

# ZenduCAM ADAS D+1

## Specification



<b>Document Type</b>	<b>Confidentiality</b>
Product Specifications	Direct to customers
<b>Version</b>	* pages in total
V 1.0	

<b>Drafted By</b>	
<b>Approved By</b>	

## Revision History

<b>Date</b>	<b>Version</b>	<b>Description</b>	<b>Author</b>
2022/4/26	V1.0	First draft	Zhang Dao

## Overview

As a professional, user-friendly and cost effective dash camera with built-in AI processor, ZenduCAM ADAS D+1 detects risky driving events such as lane departure warning, forward collision warning and headway monitoring warning, as well as unsafe driving behaviors such as unfastened seatbelt, using mobile phones, yawning, distraction and smoking. In addition, it can remind drivers of unsafe driving behaviors in real time and upload driving events to a monitoring platform that can be reviewed by fleet managers to help fleets guide drivers and reduce traffic risks.

## Highlight

- 1080P resolution with 96° DFOV for ADAS, 1080P resolution with 170° DFOV for DSC
- Support up to 3-channel video recording, H.264/H.265 video coding
- Dual Micro 256G SD card storage, supporting dual-stream recording
- Built-in Wi-Fi and 4G module
- Support 4-channel I/O input, 1 channel CAN and 1 channel RS232
- Compact Design
- Support OBD powering, easy installation
- Built-in ADAS and DSC, supporting AI event detection (up to 2-channel)
- Support sleep mode, remote wake-up(power consumption less than 0.1W)
- Support echo suppression algorithm to improve the quality of two-way voice intercom
- 6-axis gravity sensor detects intense driving behaviors (Harsh Acceleration, Deceleration & Sharp turn)

## Active Safety Features

ZenduCAM ADAS D+1 uses machine vision-based on Video Analysis technology to automatically identify road risks and drivers' unsafe driving behaviors. Detected events will trigger audible and visual reminders to alert drivers in real time, event recordings will be uploaded to the cloud simultaneously.

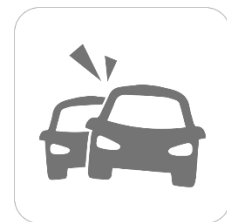
### ADAS Features



LDW(Lane Departure Warning)



HMW(Headway Monitoring Warning)

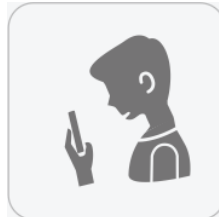


FCW(Forward Collision Warning)

### DSC Features



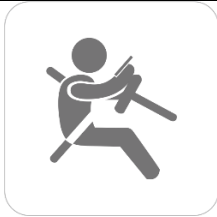
Unfastened seat belt



Using mobile phone



Yawning



Distraction



Smoking

## Optional accessories for active safety DMS Features



DMS



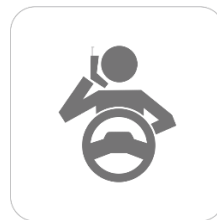
Driver Notifier (R-Watch)



Lens Covered



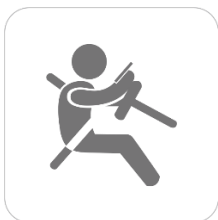
Fatigue



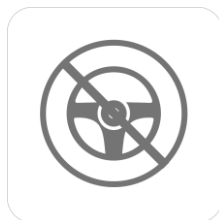
Phone Call



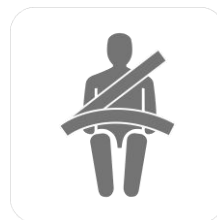
Smoking



Distraction



No driver detected









Unfastened seat belt



Yawning

## Specifications

Product Model: ZenduCAM ADAS D+1	
System	Embedded Linux
Language	Support Chinese, English, Spanish, Portuguese, French, Russian, Japanese
Video/Audio	
Video/Audio Recording	3-channel video (default: 2 channels; extensible: 1-channel IPC) + 1-channel audio
Maximum Resources	2MP@25fps(ADAS)+1080P@25fps(DSC)+1080P@30fps(IPC)
Image Setup	Adjustable brightness, chroma, contrast, color saturation, and sharpness
Video Coding	H.264 /H.265 (default: H.265)
Audio Compression Standard	ADPCM/G.711/G.726 (default: ADPCM)
CBR/VBR	Supported. VBR or CBR (optional), VBR by default
Audio	Built-in MIC
Loudspeaker	Built-in 3W loudspeaker
ADAS Camera Parameters	
Sensor Type	1/2.8" 2-megapixel CMOS sensor
Shutter Speed	1/30s-1/100000s
Lens	4mm HFOV: 84° VFOV: 45° DFOV: 96°
Minimum illumination	Color: 0.05Lux/F1.2
Lens Mount	MDVR built-in lens
Wide Dynamic Range (WDR)	Digital WDR
Backlight Compensation	Supported
Signal-to-Noise Ratio (S/N)	≥48dB
Cabin Camera Parameters	
Sensor Type	1/2.9" 2-megapixel CMOS sensor
Shutter Speed	1/30s-1/100000s
Lens	2.2mm HFOV: 154° VFOV: 84° DFOV: 170°
Lens Mount	MDVR built-in lens
Wide Dynamic Range (WDR)	Digital WDR
Backlight Compensation	Supported
Signal-to-Noise Ratio (S/N)	≥45db

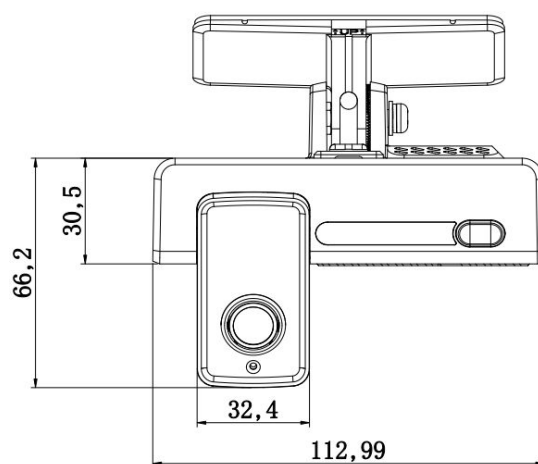
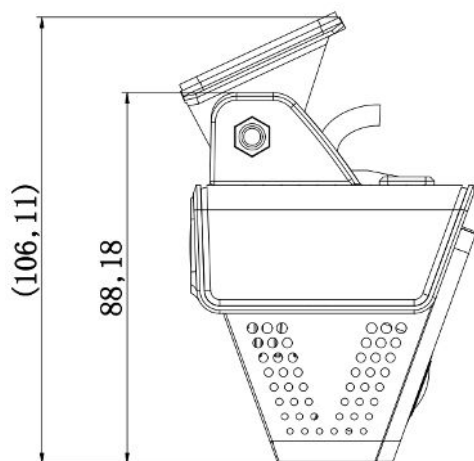
LED Indicator Status			
1. Power Status Indicator	 Off/Blue	4. Network Status Indicator	 Off/Red
2. Alarm Indicator	 Off/Red	5. WiFi Status Indicator	 Off/Red/Green
3. GPS Signal Indicator	 Off/Red	6. Recording Status Indicator	 Off/Red
Storage			
Micro SD card	Support two Micro SD cards, with the maximum capacity of a single card is 256 GB		
Sensor			
Six-axis Sensor	Supported		
Engine Data Page			
CAN Data Collection	Supported		
Port			
RS232	1		
IO Port	4-channel input		
CAN	1		
USB	1 × mini USB port		
Network			
WIFI	Support 2.4G (IEEE Std.802.11a/IEEE Std.802.11b/ IEEE Std.802.11g /IEEE Std.802.11n)		
4G	Supported For North America: EC25AFXGA-128-SGAS LTE FDD: B2/B4/B5/B12/B13/B14/B66/B71 WCDMA: B2/B4/B5 For Europe and Asia: EC25-EC LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8 For Latin America: EC25AUXGA-128-SGNS LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28 LTE TDD: B40 WCDMA: B1/B2/B5/B8 GSM: B2/B3/B5/B8		
Positioning			
GPS	Supported GPS L1 1575.42MHz BDS B1 1561.098MH GALILEO E1B/C1 GLONASS L1OF 1602MHz SBAS: WAAS, EGNOS, MSAS, GAGAN		
Protocol			
Network Protocol	HTTP,TCP,ARP,UDP,FTP,DHCP,DNS,IPV4,NTP		
Power Related			
Power Supply	9-36V		
Built-in Battery	Not supported		
Power	Typical power consumption <7 W, maximum power consumption <11 W		

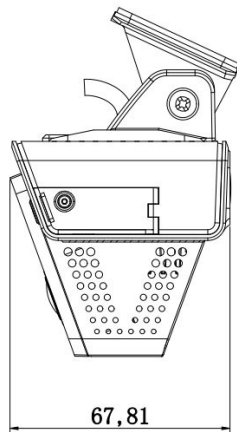
Consumption	
General Specifications	
Dimensions	113.0 mm (length) × 67.8 mm (width) × 88.2mm (height, without bracket)
Weight	MDVR:306g MDVR + bracket + screw + power supply box + power tail cable: 590 g
Operating Temperature	-40°C - +70°C (-40°F - +158°F)
Storage Temperature	-40°C - +85°C (-40°F - +185°F)
Humidity	15% - 90%

### certification Information

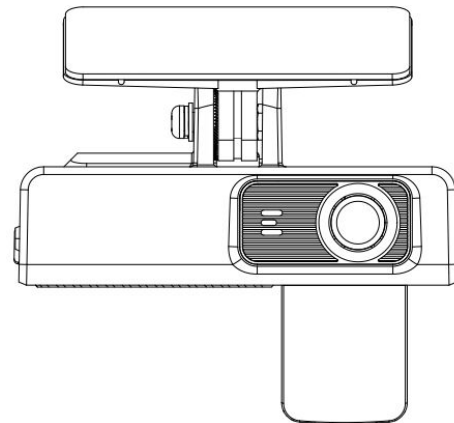
Certification	Time
Emark	
CE-EMC	
FCC-ID	
PTCRB	
ROHS	
REACH	
EN50155	
AT&T	
Verizon	
CE-RED	
UKCA	

### Dimensions (mm)





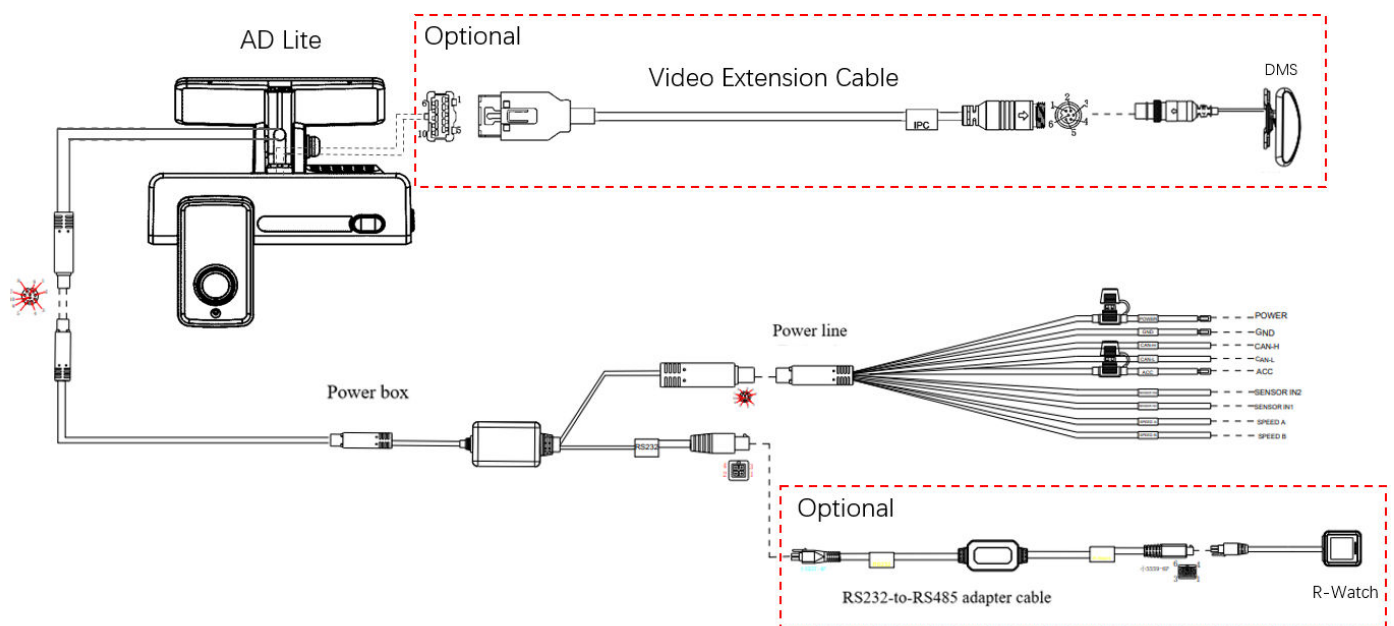
Right view



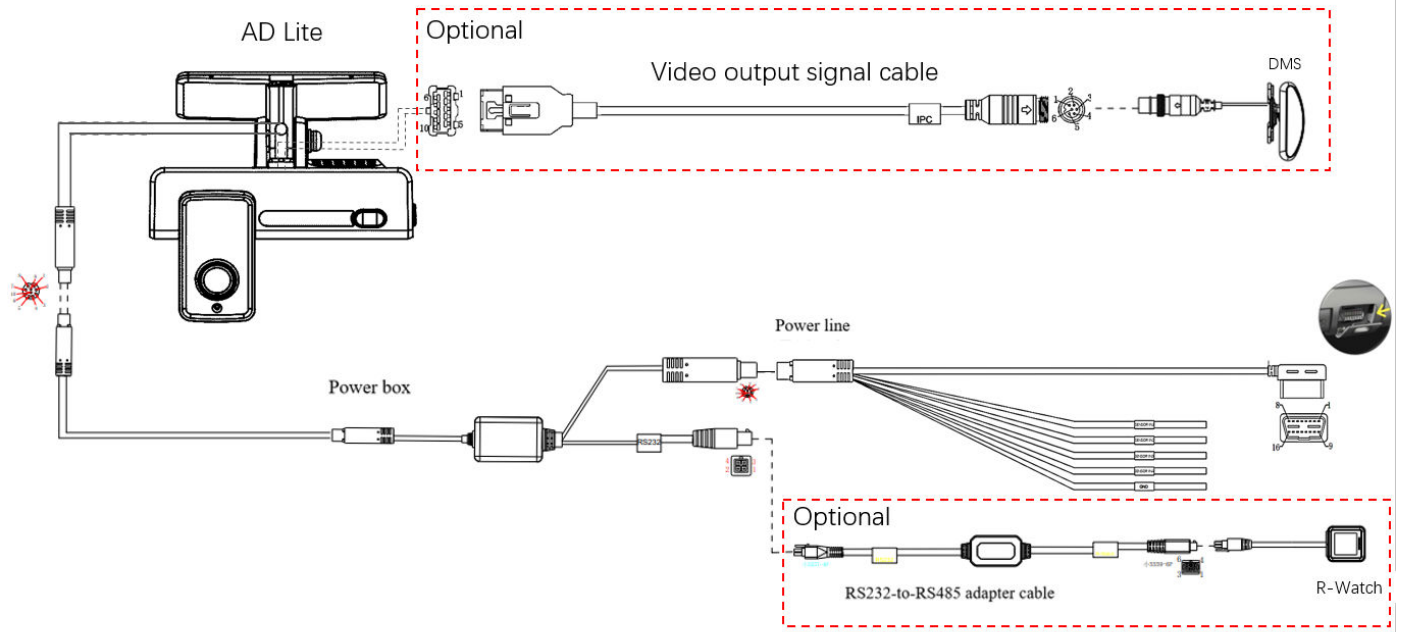
Rear view

## System Connection Diagram

(1) System connection diagram for power supply through loose wire

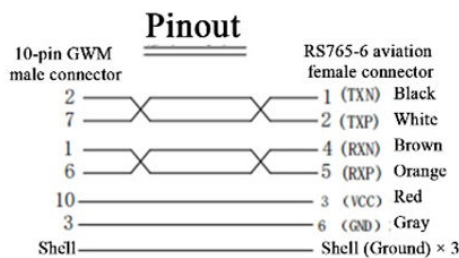
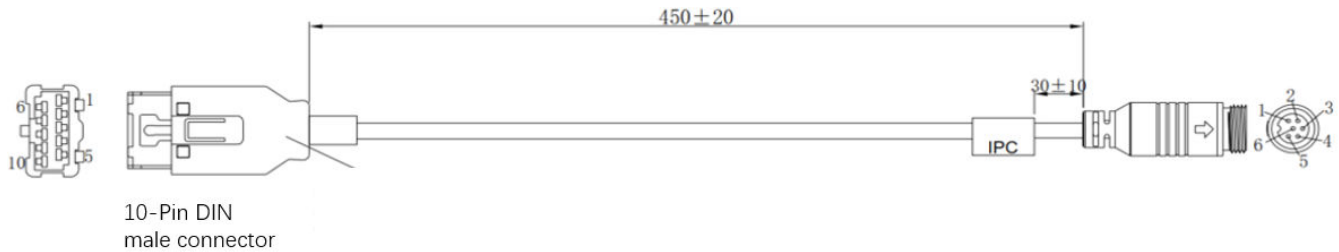


(2) OBD wiring diagram

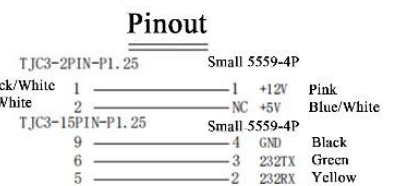
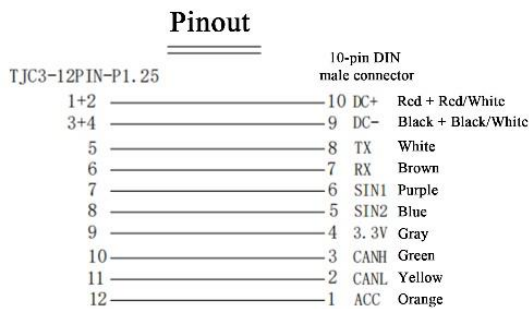
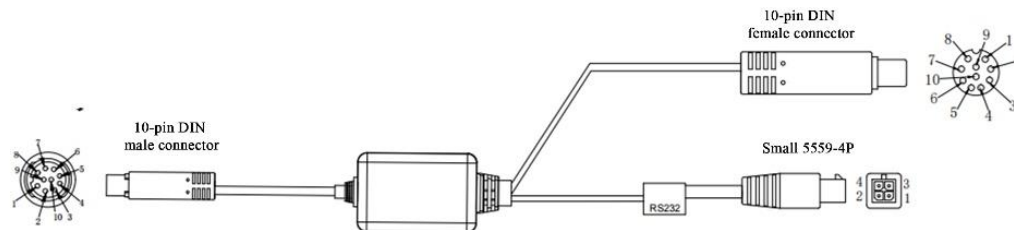


## Definition of Cable Connector Pinouts

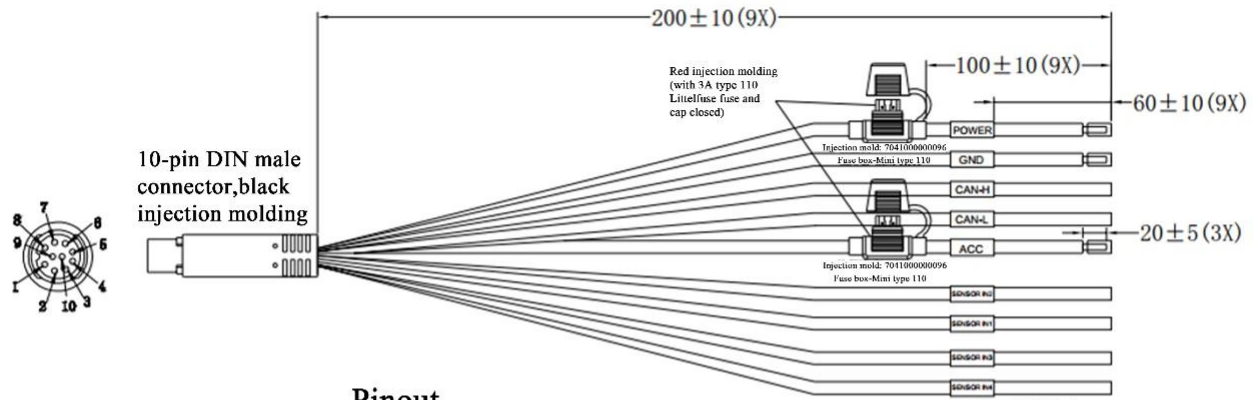
### (1) Video output cable connector pinout



### (2) Power supply box connector pinout



### (3) Power output cable connector pinout



### Pinout

		Loose wire	10-pin DIN male connector
Semi-stripped	ACC	Orange	3A fuse box 6
	CAN-L	Yellow	1
	CAN-H	Green	2
	SENSOR IN3	Blue	8
	SENSOR IN2	Green/Yellow	7
	SENSOR IN1	Gray	5
	SENSOR IN4	Green/Black	9
Semi-stripped	POWER	Red	3A fuse box 3
Semi-stripped	GND	Black	10

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#### (4) OBD cable connector pinout

