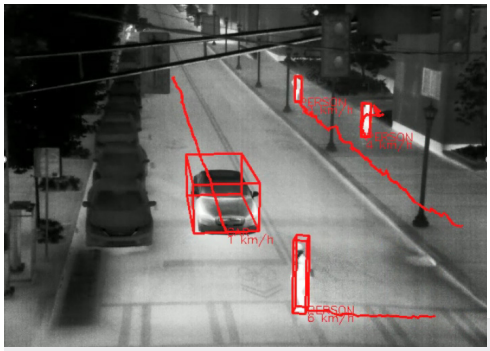
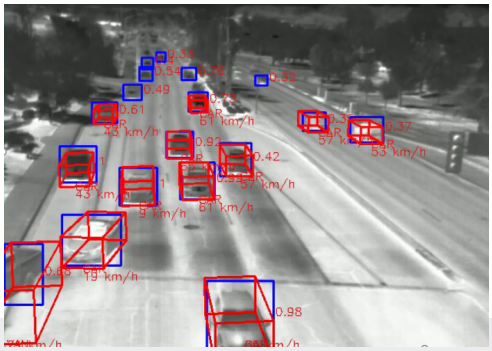
AI-POWERED THERMAL TRAFFIC SENSOR

TRAFISENSE AI

Designed to reliably detect and classify road users, TrafiSense AI is an intelligent thermal imaging sensor for traffic monitoring in complex urban environments. Featuring AI algorithms built on 25+ years of traffic detection and best-in-class thermal imaging, TrafiSense AI delivers continuous vision and data collection for safer, more efficient cities. Capable of tracking multiple objects in any lighting condition, the advanced edge-based AI technology effectively controls intersections, helps protect vulnerable road users, and gathers detailed traffic data for better city planning decisions.

www.flir.com/Traffic





UNMATCHED DETECTION AND CONTROL

Edge-based AI and 24/7 thermal detection offer advanced intersection control that outperforms other technologies

- Thermal imaging helps provide reliable detection in complete darkness, glaring sunlight, and challenging weather conditions
- Detect the position, speed, and heading of vehicles and vulnerable road users such as bicyclists and pedestrians
- Directly integrate with traffic controllers through accurate virtual loop configuration and dry contacts

FUTUREPROOF TRAFFIC INSIGHT

TrafiSense AI captures advanced and high-resolution traffic data for better-informed city planning decisions

- Collect vehicle class and measure traffic volume, speed, and occupancy
- Gather valuable data, including vehicle trajectories throughout intersections
- Provides real-time integration over APIs for adaptive and predictive traffic systems

COMPREHENSIVE REPORTING

Generate automated reports with Acyclica to identify bottlenecks

- Determine the turning movement count per vehicle class at intersections throughout the day
- Create heatmaps with TrafiSense AI data to pinpoint areas with potential safety issues
- Streamlined data visualization creates easy-to-read, compelling reasoning for city planning adjustments

TECHNICAL SPECIFICATIONS

System Overview			
Functionalities	Vehicle, Bicycle and Pedestrian Presence Detection Traffic Data Collection (Integrated Data) Queue Length Monitoring Premium Traffic Data Collection (Individual Data) - optional license Wrong Way Driver Detection - optional license		
Services	FLIR VSO data - optional Acyclica license Wi-Fi Travel Time analytics - optional Acyclica license Modules (Reporting Module, Planning Module, Signal Timing Tools) - optional Acyclica licenses		
Detection Zones	24 virtual loops for presence detection 8 traffic data zones for classification and counting 8 Bicycle & Pedestrian detection zones 4 Queue Length Monitoring zones 6 Wrong Way Driver detection zones		
Configuration	Local/remote web page setup via Wi-Fi, PoE or BPL		
Imaging & Optical			
Type	Focal Plane Array (FPA) Uncooled VOx microbolometer Long wave Infrared (7 – 14 µm)		
Resolution	VGA (640 x 480)		
Frame Rate	30 fps		
Compression	H.264, MPJEG		
Streaming Video	RTSP		
Product Types			
	Part Number	Field of View	Detection Distance for Vehicle Presence
TrafiSense AI - 690	10-7750	90°H x 69°V	5 - 100 ft
TrafiSense AI - 644	10-7754	44°H x 35°V	30 - 245 ft
TrafiSense AI - 632	10-7756	32°H x 26°V	100 - 300 ft
Mechanical			
Material	Aluminum housing with integrated polycarbonate sunshield		
Dimensions (incl. mounting bracket)	Vertically mounted: 9.8 in x 6.3 in x 4.7 in Horizontally mounted:16.2 in x 7.1 in x 4.7 in		
Electrical			
Input power	24-42 VAC / 24-48 VDC		
Power consumption	Avg 10.5 W / Peak 15 W		
Communication			
Output contacts	1 N/O and 1 N/C dry contact direct 4 N/C dry contacts via TI BPL2 EDGE interface (more with additional 4 I/O USB expansion boards) SDLC to traffic light controller via TI BPL2 EDGE interface and PIM module		
PoE	PoE mode A for configuration, video streaming and data communication		
BPL	80 Mbps Broadband over Powerline communication via TI BPL2 Edge interface		
Wi-Fi	IEEE 802.11 type b,g,n EIRP < 100mW		
Environmental			
Shock & Vibration	NEMA TS2 specs		
Materials	All weatherproof UV resistant		
IP Rating	IP 67		
Temperature Range	-29°F to +165°F		
Regulatory			
FCC / EU Directives	FCC part 15 class A, EMC 2014/30/EU RoHS 2011/65/EU, LVD 2014/35/EU		

Specifications are subject to change without notice. For the most up-to-date specs, go to www.flir.com

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20-0986-ITS-TrafiSense

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