



General Information

It is an advanced HD traffic video detector. It leverages the latest neural network technology to provide reliable traffic tracking, even in complex urban environments. Its sleek and compact design offers ease of installation, while it provides energy efficiency with a power consumption of less than 3 Watts. Existing vehicles provide real-time information on traffic flow, density, driver identification, and incident detection, allowing for efficient and effective optimization of traffic control in cities.

Artificial Intelligence and Artificial Neural Networks Processing Technology

- The built-in AI algorithm leverages machine learning and deep learning techniques using extensive real traffic data, enabling accurate detection and automated decision-making.
- Real-time traffic data output; It includes available vehicles, traffic flow, occupancy (detecting both entrances and exits to the detection zone) and identification of drivers.
- 80 different targets can be defined, including truck, car, motorcycle, bicycle, pedestrian and scenarios such as fog, fire, accident, traffic jams.

State-of-the-Art Image Acquisition with Superior Video Quality

- With the 0.0001Lux starlight CCD, there is no need for infrared fill light in low light and harsh weather conditions, while digital WDR technology provides even better suppression of intense light.
- Video sensor: 1080P, 1920*1080, 5 megapixel wide scene coverage

3 Watts Power Consumption and Compact Size

- Less than 3 watts, ultra-low power consumption
- Compact size of 85mm x 80mm x 218mm (W x D x H) and weight of 700g, IP67 protection class.
- Easy installation on all types of existing poles and roadsides.
- Ability to collect data and manage devices with a wide range of communication methods, including Ethernet, I/O and optional Wi-Fi, 4G/5G

Ready-to-Use Image Processing Solution for Signal Control Optimization

- For real-time traffic optimization, it offers an algorithm-integrated edge computing device that enables data to be processed and used without transmitting it to the center.
- Supports GB20999, NTCIP, and user-defined protocols. It can directly transmit real-time traffic data to any type of traffic controller or management platform.

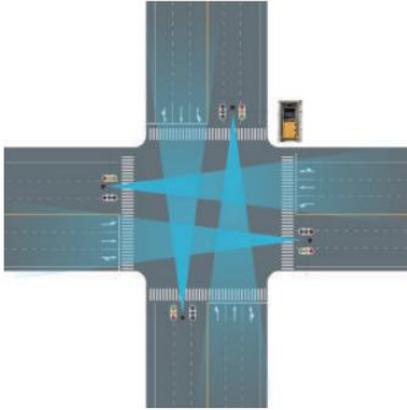
Artificial Intelligence-Supported Camera for Traffic Control

Technical Specifications

| | | |
|------------------------------|---|---|
| Detection Targets | Stop bar vehicle detection | |
| | Identification of drivers | |
| | Define a traffic event | |
| | Traffic data collection | |
| | HD video surveillance | |
| Traffic data output | Vehicle presence, traffic flow, occupancy and driver identification | |
| | Detection of 80 different targets, including trucks, cars, motorcycles, bicycles, pedestrians | |
| | Incident identification of fog, fire, illegal reversing on the highway, traffic congestion, abnormal vehicle use detection and accident detection, etc. | |
| Video | Artificial Intelligence Chip | NPU |
| | Sensor | 1/1.8-inch, 5-megapixel wide stage coverage |
| | Solubility | 1080P, 1920*1080 |
| | Lens | 2.8-12 mm |
| | Image Speed | 10-25FPs |
| | Encoding Formats | H.264, H.265 |
| Functional Indicators | Detection distance | 150 m |
| | Detection zone | Up to 32 detection zones and 32 virtual detectors |
| | Light filling mode | None |
| | Installation | The use of existing pedestrian traffic light poles, vehicle traffic light poles, street lamp poles and all kinds of roadside structures |
| | Management | Automatic reset, working status monitoring, embedded logging, remote batch upgrade, etc. |
| | Communication | RJ45*1, I/O*2, Optional RS485, Wi-Fi, 4G/5G |
| | Protokol | UDP/TCP |
| General features | Power supply | NPU |
| | Power consumption | Maximum 3W |
| | Operating Temperature | -35°C - +70°C |
| | Operating humidity | %0-%95 |
| | Size | 85mm*80mm*218mm (G*D*Y, Mounting bracket included) |
| | Weight | 700g (including mounting bracket) |
| | IP class | IP67 |

Applications

Intersection Adaptive Traffic Signal Control



Functions Overview

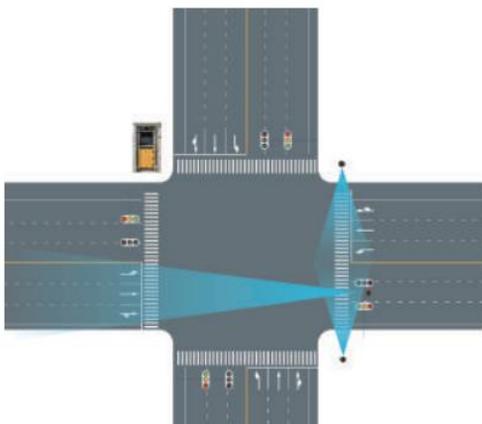
It integrates motor vehicle, private vehicle, non-motorized vehicle and pedestrian traffic request information at intersections. It automatically calculates and generates signal optimization plans in real-time according to different traffic demands. It identifies and responds to traffic scenarios and sudden special traffic situations. It realizes intersection adaptive traffic control without excessive human intervention and effectively solves traffic congestion problems.



Highlighted Technical Features

- AI video analysis algorithm, accurate identification of people, vehicles, and objects.
- Automatic traffic event analysis and alarm.
- Identifiable traffic scene recognition logic.
- Adaptive control of traffic signals.

Adaptive Control of Pedestrian Crossing



Functions Overview

Video recognition technology detects the pedestrian situation in the pedestrian waiting area and pedestrian crossing area in real time, including the number of people in the waiting area, the comprehensive waiting time, the pedestrian walking speed at the pedestrian crossing, and the pause situation. Combined with the demand for traffic flow of road vehicles and the demand for coordinated control of upstreams and downstreams, it enables optimal control of contactless automatic pedestrian traffic signals.

Highlighted Technical Features

- Video detection of pedestrian crossing requests with artificial intelligence.
- Active video detection for various scenarios.
- Automatic cancellation of pedestrian crossing requests.
- Pedestrian crossing adaptive control.

Artificial Intelligence-Supported Camera for Traffic Control

Incident Detection



Detection of unauthorized pedestrian/non-motorized vehicle entry:

Thanks to the pedestrian/non-motorized vehicle detection model, objects within the video ROI range are detected. In this way, pedestrians or non-motorized vehicles can be warned in good time



Dense Fog:

Through the highway visibility model, the visibility of the highway in the video is analyzed (visibility is divided into 6 levels), and if the visibility level is lower than level 3, it is immediately alerted



Fire:

Thanks to the fireworks detection model, the fireworks in the video are detected and a warning is issued.



Detection of improper reversals on the motorway:



Road jam incident detection:



Vehicle abnormal driving event detection:

| No | Zone Type | Local Output | Net Output | Confidence | Shape Filter | On Delay(S) | Off Delay(S) | DFM On | DFM Off | Default State |
|----|-----------|--------------|------------|------------|--------------|-------------|--------------|--------|---------|---------------|
| 1 | Line | 0 | 30 | 150 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2 | Line | 1 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3 | Zone | 2 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4 | Line | 3 | 30 | 150 | 0 | 0 | 0 | 0 | 0 | 1 |
| 5 | Line | 4 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6 | Line | 5 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7 | Line | 6 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8 | Zone | 7 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |