



DMS + ADAS intelligent camera

ADkit 3.0

Product Specification (v1.0)



Preface

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Product Name Explanation

ADkit 3.0 is an intelligent camera that offers professional-level ADAS and DMS functions. It is equipped with AI intelligent algorithms. The built-in camera can identify and alert the driver's fatigue state and dangerous driving behaviors. By connecting an external ADAS camera, it can also detect complex road conditions in front of the vehicle and provide relevant warning functions.

Symbol Explanation

The following symbols are used to categorize and explain potential hazards that may arise from improper operation.

Symbol	Explanation
	Warning: Conditions that could jeopardize the safety of the user or cause injury
	Important: Conditions that may lead to data corruption or damage to the device's firmware or hardware
	Note: Additional information, explanations of terms, and other relevant details

Abbreviation Explanation

Abbreviation	Full Name
DMS	Driver Monitoring System
ADAS	Advanced Driving Assistance System
LDW	Lane Departure Warning
HMW	Headway Monitoring Warning
FCW	Forward Collision Warning

Product Introduction

ADkit 3.0 is an intelligent camera that offers professional-grade ADAS and DMS functions. It is equipped with AI algorithms and can independently identify and alert for dangerous driving behaviors such as driver fatigue, smoking, phone usage, and distraction. By connecting an external ADAS camera, it can detect and identify complex road conditions in front of the vehicle, effectively predict potential collisions with the preceding vehicle and lane departures, and provide relevant warning functions, thereby significantly reducing traffic accidents caused by these reasons.

Functional Features



- Supports 1280*800@20fps video
- Supports DMS intelligent algorithms to detect and alert drivers of fatigue (such as closing eyes or yawning)
- Supports alarms for dangerous behaviors such as using a handheld phone, prolonged distraction, and smoking
- Capable of adapting to complex scenarios where drivers wear glasses or sunglasses
- Works 24/7, capable of handling various complex lighting conditions including day, night, rain, and snow
- Can achieve ADAS alarm functions such as front collision and lane departure through an external ADAS camera
- Supports flash function with adjustable infrared light power
- Supports offline face comparison function
- Built-in MIC, supports audio input

AI Features

ADkit 3.0 is equipped with AI algorithms, which can independently implement the functions of the DMS series. It can identify and alert about dangerous driving behaviors such as driver fatigue, smoking, phone use, and distraction. By connecting an external ADAS camera, it can detect and identify complex road conditions in front of the vehicle, effectively predict dangerous situations such as rear-end collisions and lane departures, and provide relevant warning functions, thereby significantly reducing traffic accidents caused by these reasons. Additionally, when integrated with a DVR solution, the related alarm videos can be uploaded to the cloud and monitored and recorded in real time through the platform.

➤ DMS functions

			
Lens Covered	Yawning	Handheld Devices	Smoking
			
Distraction	No Driver	Unfastened Seat Belt	Fatigue Driving

➤ ADAS functions

		
LDW	HMW	FCW

Specification

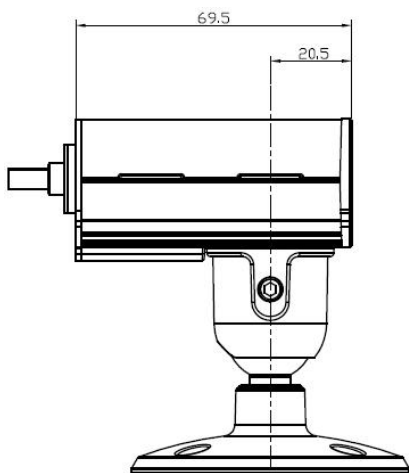
Product Model	ADkit 3.0
System	Embedded Linux
Language	Options: Chinese. English Default: English
Audio & Video	
Video Recording	1-channel of videos with 1-channel expanded AHD
Video Resolution / Frame Rate	Main stream: 800P@20fps
	Sub stream: VGA/D1/CIF@10fps
	Default: VGA@15fps
	Network upload stream: Dynamic (adaptive)
Video Bitrate	DMS channel: 512Kbps-6Mbps AHD channel: 512Kbps-8Mbps
CBR/VBR	Options: VBR/CBR, Default: VBR
Image Setup	Adjustable brightness, chroma, contrast, color saturation, and sharpness
Audio	Built-in MIC, Mic pickup distance: 3 meters
Audio Compression Standard	Options: ADPCM、G711A、G711U、G726 Default: G711A
Parameters of built-in lens	
Sensor	1/4 " 1M pixel CMOS with Global Shutter
Resolution	1280H*800V
Shutter Speed	1/30S-1/50000S (automatic shutter)
Lens/FOV	4mm/HFOV: 51° VFOV: 32° Deviation: ±5°
Lens Interface Type	M12
Supplementary Light	940nm IR lamp fill light
Minimum Illumination	0Lux (IR lamp fill light)
Backlight	Supported

Compensation	
Signal-to-noise Ratio (S/N)	≥48dB
Parameters of external camera (Optional)	
Sensor Type	1080P: 1/2.8 " 2M pixel CMOS 720P: 1/3 " 1.3M pixel CMOS
Resolution Ratio	1080P: 1920H*1080V 720P: 1280H*720V
Shutter Speed	1/30S-1/25000S
Lens/FOV	1080P: 8mm/HFOV: 42° VFOV: 24° Deviation: ±5° 720P: 2.4mm/HFOV: 112° VFOV: 86° Deviation: ±5° 2.8mm/HFOV: 96° VFOV: 71° Deviation: ±5°
Lens Interface Type	M12
Video Signal System	PAL/NTSC
Minimum illumination	0.01Lux (Color)
Signal-to-noise Ratio (S/N)	≥50dB
Automatic Gain	Supported
Backlight Compensation	Supported
3D Noise Reduction	Supported
White Balance	ATW
Gamma Correction	0.45
Port	
RS485	1-channel
AHD Port	1-channel
MDVR Port	1-channel
Protocol	
Network Protocol	HTCP/IP、HTTP、DHCP、NTP、FTP、RTSP、N9M2.0

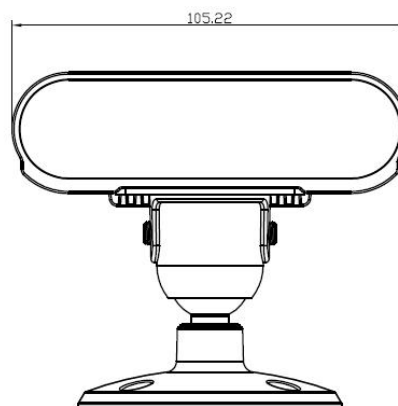
Power	
Power Supply	PON (DC 9-16V)
Power Consumption	Typical power consumption: 5.5W Full-load power consumption: 7W
Environment Parameters	
Operating temperature	-40 °C ~+70 °C (-40°F~+158°F)
Operating Humidity	Humidity ≤ 90% (No condensation)
Protection Class	IP30
Dimensions and Weight	
ADkit 3.0 Dimensions	L105.22 mm*W69.5 mm*H88.97 mm (4.14" x2.73" x3.5")
Packing Box Size	L124 mm*W74 mm*H118 mm (4.88" x2.91" x4.65")
Product Net Weigh	524 g (1.14 lb)
Product Gross Weight	601.7 g (1.33 lb)
* The actual size and weight may vary depending on the product configuration.	
Packing List	
ADkit 3.0 *1、Several screws	
*Contents may vary depending on the region and specific requirements.	

Product Dimensions Diagram

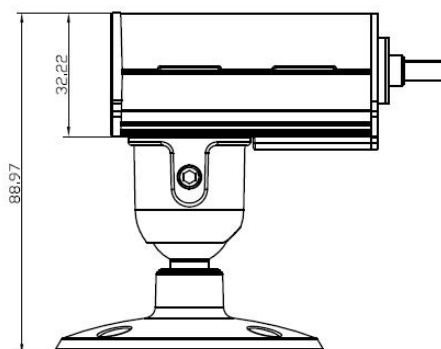
(Unit: mm)



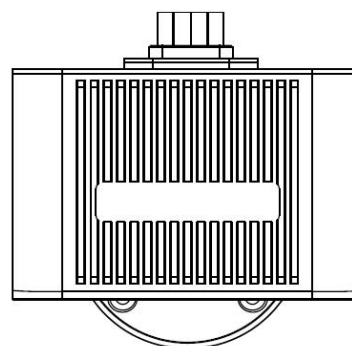
Left view



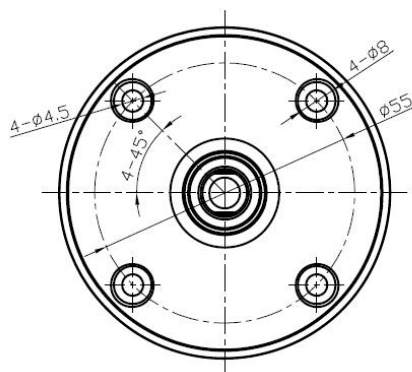
Front view



Right view

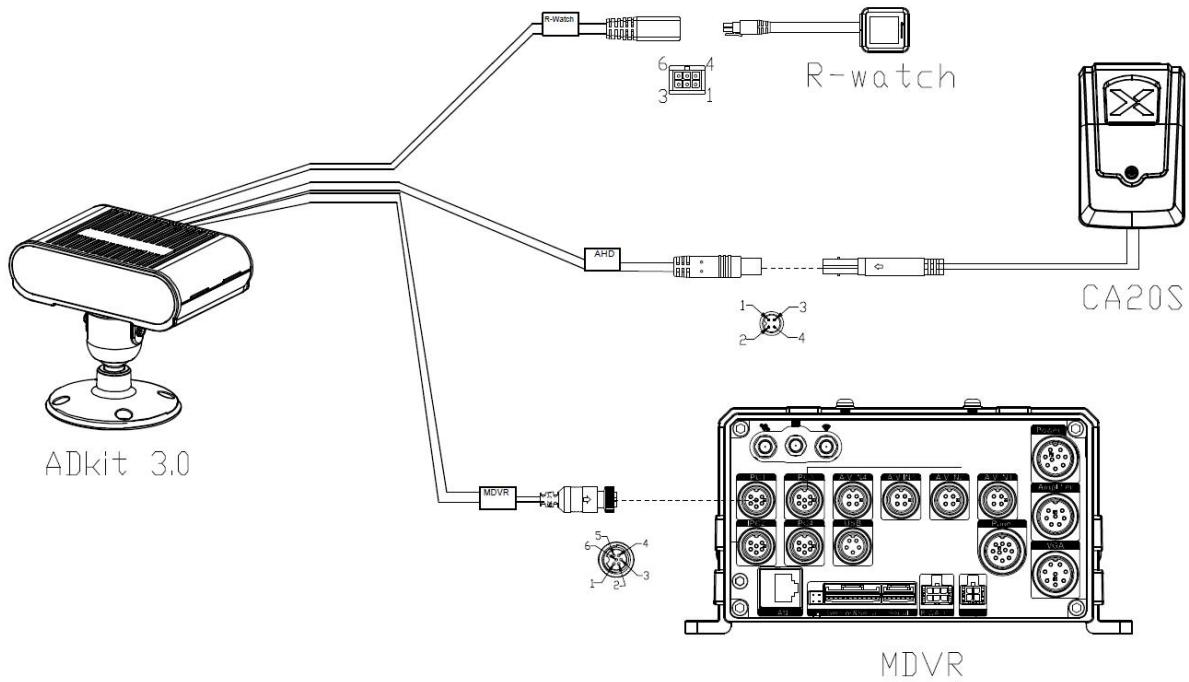


Top view

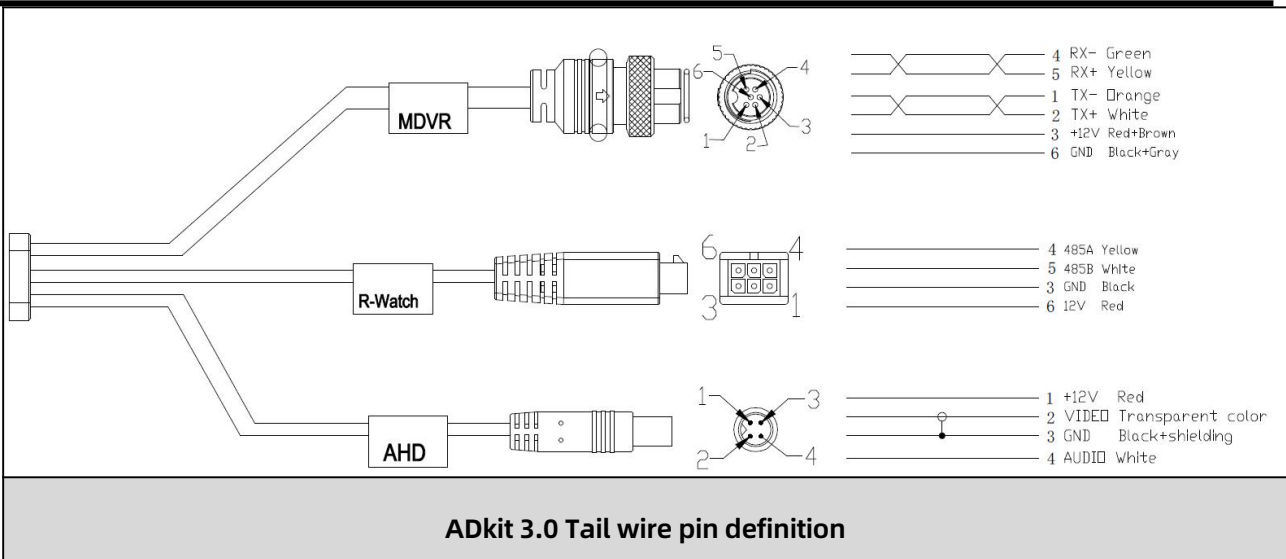


Bracket mounting hole position

System Connection Diagram



Cable Details



Special Notes

This product shall be installed by professionals, otherwise there is a risk of falling off.