



What is an infrared thermal imaging automobile driving assistant system?

The infrared thermal imaging automobile driving assistant system was developed from the night-vision device on a tank. In the 1950s, to improve the night-time mobility of a tank, equipment with night-vision capacity was installed on the tank to make the tank move freely at night.

The infrared thermal imaging automobile driving assistant system has an infrared detection capacity and can sense infrared rays out of the range of human vision. Initially due to high costs, it was mainly used for military applications such as tanks, armoured carriers and radar vehicles. However, with the scientific and technological progress, market popularity and lower price, the vehicle-mounted infrared night-vision system is now more accessible to the general public.

Benefits

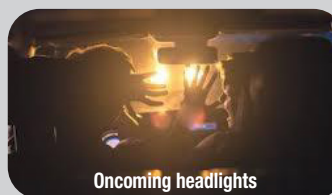
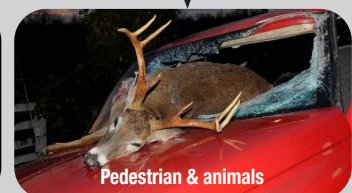
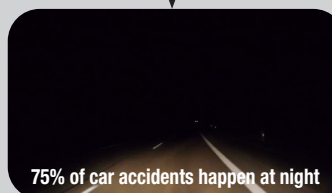
- Detects pedestrians and vehicles through the glare of oncoming headlights
- Detects hazards at a distance four times farther than headlights
- Detects the sides of the road with wide-angle view
- Camera is able to see through dust and smoke
- Driver has more time to react
- Avoid accidents and stay safe

Features:

- **Detects heat through the darkness:** The infrared thermal imaging automobile driving assistant system can, under all weather conditions, automatically identify and foresee non-luminous heated objects such as a person walking, a person on a bicycle, a vehicle, or an animal. It can help the driver better understand the overall road conditions by displaying them beyond the scope of the headlight light beam, effectively improving the visual effect in case of insufficient light.
- **Glare-free:** The light beam from an on-coming vehicle's headlights does not affect the infrared imaging.
- **Long detection distance:** The operating distance of the infrared thermal imaging automobile driving assistant system can be up to 1.6 km
- **All-weather use:** The infrared thermal imaging automobile driving assistant system adapts to all kinds of bad weather (rain, fog, haze, sand, dust, etc.)
- **Meets military quality standards**

Why infrared thermal imaging?

Main reason for car accidents



Affects visibility & reaction time

Infrared Thermal Night-Vision System

Artificial Intelligence Identity System

- Instantly detects animals & pedestrians
- Recognition at various distances
- Obstruction detection and tracking
- Smart image enhancement
- Audio alert



Applications



Cars & Trucks



Fleet Logistics



Recreation Vehicles



Off-Road Racing



Law Enforcement, Border Patrol



Mining & Industrial

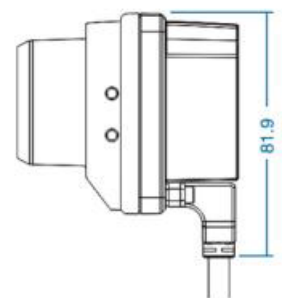
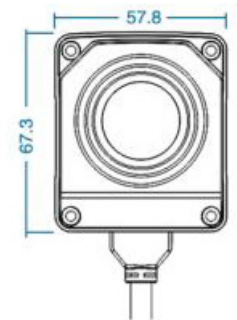
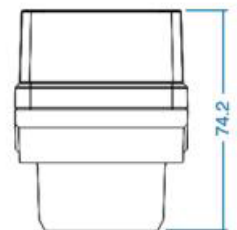
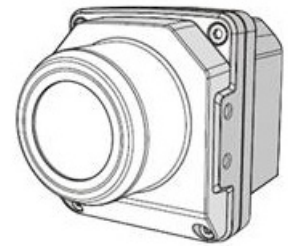


Boats & Marine



Security

Technical Parameters		
Image Display Performance		
Effective focal distance	19 mm	
Visual angle	28° x 21°(PAL), 27° x 18°(NTSC)	
Spatial resolution	1.3 mrad	
Video output interface	Single-end/difference	
Video output format	CVBS	
Frame frequency & resolution of output image	50 Hz, 768 × 576 @ PAL or 60 Hz, 720 × 480 @ NTSC	
System Characteristics		
Time for image formation startup	≤ 8s	
Automatic heater	Automatic heating will be started on its own when the window temperature is below 2°C	
Shutter	Automatic shutter compensation	
Image algorithm	Automatic brightness contrast	
	Image enhancement	
	Colour alarm display	
Image identification and alarm algorithm	Pedestrian identification	
	Forward collision	
Characteristics of Power Source		
Rated voltage	9 - 32 Vdc	
Power consumption of the whole system	≤3.5 w (@12 V, heating without sensor being activated)	
	≤9 w (@12 V, heating with sensor being activated)	
Environmental Parameters		
Operating temperature	-40° C ~ +70° C	
Storage temperature	-45° C ~ +85° C	
Level of protection	IP67	
Physical Characteristics		
Dimensions (L×W×H) of thermal infrared imager	≤ 75 mm x 58 mm x 68 mm (excluding connector)	
Weight of thermal infrared imager	≤ 500 g (excluding cable)	
Operating Range		
	Human: 1.8 m x 0.5 m	Large family car: 2.3 m x 2.3 m
Detection range (under normal meteorological conditions)	≥ 200 m	≥ 400 m
Identification range (under normal meteorological conditions)	≥ 100 m	≥ 150 m



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