ClairWav T24

24GHz Traffic Control Radar Detector

DYMEC AMERICAN INDUSTRIAL



Overview

The ClairWav T24 Series Millimeter-wave Multi-target Traffic Control Radar Detector serves as a non-intrusive road traffic information collection sensor, capable of multi-lane, high-precision detection. It collects real-time, comprehensive, and accurate traffic information, including real-time vehicle position, instant speed, vehicle type classification, lane information, traffic volume, average speed, time occupancy rate, headway distance, queue length, and regional vehicle count, among other fundamental traffic statistics.

The ClairWav T24 Series is suitable for various application scenarios, including traffic information collection on highways, urban expressways, and more, traffic flow detection at urban intersections, roadside perception for V2X applications.

Key Features

- 24GHz operating frequency
- All-in-one solution combining the benefits of radar and camera
- Utilize a 5-megapixel camera for capturing wide scenes
- Coverage of up to 12 lanes
- A range of up to 400m (1312ft)
- Cross-section count reaches up to 64
- 90-degree field of view
- Detection of up to 256 traffic objects simultaneously
- Vehicle flow detection accuracy ≥95%
- Average vehicle speed detection accuracy ≥95%
- Queue Length detection accuracy above ≥95%



Specification

Model	ClairWav-T24L	ClairWav-T24S	ClairWav-T24LC	ClairWav-T24SC
Operating Frequency	24.0-24.25GHz	24.0-24.25GHz	24.0-24.25GHz	24.0-24.25GHz
Maximum Detection Distance	400m (1312ft)	250m (820ft)	400m (1312ft)	250m (820ft)
Non-motorized Vehicle/Pedestrian Detection Distance	180m (590ft)	100m (328ft)	180m (590ft)	100m (328ft)
Video Camera	None	None	5megapixels	5megapixels
Detection Speed Range	±220Km/h	±220Km/h	±220Km/h	±220Km/h
Horizontal Field of View	±45°	±45°	±45°	±45°
Vertical Field of View	±7°	±7°	±7°	±7°
Number of Lanes	12	12	12	12
Maximum Supported Cross-section Count	64	64	64	64
Simultaneously Detected Objects	256	128	256	128
Vehicle Flow Detection Accuracy	≥95%	≥95%	≥95%	≥95%
Average Vehicle Speed Detection Accuracy	≥95%	≥95%	≥95%	≥95%
Queue Length Detection Accuracy	≥95%	≥95%	≥95%	≥95%
Frame Rate	10fps	10fps	10fps	10fps
Dimension	210*154*58 (mm), 8.27*6.06*2.28 (inches).	210*154*58 (mm), 8.27*6.06*2.28 (inches).	210*154*58 (mm), 8.27*6.06*2.28 (inches).	210*154*58 (mm), 8.27*6.06*2.28 (inches).
Weight	2Kg	2Kg	2Kg	2Kg
Communication	100Mbps RJ45 Ethernet port	100Mbps RJ45 Ethernet port	100Mbps RJ45 Ethernet port	100Mbps RJ45 Ethernet port
Power Supply	DC24V (DC21.6V-32V)	DC24V (DC21.6V-32V)	DC24V (DC21.6V-32V)	DC24V (DC21.6V-32V)
Power Consumption	25W	18W	25W	25W
Operating Temperature	-40 to 70°C (-40 to 158°F)	-40 to 70°C (-40 to 158°F)	-40 to 70°C (-40 to 158°F)	-40 to 70°C (-40 to 158°F)
Storage Temperature	-45 to 85°C (-49 to 185°F)	-45 to 85°C (-49 to 185°F)	-45 to 85°C (-49 to 185°F)	-45 to 85°C (-49 to 185°F)
Humidity	≤95%	≤95%	≤95%	≤95%
Protection Class	IP67	IP67	IP67	IP67
MTBF	10 Years	10 Years	10 Years	10 Years

Ordering Information

Model	Description
ClairWav-T24L	24GHz, multi-target traffic control radar detector, the detection distance ranges up to 400m
ClairWav-T24S	24GHz, multi-target traffic control radar detector, the detection distance ranges up to 250m
ClairWav-T24LC	24GHz, multi-target traffic control radar detector integrated with video camera, the detection distance ranges up to 400m
ClairWav-T24SC	24GHz, multi-target traffic control radar detector integrated with video camera, the detection distance ranges up to 250m

ClairWav T77

77GHz Traffic Control Radar Detector

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Overview

The ClairWav T77 Series forward-facing multi-target traffic control radar is a high-performance, long-distance, front-mounted intelligent traffic detection device capable of detecting objects up to a maximum range of 300 meters. Its primary application scenarios include providing vehicle detection for traffic signal control systems, enabling signal sensing and control at large, medium, and small intersections, as well as conducting traffic flow surveys on highways and urban expressways. It can also connect with various intelligent traffic devices, allowing for a wider range of applications, such as smart parking and intelligent streetlight control. This product is characterized by its ability to track multiple targets, high detection accuracy, stable and reliable operation, easy installation and setup, and ease of maintenance.

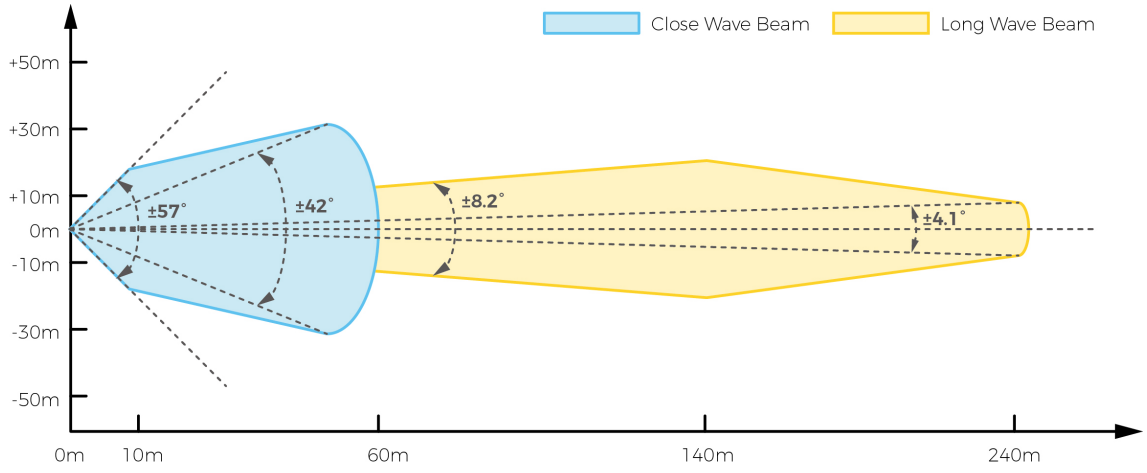
Key Features

- Provides information about traffic flow, real-time speed/average speed, presence, and queue length for 1-8 lanes within a range of 300 meters.
- Can simulate the real-time presence of vehicles using either single or double loops, with adjustable loop size and position through software.
- Easy installation and setup, compatible with existing road infrastructure, featuring a simple structure.
- Suitable for all weather conditions, including rain, fog, snow, strong winds, ice, and dust.
- Offers protection against reverse power connection, voltage overload, surge protection, and lightning shielding for the equipment.
- Provides an option for built-in Power over Ethernet (PoE) version, simplifying installation by combining power supply and data transmission through a single network cable.



- Output interfaces support RS485 or 10/100M adaptive network data output, making it compatible with various platforms.
- 11 watts low power consumption and the option for environmentally friendly solar power supply.

ClairWav-T77 Wave Beam Schematic Diagram



Specification

Model	ClairWav-T77
Operating Frequency	77GHz
Modulation Mode	PD Pulse Code Modulation
Operating Mode	Front-mounted
Vehicle Speed Detection Range	0 to 180 km/h
Vehicle Speed Detection Error	≤1%
Flow Detection Accuracy	≥95%
Maximum Detection Range	300m (984ft)
Simultaneously Detected Objects	128
Number of Lanes	8
Data Processing Cycle	Adjustable from 0 to 3600 seconds
Power Supply	DC24V (PoE optional)
Power Consumption	11W
Communication	100Mbps RJ45 Ethernet port (RS485 optional)
Operating Temperature	-40 to 85°C (-40 to 185°F)
Operating Humidity Range	5% to 95% RH
IP Rating	IP65
Dimension	135*99*42(mm) (excluding the bracket), 5.32*3.90*1.65 (inches)
Electromagnetic Compatibility	Complies with GB/T 17618-1998 "Limits and Measurement Methods for Electromagnetic Compatibility of Information Technology Equipment" requirements
MTBF	10 years
MTTR	≤30 minutes

Ordering Information

ClairWav-T77: 77GHz, multi-target traffic control radar detector, the detection distance ranges up to 300m, DC24V power input, communication and configuration through 100M RJ45 Ethernet port. (RS485, or POE power supply can be supported on demand.)

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sales@trafficlair.com

ClairWav P60

60GHz Pedestrian Radar Detector

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Overview

The ClairWav P60 pedestrian radar is a cost-effective intelligent traffic control device that can detect pedestrian movement within a specific area, including tracking their trajectories and identifying stationary positions. It is suitable for various applications, such as pedestrian crosswalk requests at urban road intersections, monitoring pedestrian movement in specific areas, and indoor pedestrian activity tracking. This product is characterized by its high measurement accuracy, reliable and stable operation, easy installation and setup, and ease of maintenance.

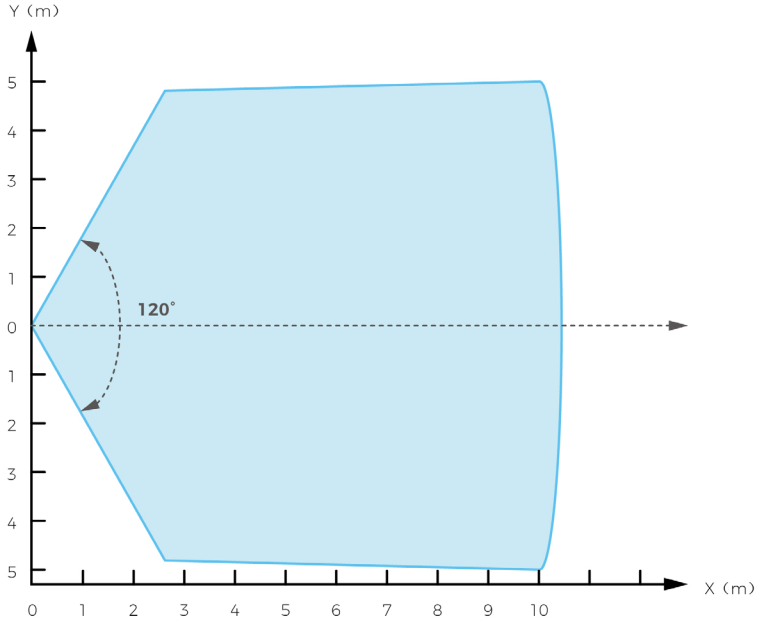
Key Features

- It can detect pedestrian movement trajectories and stationary positions.
- Within its beam range, it can be divided into two detection zones as needed.
- The output protocol allows for flexible implementation of pedestrian crosswalk applications, such as crosswalk buttons, pedestrian jaywalking alerts, and designating special non-residential areas.
- The output IO is accurate, efficient, reliable, and easily interfaced with traffic signals.
- It is suitable for industrial environments and is not affected by external factors like lighting, dust, rain, and snow.
- It has modular installation, making it easy to configure and suitable for on-site construction.



- It has max 5 watts low energy consumption, which results in low electricity requirements and costs.

ClairWav-P60 Wave Beam Schematic Diagram



Specification

Model	ClairWav-P60
Operating Frequency	60GHz
Installation Method	Column-side mount
Installation Height	2.0 - 2.5m (6.5 - 8.2ft)
Detection Range	0.5 - 10m (1.6 - 32.8ft)
Target Resolution	1.5m (4.9ft)
Positioning Accuracy	0.5m (1.6ft)
Beam Angle	Horizontal 120°
Installation Downward Angle	10 - 20°
Power Consumption	5W
Power Supply	DC12/24V
Communication	RS485/IO
Operating Temperature	-40 to 65℃ (-40 to 181℉)
Operating Humidity Range	5% to 95% RH
IP Rating	IP65
Dimension	120*113*37.5(mm), (excluding the bracket), 4.72*4.45*1.48 (inches).
Electromagnetic Compatibility	Complies with GB/T 17618-1998 "Limits and Measurement Methods for Electromagnetic Compatibility of Information Technology Equipment" requirements
MTBF	10 years
MTTR	≤30 minutes

Ordering Information

ClairWav-P60: 60GHz, the pedestrian radar detector, the detection distance ranges up to 10m.

ClairWav E24

24GHz Enforcement Radar Detector

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Overview

The ClairWav E24 fixed-angle enforcement radar detector is a speed radar product that combines advanced microwave positioning and speed measurement technology with years of experience in traffic radar applications. It innovatively combines precise speed measurement with high-precision positioning to achieve accurate and consistent triggering of vehicle locations at checkpoints. This radar product can accurately and in real-time measure the speed of target vehicles and provide precise triggering signals to capture cameras, allowing vehicles of different speeds and sizes to be captured at the same location.

The fixed-angle radar speed detector also includes practical features such as bi-directional triggering (capturing vehicles traveling in both directions), head-tail triggering, vehicle counting, and vehicle length information. The optimized system design and processing methods ensure that, when integrated with cameras, it can still accurately trigger in low-speed, closely spaced vehicle conditions and adverse weather conditions, thus ensuring a high capture rate.

Key Features

- 4 different operating modes, providing users with flexibility to choose the desired mode.
- It can be used in conjunction with an electronically controlled zoom camera, allowing for pole-free adjustment.
- Accurate and sensitive triggering positions with strong resistance to interference from neighboring lanes.
- Open communication protocols that can be customized according to user needs.
- All-weather speed measurement, unaffected by external factors like lighting, dust, rain, and snow.
- Simple radar operation with easy installation and maintenance.
- Built-in storage to ensure that radar configuration information is not lost even after a power outage.



Specification

Model	ClairWav-E24
Antenna Type	Flat-panel microstrip array antenna
Operating Frequency	24GHz
Operating Mode	1. Side-mounted speed beam trigger mode: Activated when a vehicle enters the radar beam angle range, with a beam angle of 6°. 2. Top-mounted speed distance (range) trigger mode: Activated when a vehicle enters the radar beam and reaches the software preset distance with a beam angle of 28°. 3. RAW target mode: Outputs the speed, distance, estimated vehicle length, and target number for each target. 4. RAW point track mode: Outputs the speed, distance, angle, and target number of detected point track targets.
Transmit Bandwidth	750KHz
Transmit Power	20dBm
Speed Measurement Range	5 km/h to 320 km/h
Speed Measurement Accuracy	1 km/h
Measurement Range	0 to 45m (0-148ft)
Range Measurement Accuracy	1m (3.3ft)
Angle Measurement Range	28°
Angle Measurement Accuracy	1°
Capture Rate	99%
Communication	RS485
Power Supply	DC12V (DC10.5-18V)
Power Consumption	4.5W
Response Time	≤25ms
Operating Temperature	-40 to 70°C (-40 to 158°F)
Operating Humidity Range	5% to 95% RH
IP Rating	IP65
Dimension	234*140*33 (mm), 9.21*5.51*1.30 (inches)

Ordering Information

ClairWav-E24: 24GHz, the enforcement radar detector, the detection distance ranges up to 45m, the detection speed ranges from 5 to 320 km/h.