

AVM

>> Product Specification



Version information

Edition	Revised date	Revised content summary	Author	Remarks
V1.0	2023-05-13	first draft	Li Chun Lv	
V1.1	2023-05-30	finalize a manuscript	Weng Zexin	

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1. Product overview

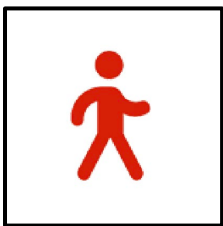
ST-AVM is a 360° panoramic intelligent driver assistance system, combined with the latest image processing technology and real-time splicing technology, can provide a real-time around view of vehicle body, providing users with a safer driving experience. The product captures the real-time image around the vehicle through the four high-definition cameras, seamlessly corrects the distortion of the image and stitching the picture, forming a complete overview of the surrounding environment of the vehicle, and combined with the latest 3D image engine, to reduce the blind area of the user's perspective. At the same time, the intelligent identification algorithm in term of blind spot detection pedestrian is matched to identify the pedestrians far and near around the vehicle in real time. Warning the driver when pedestrians are detected in the dangerous area, so as to identify the risk for users in advance, reduce and avoid traffic accidents, and improve driving safety as a result.

2. Product function features

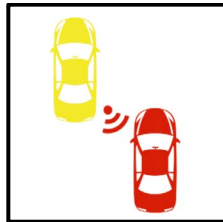
- 4 ultra-wide angle lens, maximum support 1080P HD video
- Support the maximum 512GB capacity TF card storage, support dual card slot installation
- Supports 2D / 3D AVM panoramic splicing
- Support one-key automatic calibration, and the calibration time is less than 1min
- Support transparent body, transparent car bottom view
- Support electronic rearview mirror and other multi-auxiliary view switching function, support vehicle signal linkage to switch view
- Support BSD four-direction pedestrian detection and warning, the alarm detection range can be calibrated
- Alarm strategy can be defined into four alarm levels according to the speed and vehicle steering signal, more driver friendly for the actual scene to avoid unnecessary sound and light alarm
- Support the BSD rear incoming vehicle detection and early warning function

- Support the lane departure warning function(LDW)
- Support 4*IO input 2*IO output, 1*CAN, 3*RS232 and 1*485
- Support speed detection via pulses, GPS and CAN as speed source
- Support standalone running, and running with host MDVR
- Built-in WiFi module, which supports manual operation via external display screen and mobile app

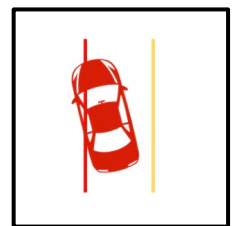
2.1 AI function



BSD pedestrian detection



Rear vehicle approaching detection



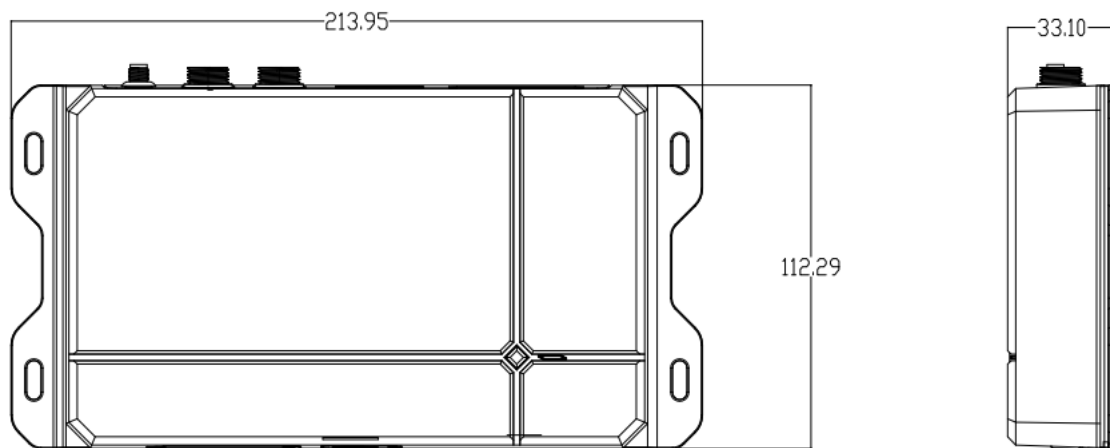
LDW lane departure

3. Product Parameter

Product model	
AVM	
built-in AI	
Built-in AI	Support AVM algorithm, lane departure algorithm, rear vehicle approaching detection algorithm
Sensor	
G-Sensor	Built-in 6-axis
RTC	
RTC	24H error is less than $\pm 2s$
Power Supply	
DC input voltage	DC 9-36V
Input current	$\leq 3A$
Static current consumption	$\leq 2mA$
Environmental Adaptability	
Working temperature	$-30^{\circ}C \sim +70^{\circ}C$
Storage temperature	$-40^{\circ}C \sim +85^{\circ}C$

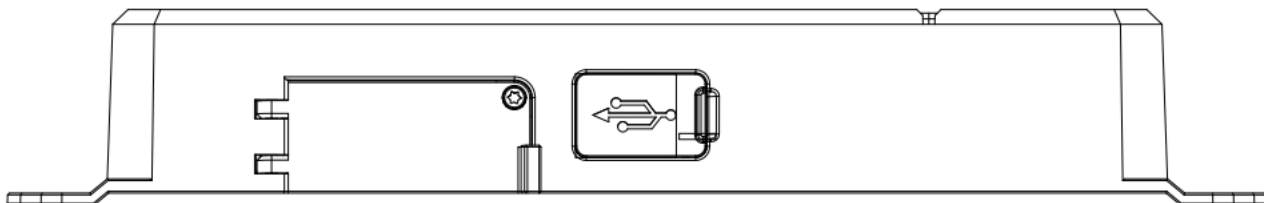
Working humidity	15%-95%RH
Physical characteristics	
Size (length x width x height)	214x 112x 33mm(L*W*H)
Video	
Import	4 Road AHD
Output	CVBS/AHD
Video coding	H.264/H.265
Video resolution	4*1080P 15fps
Audio	
output	1 Road
Memory	
Micro SD Card	2 ways, single card support512GB.
Connectivity	
WIFI	Support for 2.4G
LAN	Support (6 PIN circular connector)
IR	
Infrared IR	support
Positioning	
GPS	Support for G-MOUSE
Interface	
USB 2.0	1
CAN	1
Speed pulse	1
RS232	3
RS485	1
IO_INPUT	4
IO_OUTPUT	2

4. Dimensional Drawing (mm)

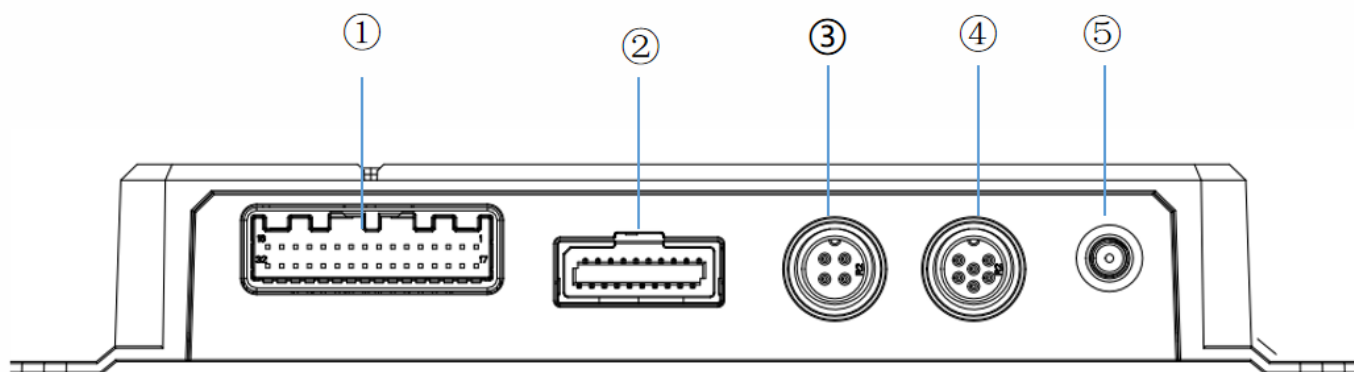


5. Panel Introduction

Front panel:



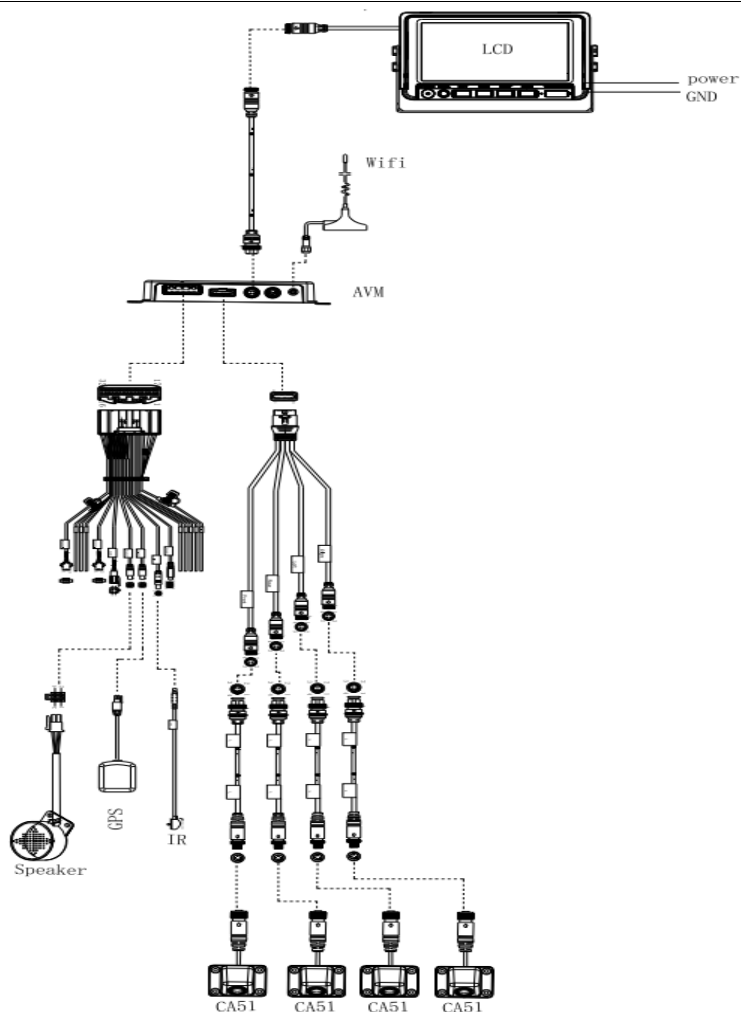
Rear panel:



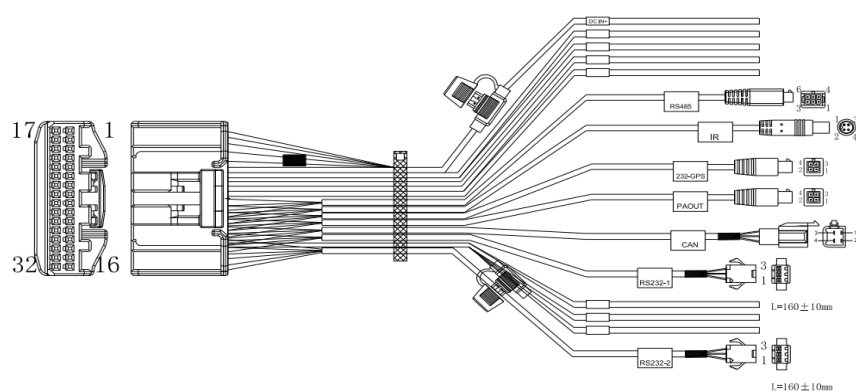
NO.	Label	Defination
1	Power/RS232/IO	Mainly is the power supply, IO, RS232
2	VIN1-4	Video input to channel 1-4
3	AVOUT	Audio and video output
4	LAN	For docking to the MDVR network ports
5		The WIFI antenna interface

6. Product Installation

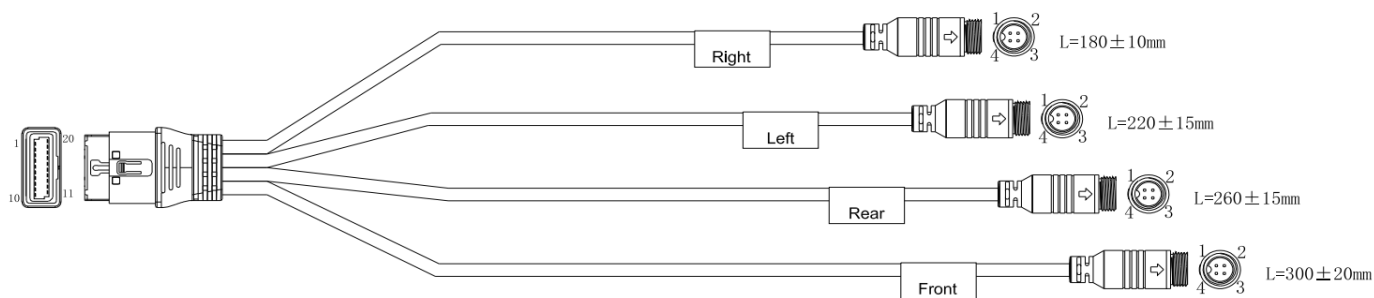
6.1 System Wiring Diagram



6.2 External Cable Pinout



Small 5559-6P				2321525-1 PAOUT				
2321525-1	2	Red	6 +12V	19	Red	1 5V-PA		
	3	Black	3 GND	20	White	2 PA-EN		
	1	Yellow	4 485A-R	22	Black	4 GND		
	17	White	5 485B-R	21	Yellow	3 A-OUT		
2321525-1 4P IR				2321525-1 RS232-1				
2321525-1	3	Black	3 GND	9	Black	1 GND		
	4	Brown	1 +5V	10	Brown	2 RX-1		
	18	White	2 IR	11	White	3 TX-1		
2321525-1 232-GPS				2321525-1 RS232-2				
2321525-1	3	Black	2 GND	26	Black	1 GND		
	4	Red	4 4.5V OUT	27	Brown	2 RX-2		
232-TX	6	White	1 GPS-RX	28	White	3 TX-2		
232-RX	5	Yellow	3 GPS-TX	2321525-1 Line				
2321525-1	DJ7041A-2	8-11		25	Gray-blue	S OUT1		
	7	White	3 CANL	24	Gray-green	S OUT2		
	8	Brown	1 CANH	23	Blue	S SPEED		
	9	Black	2 GND	13	Brown	S IN1		
2321525-1	Line			12	Brown-black	S IN2		
	15	Red	5A Fuse	30	White-black	S IN3		
	16	Red	5A Fuse	29	White-yellow	S IN4		
	31	Black	DC IN+	26	black	GND		
	32	Black	DC IN-					
	14	Orange-3A Fuse	ACC					



20P RS765-4 Male connector (Right)			
17	4	VIN4	Natural color
Casing	—	Casing GND	Outer shield
18	1	+12V	Red
19	3	AIN4	White
20+16	2	GND	Black
20P RS765-4 Male connector (Left)			
5	4	VIN3	Natural color
Casing	—	Casing GND	Outer shield
3	1	+12V	Red
2	3	AIN3	White
1+4	2	GND	Black

20P RS765-4 Male connector (Rear)			
7	4	VIN2	Natural color
外壳	—	外壳 GND	Outer shield
8	1	+12V	Red
9	3	AIN2	White
10+6	2	GND	Black
20P RS765-4 Male connector (Front)			
15	4	VIN1	Natural color
外壳	—	外壳 GND	Outer shield
13	1	+12V	Red
12	3	AIN1	White
11+14	2	GND	Black