bar vehicle detection • Road user identification • Traffic event identification • Traffic data collection • HD video surveillance
	Traffic Data Output	• Vehicle presence, traffic flow, occupancy, and 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 (Optional)	Control Scheme Optimization	Split, cycle, offset optimization
	Control Scheme Generation	Full scheme generation

Expandable Modules

Green wave generation	Coordinating the timing of traffic signals to allow a continuous flow of vehicles through a series of intersections
Special vehicle pre-emption	With the support of V2X module (both on sensor and box), vehicles with V2X OBU could get pre-emption signals
Traffic signal performance evaluation	Through the flow data collected by the sensors, the AI box can evaluate the efficiency of existing control scheme
Incident alert	Supported event identification include fog, fire, illegal reversing on expressway, road congestion, vehicle abnormal driving event and accident detection. Other events can be expanded per requirements (if the new event can be precisely defined.)
Touchless pedestrian button	Use ClairEye to monitor the pending pedestrians in the certain area and also the speed pedestrians walk cross the street, realize touchless pedestrian cross solutions.
Others	