ZenduCAM ADAS S+2

ZenduCAM ADAS D+2

Specification

Document Type	**Confidentiality**
Product Specifications	Direct to customers
Version	
V 1.1	* pages in total

Drafted By	
Approved By	

Revision History

Date	**Version**	**Description**	**Author**
2022/4/26	V1.0	First draft	Zhang Dao
2022/5/5	V1.1	Modify AI functions, product specifications, and dimensional drawings	Wang Xiaoyong

Overview

As a professional, user-friendly and cost effective dash camera with built-in AI processor, ZenduCAM ADAS D+2 and S+2 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

- 5MP resolution with 140° DFOV for ADAS, 1080P resolution with 170° DFOV for DSC
- Support up to 4-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
- Functions of 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 & Accident detection)

Active Safety Functions

ZenduCAM ADAS D+2 and S+2 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)

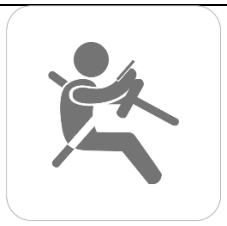
FCW(Forward Collision Warning)

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+2, ZenduCAM ADAS S+2	
System	Embedded Linux
Language	Support Chinese, English, Spanish, Portuguese, French, Russian, Japanese

Video/Audio			
Video/Audio Recording	4-channel video (default: 2 channels; extensible: 2 channels) + 1-channel audio		
Total Resources (with 2-channel AI)	5MP@25fps(ADAS)+1080P@25fps(DSC)+1080P@25fps(AHD) +1080P@30fps(IPC)		
Total Resources (without AI)	PAL: 1 × 5MP@25fps (AHD) + 2 × 1080P@25fps (AHD) + 1 × 1080P@30fps (IPC) NTSC: 1 × 5MP@30fps (AHD) + 2 × 1080P@30fps (AHD) + 1 × 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	1/2.7" 5-megapixel CMOS sensor		
Shutter Speed	1/30s-1/100000s		
Lens	2.8mm HFOV: 123° VFOV: 65° DFOV: 140°		
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	Off/Blue	4. Network Status Indicator	Off/Red

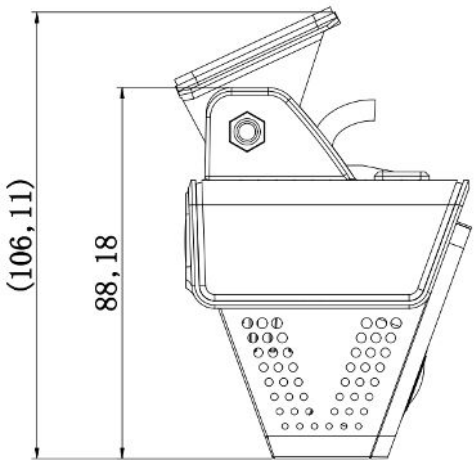
Indicator			
2. Alarm Indicator	Off/Red	5. WiFi Status Indicator	Off/Red/Green
3. GPS Signal Indicator	Off/Red	6. Recording Status Indicator	Off/Red
Storage			
Micro SD card	Support two Micro SD cards, with the maximum capacity of a single card is 256 GB		
Sensor			
Six-axis Sensor	Supported, Harsh Acceleration, Deceleration, Sharp turn & Accident detection		
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 Consumption	Typical power consumption <8 W, maximum power consumption <12 W		

General Specifications	
Dimensions	113.0 mm (length) × 67.8 mm (width) × 88.2mm (height, without bracket)
Weight	MDVR: 306 g 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%

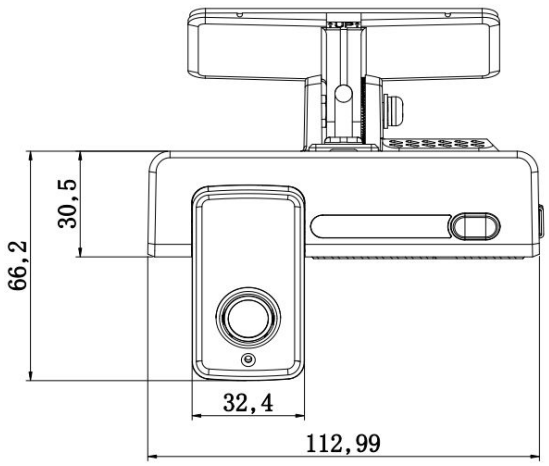
Certification Information

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

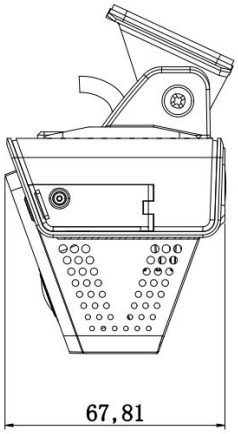
Dimensions (mm)



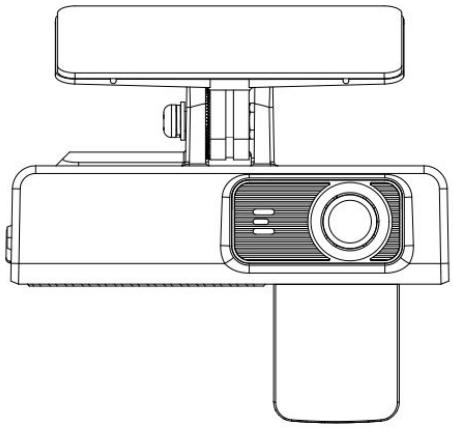
Left view



Front view



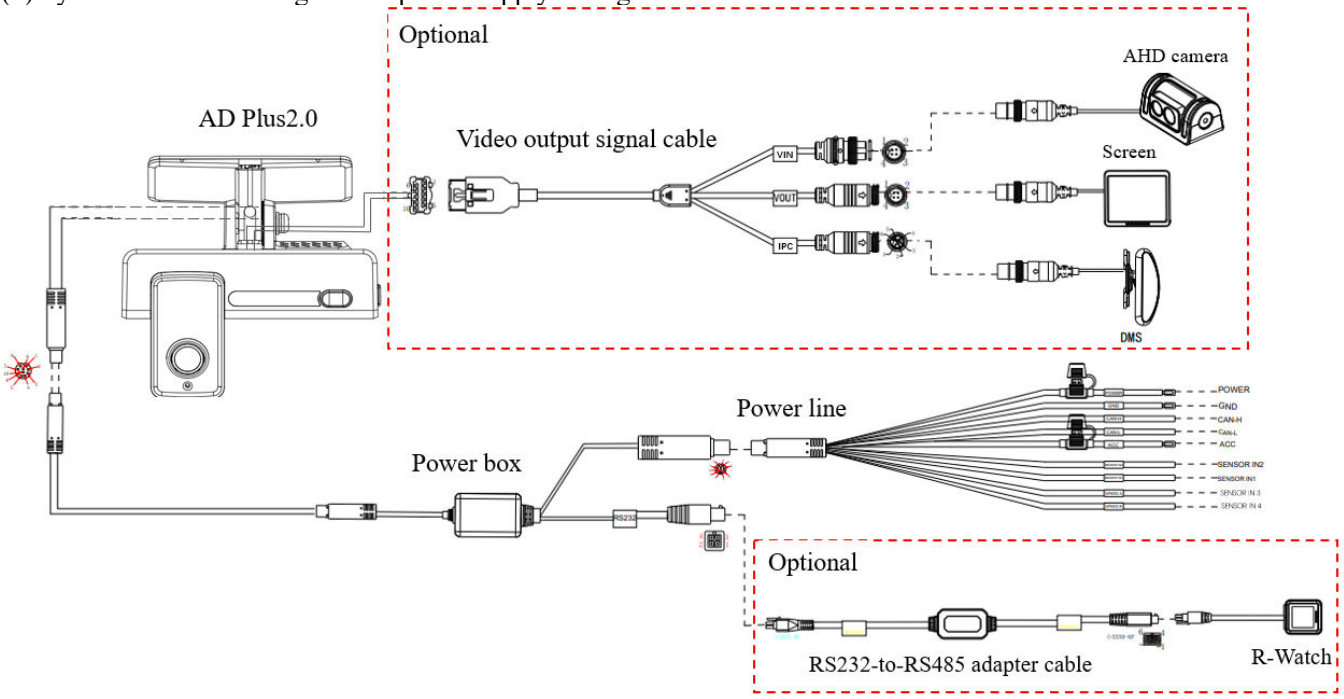
Right view



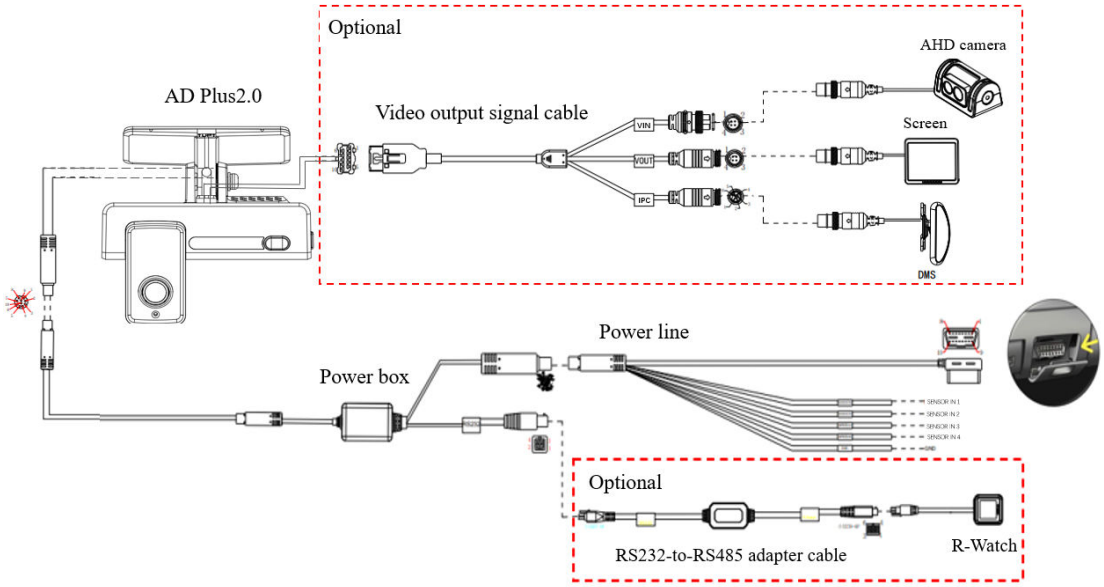
Rear view

System Connection Diagram

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

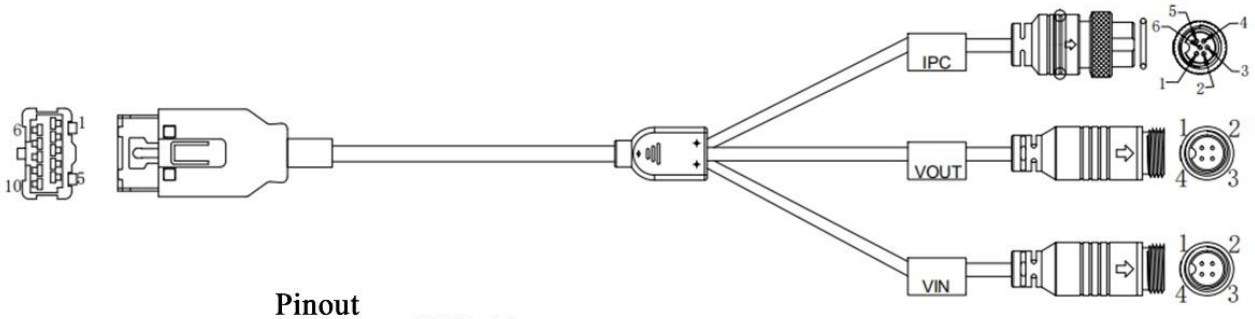


(2) OBD wiring diagram



Cable Connector Pinouts

(1) Video output cable connector pinout



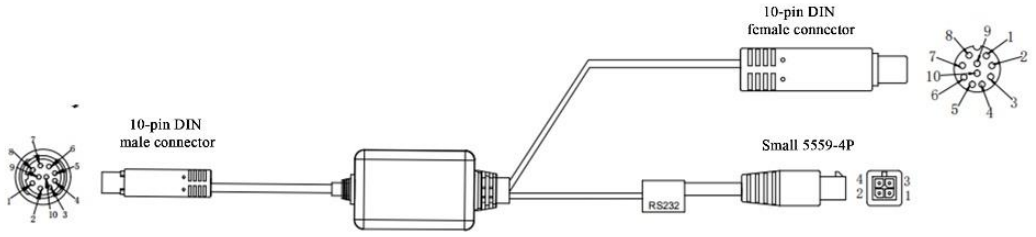
Pinout

10-pin GWM male connector		RS765-6 aviation female connector	
2		1 (TXN)	Black
7		2 (TXP)	White
1		4 (RXN)	Brown
6		5 (RXP)	Orange
10		3 (VCC)	Red
3		6 (GND)	Gray
Shell		Shell (Ground) × 3	

10-pin GWM male connector		RS765-4 aviation male connector VOUT	
4		4 (VOUT)	Yellow
5+9		2 (GND)	Shield

10-pin GWM male connector		RS7654 aviation male connector VIN	
8		4 (VOUT)	Green
3		2 (GND)	Shield
10		1 (+12V)	Purple

（2）Power supply box connector pinout



Pinout

TJC3-12PIN-P1.25 — 10-pin DIN male connector

1+2	10	DC+	Red + Red/White
3+4	9	DC−	Black + Black/White
5	8	TX	White
6	7	RX	Brown
7	6	SIN1	Purple
8	5	SIN2	Blue
9	4	3.3V	Gray
10	3	CANH	Green
11	2	CANL	Yellow
12	1	ACC	Orange

Pinout

TJC3-12PIN-P1.25 — 10-pin DIN female connector

1+2	10	GND	Black + Black/White
3+4	3	24V+	Red + Red/White
7	5	SIN1	Purple
8	7	SIN2	Brown
10	2	CANH	Green
11	1	CANL	Yellow
12	8	SPEED A	Blue
13	9	SPEED B	Gray
14	6	ACC	Orange
15	4	OBD-CHK	White

Pinout

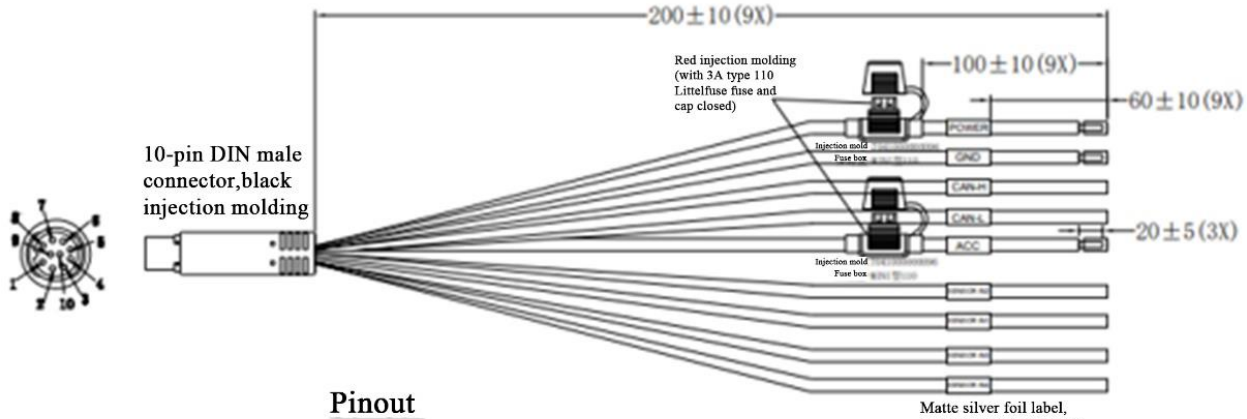
TJC3-2PIN-P1.25 — Small 5559-4P

1	1	+12V	Pink
2	NC	+5V	Blue/White

TJC3-15PIN-P1.25 — Small 5559-4P

9	4	GND	Black
6	3	232TX	Green
5	2	232RX	Yellow

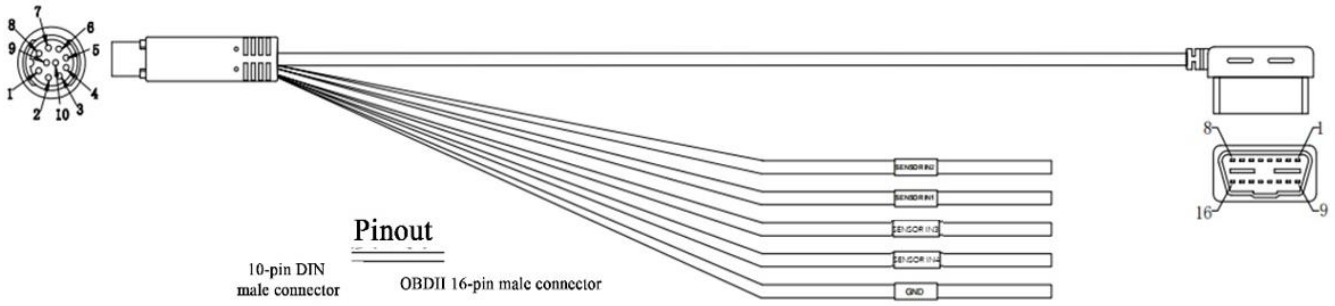
(3) Power output cable connector pinout



Pinout

Loose wire			10-pin DIN male connector
Semi-stripped	ACC	Orange — 3A fuse boxtt	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 boxtt	3
Semi-stripped	GND	Black	10

(4) OBD cable connector pinout



Pinout

10-pin DIN male connector		OBDII 16-pin male connector
GND Black	10+4	4+5
CAN-H Green	2	6
CAN-L Yellow	1	14
POWER Red	3 (3A resettable fuse)	16
SENSOR IN3 Green/Yellow	8	
SENSOR IN2 Blue	7	
SENSOR IN1 Gray	5	
SENSOR IN4 Green/Black	9	
CND Black	10	