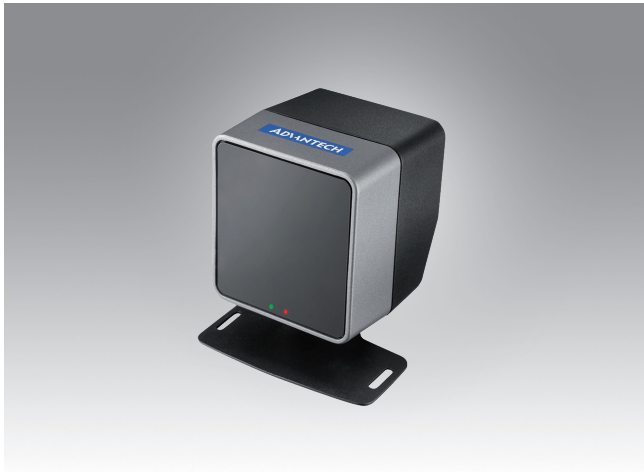


TREK-132

Multifunctional Driver Behavior Recognition Module



Features

- Multifunctional driver behavior recognition algorithms
 - Drowsiness detection
 - Distraction detection
 - Food consumption/smoke detection
 - Phone use detection
- Supports diverse driver characteristics and ethnicities to ensure widespread use
- Two IR LEDs 940nm support detection under poorly lit
- Easily display detection through video output
- Vehicle-grade design
- Wide operating temperature range (-30 ~ 85 °C/-22 ~ 185 °F)
- MIL-STD-810G and EN60721 (5M3) certified for shock and vibration tolerance
- Easily paired with TREK x-86 in-vehicle computing terminals (TREK-6xx/5xx/7xx) via a single-cable connection
- Supports firmware updates

Introduction

TREK-132 is a vision-based active safety solution for effective collision prevention using image recognition technologies for driver behavior detection. The multifunctional driver behavior recognition algorithm measures changes in drivers' eye and body movement patterns to detect drowsiness and/or distraction, and warn the driver with visual and audio alerts with vehicle computer. Through real-time driver behavior management, this intelligent safety solution can effectively prevent vehicle collisions.

Specifications

Intelligent Video Analysis ¹	Drowsiness Detection	Monitors drivers eye movements and blink frequency. Alerts are emitted if the threshold is exceeded.
	Distraction Detection	<ol style="list-style-type: none"> 1. Drowsy driving. 2. Not paying attention to the road. 3. Cell phone use(by hands). 4. Food consumption.
	Detection Conditions	The distance between driver's face and the camera sensor should be 40 ~ 60 cm. ² Supports diverse driver characteristics and ethnicities, as well as the wearing of glasses/sunglasses (excluding glasses with specular reflection lenses). Suitable for indoor environments (e.g., low illumination, light refraction).
Electrical Interface	Camera Sensor	CMOS type, 480p@30fps resolution, 74.8dB dynamic range; field of view ³ (D x H x V): 49.2°/39°/29°
	I/O	1 x 8-pin automotive connector (grey) for video-out, TX/RX, and ACC/GND
	Power Input	Supports 12/24 V vehicle power, 9 ~36 V _{DC} , with ISO-7637-II compliance
	Power Consumption	7.2W typical (input current <600 mA @ 12 V)
Environment	Operating Temperature	-30 ~ 85 °C (-22 ~ 185 °F)
	Storage Temperature	-40 ~ 105 °C (-40 ~ 221 °F)
	Operating Humidity	30 ~ 80% @ 40 °C/104 °F
	IP Rating	N/A
	Vibration/Shock	MIL-STD-810G, EN60721 (5M3)
	Drop Testing	Twice dropped 1.0 m onto concrete
Certification	EMC	FCC/CE/CCC
	Safety	UL/cUL/CB
Mechanical	Dimensions (W x H x D)	60 x 65 x 58.7 mm/2.36 x 2.55 x 2.31 in (with mount kit: 75 x 81 x 58.7 mm/2.95 x 3.18 x 2.31 in)
	Weight	155 g (0.34 lb)

¹ The system emits a warning when ACC is activated.

² Because this system is an imaging-based driver assistance system, some conditions and situations may influence the detection accuracy. Please refer to the user manual for further details.



Ordering Information

Part Number	Description
TREK-132-AL01A0E	TREK-132 with Std. Mount and 2-Meter Cable for Low-Height vehicle (Short-focus Lens)

Optional Accessories

Part Number	Description
TREK-132-EH01A0E	TREK-132 Extended Mounting kit

Disclaimer

1. Environmental conditions, such as bright lighting or the camera being covered, may trigger false warnings.
2. The presence of dirt or moisture on the camera may impact the recognition capabilities.
3. The TREK-13x series only provides warnings when an object is within the detection area. Additionally, the module does not include an impact breaking function.
4. The TREK-13x series is designed to alert drivers to certain potentially dangerous situations. However, the module cannot replace the functions that drivers would ordinarily perform when driving a vehicle, nor does it reduce the need to remain vigilant and alert at all times, to conform to safe driving standards and practices, and to obey all traffic laws, rules, and regulations.