

AD Pro3.0



Specifications



Foreword

This product specification mainly introduces the product composition and parameter meaning of AD Pro3.0. The content involved, including text, pictures, graphics, etc., belong to Shenzhen Ruiming Technology Co., Ltd. Without written permission, no unit or individual may extract, copy, translate, or modify all or part of this product specification in any way. Unless otherwise agreed, the company does not provide any statement or guarantee for this manual.

About this product specification:

This product specification is used as a guide, and the applicable people include authorized users of the product and technical support personnel.

The product pictures and screen content provided in the specification are for illustration only, and the actual product effect (including but not limited to appearance, color, size) and screen display content (including but not limited to background, UI, picture) may be slightly different. Please refer to the actual product.

The data provided in the specification are theoretical values, which are all obtained from the internal laboratory of Ruiming Technology in a specific test environment (please refer to the specific instructions). The environmental factors are slightly different, please refer to the actual use situation.

Due to real-time changes in product batches and production and supply factors, in order to provide accurate product information, product characteristics, and specification parameters as much as possible, Ruiming may adjust and revise the text expressions, picture effects, etc. Performance, specification, index, parts and other information are matched. In the event that it is necessary to make the above modifications and adjustments, no special notice will be made.

Trademark Statement:

Streamax It is a registered trademark of Ruiming Technology. Other trademarks mentioned in this manual are owned by their respective owners.

Responsibility statement:

To the maximum extent permitted by law, the products described in this manual (including its hardware, software, firmware, etc.) are "according to

"as is" provided, there may be defects, errors or malfunctions, the company does not provide any form of express or implied warranty, including but not limited to merchantability, quality satisfaction, fitness for a particular purpose, non-infringement of third party rights, etc.; Compensation for any special, incidental, incidental or indirect damages caused by the use of this manual or the use of our products, including but not limited to losses arising from loss of commercial profits, loss of data or documents.

If you connect the product to the Internet, you need to bear your own risks, including but not limited to the possibility that the product may suffer from network attacks, hacker attacks, and virus infections. Provide you with product-related technical support in time.

When using this product, please strictly follow the applicable laws. If this product is used to infringe the rights of a third party or for other improper

purposes, the company will not bear any responsibility.

If the content of this product specification conflicts with applicable laws, the legal provisions shall prevail.

Copyright © Shenzhen Ruiming Technology Co., Ltd. 2023, all rights reserved.

Please read this manual first to use it correctly and ensure that the required functions are normal.

	Warning: Situations that may affect the safety of the equipment user or cause injury to the equipment user
	Special Note: There may be situations where data integrity may be compromised and device firmware and hardware may be damaged
	Explanation: additional explanation, term definition, etc.

Contents

1. PRODUCT INTRODUCTION.....1

2. FEATURES1

2.1 AI FUNCTION2

2.1.1 ADAS function.....2

2.1.2 DMS function.....3

3. SPECIFICATION.....3

4. SIZE (UNIT:MM)9

5. SYSTEM CONNECTION DIAGRAM.....9

5.1 SYSTEM CONNECTION DIAGRAM.....9

5.2 DEFINITION OF WIRE INTERFACE10

5.2.1 Definition of power output line interface.....10

6. SPECIAL INSTRUCTIONS11

list of acronyms:

Acronym	English explanation
1080P	resolution ratio 1920×1080
ADAS	Advanced Driving Assistance System
DMS	Driver Monitoring System
VBR	Variable Bit Rate
CBR	Constants Bit Rate
LDW	Lane Departure Warning
HMW	Headway Monitoring Warning
FCW	Forward Collision Warning

1. Product introduction

AD Pro3.0 is a smart driving recorder that can help drivers reduce traffic accidents and help fleets improve management efficiency. It can actively identify dangerous driving events and bad driving behaviors through AI technology. It not only supports local real-time reminders to drivers to avoid risks, but also supports events uploaded to the fleet management platform for driver training. It provides real-time and accurate vehicle location information and vehicle operation data for the fleet management platform, and also provides high-quality remote intercom functions and video preview and playback functions to reduce the difficulty of fleet management and improve fleet management efficiency. In addition, the product is reliable in quality, easy to install, easy to use, and cost-effective.

2. Features

- Front road ADAS lens, maximum support 1080P HD video
- Rear cockpit DMS lens, maximum support 800P high-definition video
- Support up to 2 channels of video recording
- Support H.264/H.265 encoding
- Support 1*256GB single Micro SD card storage
- Built-in Wi-Fi, 4G communication module
- 1 channel RS232 supports external common positioning antenna or inertial navigation positioning antenna
- Video and audio data support AES256 encryption, data transmission supports encryption protocol TLS1.3
- Support 3-way I/O input, 1-way I/O output
- Small and exquisite design, large and small vehicles do not affect the

driver's sight

- Built-in ADAS function, support lane departure, forward collision and vehicle distance too close detection
- Built-in DMS function, support driver bad driving behavior detection
- Support echo suppression algorithm to improve the quality of two-way voice intercom
- Built-in 6-axis gravity sensor, supports rapid acceleration, rapid deceleration, sharp turn and collision detection

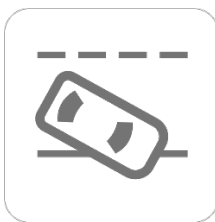
2.1 AI function

AD Pro3.0 uses machine vision based on video analysis technology to automatically identify road risks and bad driving behaviors of drivers. Detected events will trigger sound and light reminders to warn drivers in real time, and event videos can also be uploaded to the cloud.



Warning: The use of AI functions must be calibrated and configured in strict accordance with the installation and use instructions, otherwise the normal use of the functions cannot be guaranteed.

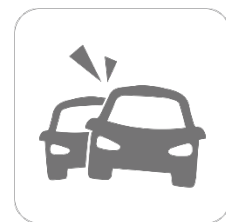
2.1.1 ADAS function



LDW

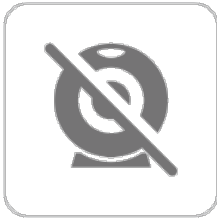


HMW



FCW

2.1.2 DMS function



Covered alarm



Yawn



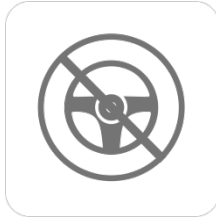
Calling



Smokeing



Distraction



No Driver



No Seat Belt



Fatigue

3. Specification

Model: AD Pro3.0	
System	Embedded Linux
Language	Chinese, English, Spanish, Portuguese, French, Russian, Japanese are optional, default English *Language includes interface language and voice reminder, TTS only supports Chinese and English
Video and Audio	
Video and Audio Record	2 channels of video (do not support external expansion), 1 channel of audio
Maximum resources (with 2-way AI)	1080P@25fps (ADAS) +800P@20fps (DMS)
video encoding	H.264/H.265 optional, default H.265
audio compression standard	ADPCM/G.711 optional, default ADPCM
CBR/VBR	VBR/CBR optional, default VBR

Audio	Internal MIC
MIC	Built-in 4Ω2W speaker, speaker volume 30cm@85dB, no current interference, radio interference and other noise, the size can be adjusted
Front Road Camera Parameters	
sensor type	1/2.7" 2 megapixel CMOS sensor
Shutter speed	1/30s-1/100000s
Lens	focal length 4mm HFOV: 89° ; VFOV: 61° ; DFOV: 119° ; error ±5°
Minimum illumination	Color: 0.05Lux/F1.2
Lens mount type	host built-in lens
wide dynamic range	Digital WDR
BLC	support
SNR	≥48dB
Rear cockpit camera parameters	
sensor type	1/2.9" 2 megapixel CMOS sensor
Shutter speed	Fixed shutter 1/30 sec to 1/5000 sec Auto shutter 1/30 sec to 1/10000 sec
Lens	focal length 4.75mm HFOV: 145° ; VFOV: 84° ; DFOV: 170° ; error ±5°
Lens mount type	host built-in lens
wide dynamic range	Digital WDR
BLC	support
SNR	≥45db

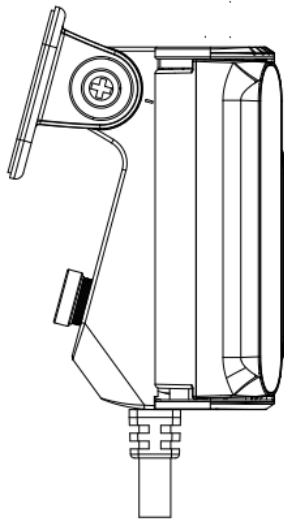
Smart fill light mode	support
Infrared light	support
LED status	
Power light status	 OFF/GREEN Light off: Indicates that the device is not powered Steady green: indicates that the power supply of the device is normal
warning light	 Light off/Red light Light off: Indicates that the device has not generated an alarm The red light flashes three times: it means that the device generates an alarm
GPS signal light	 Light off/Red light Light off: Indicates that the device positioning is normal Steady red: Indicates that the positioning of the device is abnormal (not positioned or not connected to the module or the module is damaged) Flashing red (once per second): Indicates that the device's positioning quality is poor
network status light	 Light off/Red light Light off: Indicates that the device is connected to the server normally Steady red light: indicates that the device is abnormally connected to the server Blinking red light (once per second): indicates that the device is in airplane mode

WIFI status light	 Off/Red/Green Light off: Indicates that the device is in Disable or Client mode Steady green light: indicates that the device is in AP mode Steady red light: indicates that the WIFI of the device is abnormal
Recording Status Light	 Light off/Red light Light off: Indicates that the video recording status of the built-in camera or the extended camera is normal Steady red light: Indicates built-in camera or extended camera recording stop (including privacy mode)/fault *Recording enable (main stream, sub stream) is turned on, it will remind if no recording is detected, and recording enable (main stream, sub stream) is turned off as the normal processing of the recording state.
storage	
Micro SD card	Support Micro SD-Card×1, (SDXC 32GB/64GB/128GB/256GB) The minimum reading and writing speed requires Class10, and it is recommended to use Class10 and above
Sensor	
Six axis sensor	Support sharp acceleration, sharp deceleration, sharp turn and collision detection
interface	
RS232	1
RS485	Doesn't support
I/O Input	3
I/O Output	1

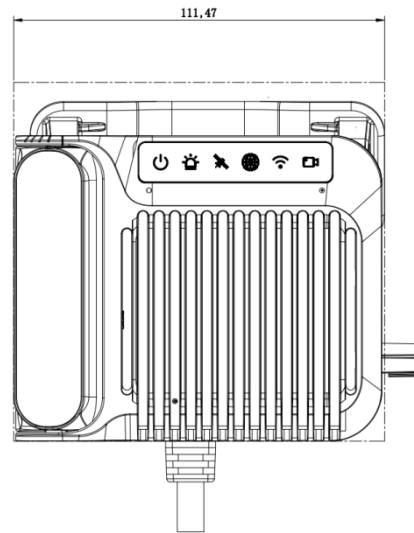
Pulse speed input	1
Extension ports	Doesn't support
CAN	Doesn't support
USB	1, mini USB connector
Network	
WIFI	Support 2.4G & 5G (IEEE Std. 802.11a/IEEE Std. 802.11b/ IEEE Std. 802.11g /IEEE Std. 802.11n/IEEE Std. 802.11ac)
4G	Support card tray SIM card (Nano SIM card) LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28 LTE TDD: B40 WCDMA: B1/B2/B5/B8 GSM: B2/B3/B5/B8  Warning: It is required to use an industrial-grade SIM card (MP2), and a normal-grade SIM card (MP1) is prohibited. The company is not responsible for the problems caused by the use of a normal-grade SIM card
GPS	
GNSS	Support GPS L1 1575.42MHz GALILEO E1B/C1 GLONASS L10F 1602MHz SBAS: WAAS, EGNOS, MSAS, GAGAN
Power	
Power	Support 12V, 24V vehicles (no need to configure)
power consumption	Device standby:

	Typical power consumption (install SD card, install SIM card dial): 12V/450mA, 24V/230mA Full load power consumption (install SD card, install SIM card dial, turn on WIFI, turn on infrared light): 12V/550mA, 24V/280mA *The above data are all laboratory-specific environmental test data, and may vary due to individual product differences, use environments and test methods
environment	
Operating temperature	-40°C~+70°C (-40°F~+158°F)
storage temperature	-40°C~+85°C (-40°F~+185°F)
Working humidity	15% - 95% non-condensing
storage humidity	15% - 95% non-condensing
degree of protection	IP30 *The host body is not waterproof
Size	
Size L×W×H	MDVR: 102mm×1110mm×170mm (Without stand) ; error ±2mm
*The actual size and weight may vary depending on the configuration, manufacturing process and measurement method	
packing list	
AD Pro3.0×1、Power box × 1, standard power cord × 1, hex screwdriver × 1, mounting bracket × 1, bracket bolt × 2, card pin × 1, desiccant × 1, alcohol cotton × 1	
*Due to the differences in configurations in different regions, the final result of unpacking shall prevail	

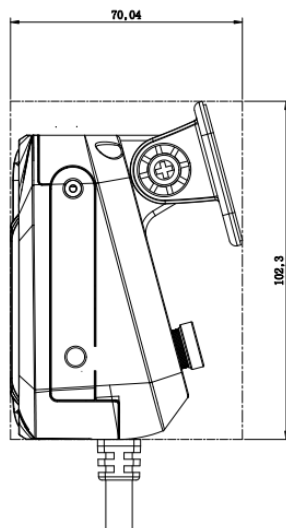
4. Size (unit:mm)



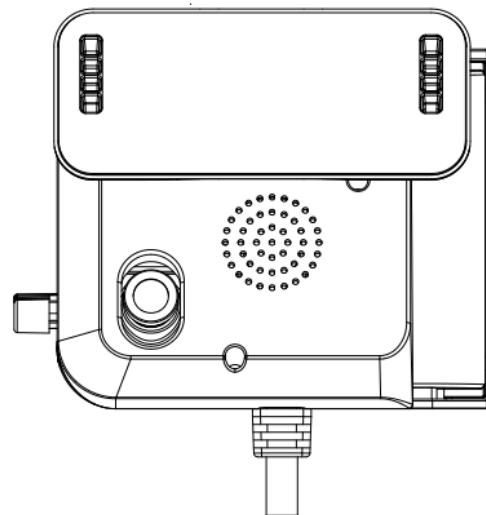
Left view



main view



right view

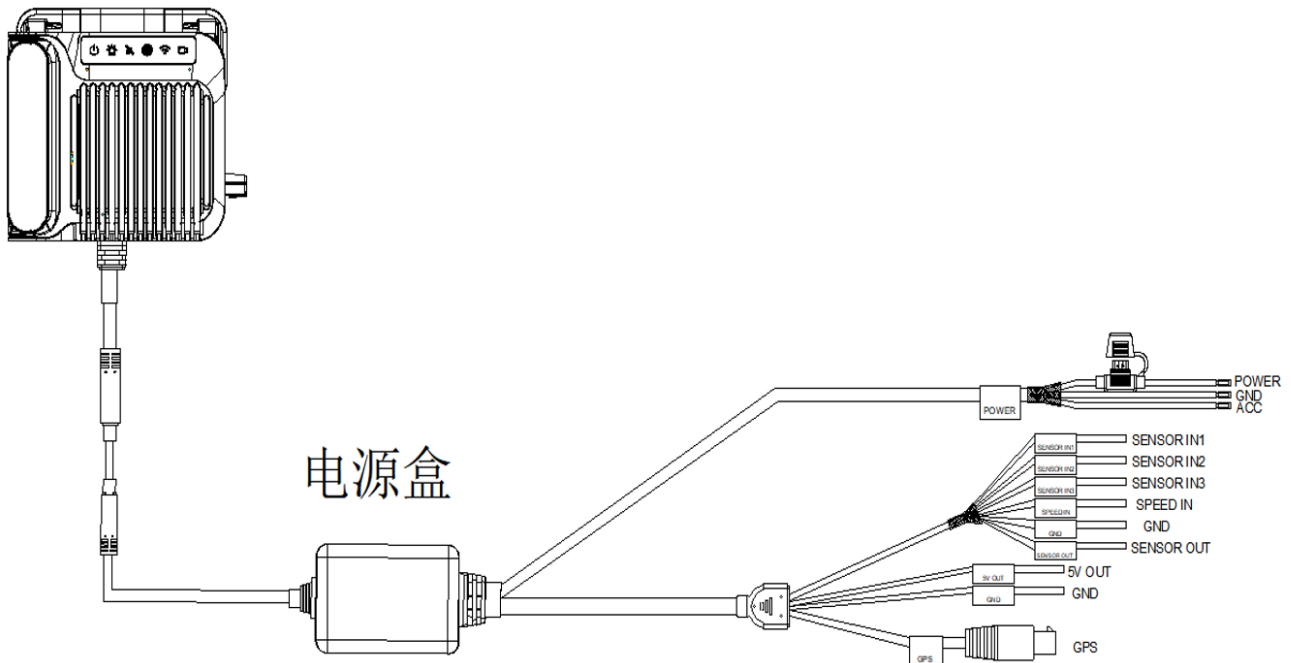


Rear view

5. System connection diagram

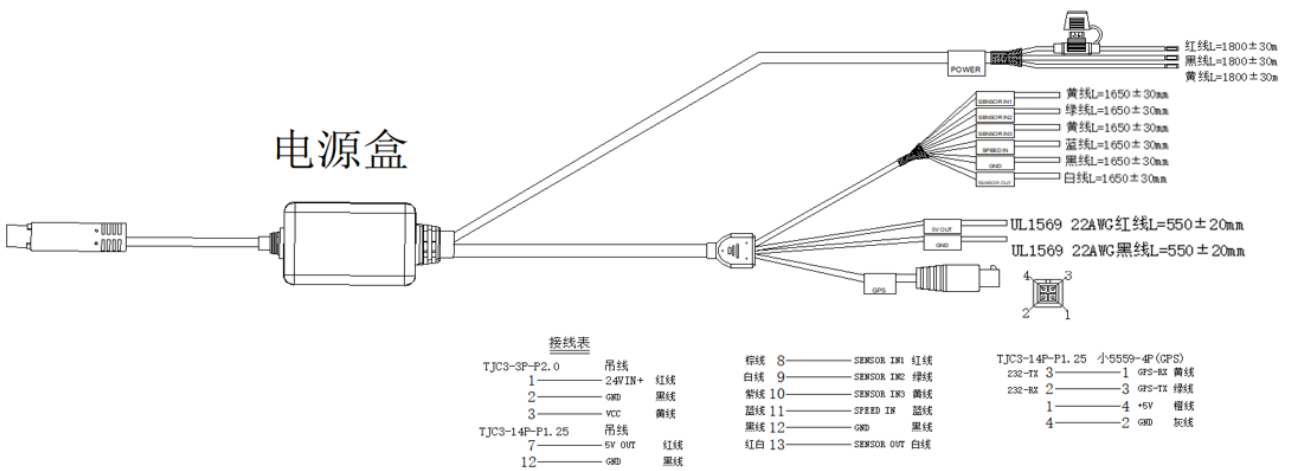
The standard delivery list includes a standard power cord to support ACC power-taking methods and vehicle connection

5.1 System connection diagram



5.2 Definition of wire interface

5.2.1 Definition of power output line interface



6. Special Instructions

1) This product needs to be installed by professionals, otherwise there will be risks of electric shock, damage to vehicle wiring, affecting AI experience, and equipment falling off

2) When the product is in direct sunlight, the surface temperature will exceed 60 degrees. Do not touch the surface directly exposed to the sun to prevent burns



Building a Brighter Future of Transportation with Technology



Streamax Technology Co., Ltd.

Address: 21-23/F B1 Building, Zhiyuan, No.1001 Xueyuan Avenue, Nanshan District Shenzhen City,
Guangdong Province, P.R.China
Website: en.streamax.com