FLIR TrafiSense

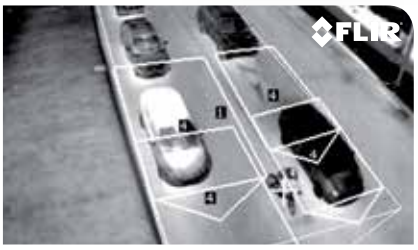
The world's first integrated thermal traffic sensor

TrafiSense is an integrated thermal camera and detector for vehicle and bike detection. TrafiSense does not need light to operate, but uses the thermal energy emitted from vehicles and bicyclists. This enables the sensor to detect vehicles and bikes in the darkest of nights, over a long range and in the most difficult weather conditions. The result is reliable, 24/7 traffic detection for a wide range of applications.

INTERSECTION CONTROL

TrafiSense can be used to control traffic lights by detecting vehicles and bicycles at and nearby the stop bar. The intelligent TrafiSense sensor will transmit its detection information over contact closures or over IP to the traffic light controller and will thus allow a more dynamic control of traffic lights. This results in reduced vehicle idling time, improved traffic flow and improved safety and mobility for bicyclists. Typical intersection applications are 'green on demand' and 'lengthening green times'.

TrafiSense uses the thermal energy emitted from vehicles and bicyclists to make a distinction between both. The intelligent sensor can provide the traffic light controller with specific information on vehicle and bike presence, which allows traffic managers to make more intelligent decisions and adapt green times according to the specific road user type (bike or other vehicle).



Intersection control

Inverse direction detection

INVERSE DIRECTION DETECTION

Through real-time analysis of thermal images, TrafiSense will detect wrong-way drivers on highways, highway entries and exits, or inter-urban roads in a matter of seconds. TrafiSense's algorithms are based on proven performance of more than 20 years.

VEHICLE AND BICYCLE COUNTING

TrafiSense also offers vehicle and bicycle counting. This functionality can work simultaneously with the presence detection functionality and uses the same detection zones and regions.

KEY BENEFITS:

- CAMERA AND DETECTOR INTEGRATED INTO ONE UNIT
- SIMPLE AND QUICK INSTALLATION
- PROVEN DETECTION PERFORMANCE
- 24-HOUR DETECTION, AT NIGHT AND IN THE MOST DIFFICULT WEATHER CONDITIONS
- NO NEED FOR ADDITIONAL LIGHTING
- DETECTION OVER LONG RANGE AND ACROSS DIFFERENT LANES (TYPICALLY UP TO 4 - DEPENDING ON LENS)

Technical Specifications

System Overview	TrafiSense				
Detection functionalities	Vehicle and bike presence, counting, inverse direction, traffic data collection				
# detection zones	24 vehicle presence zones 8 bike presence regions 8 inverse direction zones 8 traffic data zones				
Camera					
Resolution	QVGA (336 x 256)				
Frame rate	30 FPS				
Type	Long wave Infrared (7 – 14 µm)				
Compression	H.264, MPEG-4, MJPEG (dual stream)				
	Part number	**Focal distance**	**Field of view**	**Functionality**	**Distance (vehicle presence)**
TrafiSense ETH/BPL 390 (wide angle)	ETH: 10-7045 BPL: 10-7035	7.5 mm	Horizontal: 90° Vertical: 69°	Vehicle presence Bike presence Inverse direction Counting	0-25m 0-85ft
TrafiSense ETH/BPL 345 (wide-medium angle)	ETH: 10-7044 BPL: 10-7034	7.5 mm	Horizontal: 45° Vertical: 35°	Vehicle presence Bike presence Inverse direction Counting	5-50m 16-160ft
TrafiSense ETH/BPL 335 (medium angle)	ETH: 10-7046 BPL: 10-7036	9 mm	Horizontal: 35° Vertical: 27°	Vehicle presence Bike presence Inverse direction	15-75m 50-245ft
TrafiSense ETH/BPL 325 (medium-narrow angle)	ETH: 10-7047 BPL: 10-7037	13 mm	Horizontal: 25° Vertical: 19°	Vehicle presence Bike presence Inverse direction	30-90m 100-300ft
TrafiSense BPL 317 (narrow angle)	ETH: 10-7048 BPL: 10-7038	19 mm	Horizontal: 17° Vertical: 13°	Vehicle presence Bike presence	45-120m 145-400ft
Housing					
Material	Aluminum				
Dimensions (incl. mounting bracket)	Vertically mounted 45cm x 16cm x 12cm (17.7 x 6.3 x 4.7 inch) Horizontally mounted 41cm x 18cm x 12cm (16.1 x 7.1 x 4.7 inch)				
Sunshield	Optional				
Power, outputs, communications					
Contact closures	3 for ETH versions, direct or via optional ETH interface (PN 10-6075) 4 for TI x-stream EDGE (PN 10-6055), 12 extra outputs via 4/Os xp expansion boards				
Ethernet	For communication of output state events, configuration & monitoring (streaming video)				
Input Power	12-42VDC, 12-30VAC				
Current Consumption	ETH: < 150mA @ 24VDC (< 250mA @ 24VDC peak at start-up) BPL: < 230mA @ 24VDC (< 315mA @ 24VDC peak at start-up)				
Power Consumption	ETH: ≤ 3.6W average, ≤ 6W peak (at start-up) BPL: ≤ 5.5W average, ≤ 7.5W peak (at start-up)				
PC tool for set-up	Traficon Configuration Tool (TCT)				
Regulatory					
EU Directives	EMC 2014/30/EU				
RoHS 2011/65/EU	0-95% relative				
Environmental					
Shock & Vibration	NEMA II specs				
Materials	All weatherproof (UV-resistant)				
Protection Grades	Housing = IP68, Connectors = IP67				
Temperature Range	From -34°C to +80°C (-29°F to 176°F)				
FCC	FCC part 15 class A				

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