FLIR TrafiSense

The world's first integrated thermal traffic sensor

FLIR's TrafiSense uses an integrated thermal sensor for the detection of vehicles, bicyclists and pedestrians. Like all FLIR thermal sensors, TrafiSense senses thermal energy, not visible light. Therefore, the sensor will give reliable presence detection in the darkest of nights, over a long range, and in the most difficult weather conditions.

VEHICLE, BICYCLE AND PEDESTRIAN PRESENCE DETECTION

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

Vehicle & bicycle presence detection

The intelligent TrafiSense sensor can distinguish between vehicles and bicyclists, which allows traffic controllers to make more intelligent decisions and adapt green times according to the specific road user type. TrafiSense also allows traffic controllers to adapt traffic signals for pedestrians or activate presence-based warning signals to make pedestrians more visible on crossings.

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.

On-crossing pedestrian detection

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:

- SENSOR 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)

Imaging Specifications

System Overview	TrafiSense			
Detection functionalities	Vehicle and bicycle presence detection, vehicle and bicycle counting, pedestrian presence detection, traffic data collection, inverse direction detection			
# detection zones	24 vehicle presence zones 8 bicycle presence regions 8 pedestrian zones 8 traffic data zones 8 inverse direction zones			
Camera				
Resolution	QVGA (336 x 256)			
Frame rate	30 FPS			
Type	Long wave Infrared (7 – 14 µm)			
Compression	H.264, MPEG-4, MJPEG			
	Part number	**Field of view**	**Functionality**	**Distance (vehicle presence)**
TrafiSense ETH/BPL 390	ETH: 10-7045 BPL: 10-7035	Horizontal: 90° Vertical: 69°	Vehicle presence, Bicycle presence, Inverse direction, Vehicle and bicycle counting, Pedestrian presence	0 - 80 ft
TrafiSense ETH/BPL 345	ETH: 10-7044 BPL: 10-7034	Horizontal: 45° Vertical: 35°	Vehicle presence, Bicycle presence, Inverse direction, Vehicle and bicycle counting, Pedestrian presence	16 - 160ft
TrafiSense ETH/BPL 335	ETH: 10-7046 BPL: 10-7036	Horizontal: 35° Vertical: 27°	Vehicle presence, Bicycle presence, Inverse direction, Vehicle and bicycle counting, Pedestrian presence	35 - 245 ft
TrafiSense ETH/BPL 325	ETH: 10-7047 BPL: 10-7037	Horizontal: 25° Vertical: 19°	Vehicle presence, Bicycle presence, Inverse direction	100 - 300 ft
TrafiSense ETH/BPL 317	ETH: 10-7048 BPL: 10-7038	Horizontal 17° Vertical 13°	Vehicle presence, bike presence	145 - 400 ft
Housing				
Material	Aluminum			
Dimensions (incl. mounting bracket)	Vertically mounted 17.7 x 6.3 x 4.7 inch Horizontally mounted 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) 24 for BPL versions, 4 outputs via TI x-stream EDGE (PN 10-6055), up to 20 extra outputs via up to 5 4/Os xp expansion boards Note: in TS2 mode, SDLC via TI x-stream EDGE and PIM module			
Ethernet	For communication of output state events, configuration & monitoring (streaming video)			
Input Power	12-42VDC, 12-30VAC			
Current Consumption	BPL: < 230 mA @ 24VDC (< 320mA @ 24VDC peak at startup) ETH: < 130 mA @ 24VDC (< 250mA @ 24VDC peak at startup)			
Power Consumption	BPL: < 5.5W (< 7.5W peak at startup) ETH: < 3.1W (< 6W peak at startup)			
PC tool for set-up	Traficon Configuration Tool (TCT)			
Regulatory				
EU Directives	EMC 2004/108/EC, RoHS 2011/65/EU			
Environmental				
Shock & Vibration	NEMA TS2 specs			
Materials	All weatherproof (UV-resistant)			
Protection Grades	Housing = IP68, Connectors = IP67			
Temperature Range	From -29°F to 165°F (-34°C to +80°C)			
FCC	FCC part 15 Class A			

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