



DESIGN
AWARD
2021



Ekin SPOTTER

The First and
Only Entirely Modular
Smart City Furniture

Ekin

Leader in Smart City Innovations

A photograph of a modern city street with several tall, modern buildings. The building on the left has a curved glass facade reflecting the sky. The building in the center is a tall, white, rectangular structure. The building on the right is a dark, modern structure. The street is paved with asphalt and has white lane markings. A dark blue, semi-transparent text box is overlaid on the lower half of the image, containing white text. The text describes a smart city furniture solution.

A first of its kind smart city furniture that offers multiple solutions operated by several modules for traffic analytics and management, environmental analysis and city surveillance.



Why Ekin Spotter?

Easily Adaptable for Smart Cities

The Ekin Spotter is the only smart city furniture that is capable of multiple functions with customized modules. The system provides the flexibility to add modules according to a city's requirement while eliminating infrastructure costs, transforming cities into smart sustainable cities.

All Compact Design

A self-contained unit that requires no additional hardware or infrastructure.

One elegant and sleek smart city furniture encompassing all the features required by smart cities today.

Day & Night Top-Tier Surveillance

Ekin's proprietary cameras can monitor wide-reaching areas and record videos with high-resolution images able to surveil throughout the night with its built-in illumination while maintaining sharpness and focus.

Central Management by Ekin Maestro OS

Ekin Maestro OS operates the entire traffic systems of a city from one central back office including Ekin Spotter and other Ekin devices. Working simultaneously and in real-time to generate alerts and guarantee an effective response time.

System Care for Environmental Conditions

Using its environmental sensors, the Spotter can monitor air quality index, temperature and humidity control. These solutions track and record data that can enact environmental policy reform to improve quality of life for citizens.



ECE R65



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Part 15 Subpart B

FUNCTIONS



Number Plate Recognition

- Recognition of every number plate in the field of view with its video-based number plate recognition technology
- Automatic number plate recognition simultaneously for incoming, outgoing or parked vehicles
- Instant database comparison of wanted or stolen vehicles



Speed Enforcement

- Automatic speed detection range for all the vehicles in its field of view
- Adjustable speed limit in each traffic lane
- Automatic official fine or report issuing containing required violation information



Parking Management

- Parking violation detection in designated parking zones
- Generates Instant citations or reports containing required violation information



Video Surveillance

- 24/7 surveillance and video recording
- Day and night high-definition video recording in adverse weather conditions



Red Light Enforcement

- High resolution videos and images of all red-light violations
- Automatic official fine or reports containing required violation information
- No cable connection required
- Utilizes video analytics to detect traffic light status



Advanced Traffic Management

- Tailgating detection
- Bus/truck lane violation detection
- Low speed violation detection
- Emergency lane violation detection
- Lane violation detection for different vehicle classes
- Wrong way driving detection
- Object detection on the road for parked vehicle or pedestrians
- Accident detection
- Hard brake detection
- Average speed enforcement between Ekin Spotter and any mobile system



Smart City Environmental Analysis

- Air Quality Index
- Temperature Detection
- Humidity Detection
- Carbon Monoxide Detection

MODULES



Antenna Module

Provides connectivity between other systems via LTE & Wi-Fi connection while housing the GPS unit.



ATS Module

Anti-Tampering System – Ensures prevention of unauthorized access to the product.



Eco-City Module

Provides environmental insights from air quality index to temperature measurement in real-time.



Illumination IR Module

Provides perfect visibility and consistent results under various conditions with the help of IR capable led module.



Illumination WF Module

Provides perfect visibility and consistent results under various conditions with the help of led white flash module.



Hotspot Module

Deploys Wi-Fi network in public locations.



Safe Traffic Module

Performs automated speed enforcement and advanced traffic management with ANPR (Automatic Number Plate Recognition).



Speaker Module

Performs as a PA system (Public Announcement) that is capable of playing music, broadcasting announcements, and can perform as a voiced traffic light for crosswalks.



Speed Sensor Module

Performs automated speed enforcement.



Surveillance Module

Performs 24/7 high-definition video recording.



U Turn Module

Performs U-Turn violation enforcement at banned junctions and automatically generates violation reports.



Post

Provides a safe environment for processors to live in, while providing passive cooling with its design. Post also provides energy management without the need of an external power box.







ATC + U Turn Module




Anti-Tampering System & U Turn enforcement capabilities in a single module without compromising the performance.

TECHNICAL FEATURES















DETECTION

 Speed Range	Up to 320 Km/h
 Coverage	6 lanes including approaching and departing vehicles (expandable up to 12 lanes)
 Number of Simultaneously Detected Vehicles	Over 100 vehicles
 Accuracy	±1 km/h speed detection range accuracy







ILLUMINATION

 IR Spot	✓
 Day and Night Number Plate Detection	✓
 Flash	Optional




SYSTEM SOFTWARE

 Automatic Number Plate Recognition	24/7 for all the vehicles in the field of view
 Advanced Traffic Management	Optional
 Web Service	✓
 Protocol	TCP/IP, UDP, NTP, FTP, RAW
 Various Database Support	SQL/NoSQL
 Alarm Management	✓
 Remote Secure Installation and Access	✓
 Violation Photo and Video Evidence	✓
 24/7 Surveillance Record	✓
 Watermark	Applied on all photos and videos
 Media Local Storage	Up to 32 TB
 Vehicle Color, Brand, Type and Model Detection	Optional
 Communication with Other Smart City Solutions via Ekin Maestro OS	✓
 Location information of the system via GPS	✓





CENTRAL SOFTWARE

 Various Database Support	SQL/NoSQL
 Graded Authorization	Admin, Supervisor, Users
 Customizable Fine Printing	✓
 SMS and Mail Support	✓
 Automatic Update	✓
 Log Record	✓















ELECTRICAL FEATURES

 Connection Interfaces	Ethernet, LTE
 Required Power Supply	12 VDC/400 Watt
 Power Consumption	100 Watt/Hour

ENVIRONMENTAL FEATURES

 Operating Temperature	-25°C ~ +60°C / -13°F ~ +140°F
 Storage Temperature	-25°C ~ +70°C / -13°F ~ +158°F
 Humidity Rate	95% non-condensing
 Protection Class	IP66

PRODUCT DIMENSIONS

 Circumference	256 mm
 Antenna Module	250 mm
 ATS Module	370 mm
 Eco-City Module	250 mm
 Illumination WF Module	370 mm
 Illumination IR Module	370 mm
 Hotspot Module	370 mm
 Safe Traffic Module	675 mm
 Speaker Module	370 mm
 Speed Sensor Module	370 mm
 Surveillance Module	370 mm
 U Turn Module	370 mm
 Post	2000 mm
 ATS + U Turn Module	370 mm



Leader in Smart City Innovations

Fixed Products

Ekin Spotter

Ekin Box Spotter

Ekin X Spotter

Mobile Products

Ekin Patrol G2

Ekin Micro Patrol

Ekin X Spotter Mobile

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