

# FLIR *ThermiCam Rail*

The world's first intelligent thermal sensor  
for rail transport safety

ThermiCam Rail is an integrated thermal camera and detector for obstacle detection in a public transportation environment. ThermiCam Rail does not need light to operate, but uses the thermal energy emitted from obstacles. This enables the sensor to detect vehicles, people and large animals in the darkest of nights, over a long range and in the most difficult weather conditions. The result is reliable, 24/7 detection for a wide range of applications.

## PLATFORM, TUNNEL AND TRACK SAFETY

ThermiCam Rail is a cost-effective solution for the detection of people falling off a platform, people entering a tunnel and people or large animals that enter the rail tracks. Contact closures and TCP/IP messages are sent upon detection of a person in a user-configurable detection zone to an operator for immediate action.

ThermiCam Rail uses thermal imaging to detect people in between the different movements of trains and trams going through the detection field of view. Next to suppressing train movement, ThermiCam Rail can also ignore small animals from its detection.

## LEVEL CROSSING OBSTACLE DETECTION

ThermiCam Rail can be used to prevent collisions by detecting vehicles that are stuck on the level crossing and blocking the passage of an approaching train. The intelligent ThermiCam Rail sensor will transmit its detection information over contact closures or over a TCP/IP network to a control & operations room where the detection event and live thermal video is shown.

## KEY BENEFITS:

- THERMAL SENSOR WITH ADVANCED RAIL ALGORITHMS AND VIDEO ENCODER IN ONE UNIT
- SIMPLE AND QUICK INSTALLATION
- FIELD PROVEN DETECTION PERFORMANCE
- 24-HOUR DETECTION, AT NIGHT AND IN THE MOST DIFFICULT WEATHER CONDITIONS
- NO NEED FOR ADDITIONAL LIGHTING
- BROADBAND OVER POWERLINE FOR RELIABLE COMMUNICATION IN RAIL ENVIRONMENTS
- VERY ROBUST HOUSING, IP67, AND WITHSTANDS EXTREME TEMPERATURES



Level crossing obstacle detection



Platform, tunnel and track safety

## Imaging Specifications

System Overview		ThermiCam Rail			
Detection functionalities	Vehicle, person and animal detection				
# detection zones	1 vehicle stop detection zone 2 people and animal detection zones				
Camera					
Resolution	VGA (640 x 480)				
Frame rate	30/9 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)
ThermiCam Rail ETH/BPL 690s	ETH: 10-7060 BPL: 10-7050	7.5 mm	Horizontal: 90° Vertical: 69°	Vehicle, person and animal detection	0 - 35 m
ThermiCam Rail ETH/BPL 669s	ETH: 10-7061 BPL: 10-7051	9 mm	Horizontal: 69° Vertical: 56°	Vehicle, person and animal detection	10 - 45 m
ThermiCam Rail ETH/BPL 645s	ETH: 10-7062 BPL: 10-7052	13 mm	Horizontal: 45° Vertical: 37°	Vehicle, person and animal detection	15 - 80 m
ThermiCam Rail ETH/BPL 632s	ETH: 10-7063 BPL: 10-7053	19 mm	Horizontal: 32° Vertical: 26°	vehicle, person and animal detection	25 - 110 m
Housing					
Material	Aluminum				
Dimensions (incl. mounting bracket)	Vertically mounted 45cm x 16cm x 12cm Horizontally mounted 41cm x 18cm x 12cm				
Sunshield	Optional				
Power, outputs, communications					
Contact closures	3 for ETH versions, direct or via optional ETH interface (PN 10-6075) 16 for BPL versions, via TI x-stream BPL (PN 10-6085)				
Ethernet	For communication of output state events, configuration & monitoring (streaming video)				
Input Power	12-42VDC, 12-30VAC				
Current Consumption	< 150mA @ 24VDC (< 200mA @ 24VDC peak at start-up)				
Power Consumption	≤ 3,6W (≤ 4,8W 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°C to 165°F)				
FCC	FCC part 15 Class A				

## INTEGRATION WITH THIRD PARTY SYSTEMS

The ThermiCam Rail sensors are managed by a central FLUX software. While the detection is done on the sensor, the video management system allows you to manage all the sensors in the field and the setting of their detection zones. At the same time FLUX provides a history log of all incidents and can trigger external devices via either SDK integration (OPC) or via hardware contacts. Flux allows you to do reporting on incident level. The streaming video of the ThermiRail sensors can be visualized in ONVIF compliant VMS software packages.

**PORTLAND**  
Corporate Headquarters  
FLIR Systems, Inc.  
27700 SW Parkway Ave.  
Wilsonville, OR 97070  
USA  
PH: +1 866.477.3687

**BELGIUM**  
FLIR Systems Trading  
Belgium BVBA  
Luxemburgstraat 2  
2321 Meer  
Belgium  
PH: +32 (0) 3665 5100

**FLIR ITS**  
Hospitaalweg 1B  
B-8510 Marke  
Belgium  
PH: +32 (0)56 37 22 00

www.flir.com  
NASDAQ: FLIR

Specifications are subject to change without notice  
©Copyright 2016, FLIR Systems, Inc. All other brand and product names are trademarks of their respective owners. The images displayed may not be representative of the actual resolution of the camera shown. Images for illustrative purposes only. (Created 09/16) IT\_0021\_EN