THERMAL AUTOMOTIVE DEVELOPMENT KIT

FLIR ADK™

The FLIR ADK™ offers a cost-effective approach to development of next-generation automotive thermal vision for advanced driver-assistance systems (ADAS) and autonomous vehicles (AV). Thermal infrared cameras are the best sensor technology for pedestrian detection, reliably classifying people in cluttered environments and giving analytics the critical information needed for automated decision making.

FLIR thermal imagers are proven and have helped drivers see well beyond their high beams for more than a decade – day, night, through most fog, smoke and haze, and past the glare of oncoming headlights or the sun low on the horizon. The ADK's rugged, IP67-rated enclosure incorporates a heated window for all-weather driving and the Boson™ thermal sensor is a fraction of the size of current night vision systems. With USB, GMSL, Ethernet, and FPD-Link interfaces, installation is plug-and-play easy. The thermal data stream easily ports into existing host platforms for recording, processing, and analytics. Multiple field-of-view configurations are available to meet various integration needs and different operational design domains.

www.flir.com/ADK

SEE CLEARLY IN CHALLENGING LIGHTING CONDITIONS

Thermal sensors create images from heat, not light, so they can detect pedestrians and oncoming vehicles regardless of lighting conditions

- Operate in all-weather conditions with heated external window
- See clearly in day, night and through fog, smoke, sun and headlight glare
- Detect and classify pedestrians even in cluttered environments
- Add to ADAS and AV driving systems to complement existing sensors

NEXT-GENERATION THERMAL VISION IS PLUG-AND-PLAY EASY

Start collecting thermal data in minutes

- Quickly mount the heated IP67-rated kit and drive in all-weather conditions
- USB 2.0, GMSL, Ethernet, and FPD-Link interfaces
- Detection and classification range of up to 200 meters (adult pedestrian)
- 640 x 512 resolution with 24°, 32°, 50°, and 75° horizontal field-of-view options

SIMPLE INTERFACE PORTS DATA DIRECTLY INTO ANALYTICS

Easy set-up, operation, and integration

- Provides selectable 60 Hz/30 Hz thermal video to host computer systems
- Selectable 16-bit raw or 8-bit compressed data formats
- Use in conjunction with the Free FLIR Thermal Starter Dataset to quickly implement classification analytics with thermal video
- Compatible with NVIDIA®, Linux®, Windows®, ROS, and ADTF

SPECIFICATIONS

Thermal Imager	FLIR ADK
Array Format	640 x 512
Sensor Technology	Boson™ – Uncooled VOx microbolometer
Pixel Pitch	12 µm
Horizontal Field of View (HFOV)	75˚, 50˚, 32˚, and 24˚
Spectral Band	8–14 µm (LWIR)
Thermal Sensitivity	<50 mK
Frame Rates	Full Frame (30 & 60 Hz selectable), 9 Hz optional
Solar Protection	Yes (Sun will not damage sensor)
Data Format	Software-selectable: 16-bit TIFF (raw sensor format) or compressed 8-bit
Camera Interface	USB 2.0, GMSL, Ethernet, and FPD-Link
Power	
Camera Power Requirement	5 VDC (USB 2.0) or 24 VDC (GMSL)
Window Heater Power Requirement	12 VDC (USB 2.0) or 24 VDC (GMSL)
Power Consumption	1 W (without heater) ~4 W average and 12 W maximum (with heater)
Environmental	
Operating Temperature	-40˚C to +85˚C (-40˚F to +185˚F)
Environmental Protection	IP67
Shock	1,500 G @ 0.4 msec
Physical	
Dimensions (W x H x D)	35 x 40 x 47 mm (1.38 x 1.57 x 1.8 in)
Weight	~100 gm (3.5 oz)

NOTE: Disconnecting the interface cable from the back of the camera enclosure, or otherwise trying to remove the Boson camera from the enclosure will void the IP67 rating.

FLIR ADK includes Boson in a weatherproof enclosure with a heated window for all-weather operation.

EXPORT

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

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