

TREK-150

Advanced Driver Assistance System (ADAS) - Forward Collision Avoidance Module with Lane Departure and Headway Warning Functions



Features

- Active safety solution with AI image recognition
- High detection accuracy even in adverse weather conditions and night lighting
- Integrated image recognition algorithms: forward collision warning (FCW), lane departure warning (LDW), headway monitoring, pedestrian detection
- Virtual bumper and stop and go reminder functions
- Real-time monitoring and analysis for increased driving safety

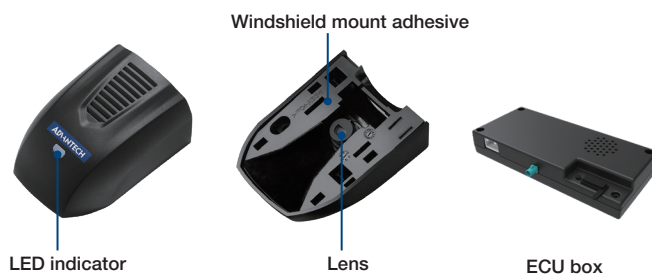
Introduction

TREK-150 is a multifunctional ADAS module that uses image recognition technologies to provide a vision-based active safety solution for intelligent vehicle applications. Equipped with forward collision warning (FCW), lane departure warning (LDW), headway monitoring, and pedestrian detection algorithms, TREK-150 uses a deep-learning model to analyze real-time imaging and identify potential safety hazards. If a hazard is detected, the module generates safety warnings and activates an acoustic alarm to alert drivers and prevent accidents/collisions for increased driving safety.

Specifications

Intelligent Video Analysis ¹	Camera Sensor	CMOS type, 720p resolution, 115 dB dynamic range, 52° horizontal FoV
	Lens Installation Height	120 ~ 220 cm/47.2 ~ 86.6 in according to vehicle size/type (i.e., bottom of windshield for a bus and top of windshield for a sedan)
Electrical Interface	I/O	1 x 2-wire RS-232, 1 x video out (RCA, male), 1 x VCC/ACC/GND, 2 x LED indicators (R/L)
	Power Input	12/24 V vehicle power (9 ~ 36 VDC and ISO-7637-II compliant)
	Power Consumption	7.2 W (typical) including both camera module and ECU box
Environmental	Operating Temperature	-25 ~ 85 °C/ -13°F ~ 185°F
	Storage Temperature	-30 ~ 85 °C/ -22°F ~ 185°F
Certification	EMC	CE, FCC with e-Mark, VSCC, BSMI expected in August
Mechanical	Dimensions (W x H x D)	ECU box: 200.5 x 31 x 86.5 mm/7.89 x 1.22 x 3.4 in Camera module: 89.5 x 67 x 39 mm/3.52 x 2.64 x 1.54 in
	Weight	ECU box: 440 g/0.97 lb Camera module: 80 g/0.18 lb

¹ Because TREK-150 is a vision-based ADAS module, low visibility due to bad weather, poor lighting, and/or a stained lens may reduce detection accuracy.



Ordering Information

Part Number	Description
TREK-150-F011A0E	TREK-150 FCW module with GPS, NTSC, RS-232
TREK-150-F001A0E	TREK-150 FCW module with speed tracking, NTSC, RS-232
TREK-150-F021A0E	TREK-150 FCW module with CAN, NTSC, RS-232

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 detection and recognition accuracy.
3. TREK-150 is designed to alert drivers to potential safety hazards. However, the module cannot replace the functions that drivers ordinarily perform when driving, 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.