



As per DGMS guidelines, records warning provided with time stamp to enable easy retrieval and analysis of the immediate past 96 deployment operating hours.

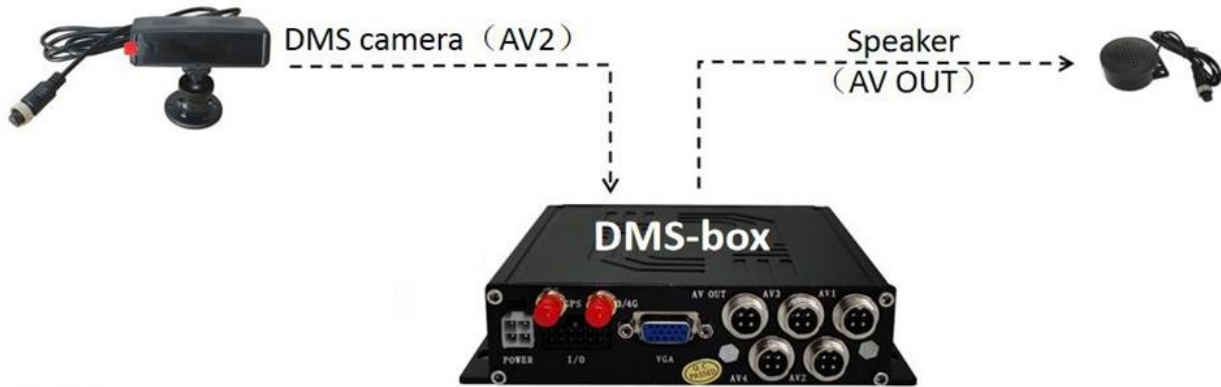
## Driver Fatigue Monitoring System



**Model: AC-22-DFMS+**  
**Brand: AUTOMATION CONTROLS**



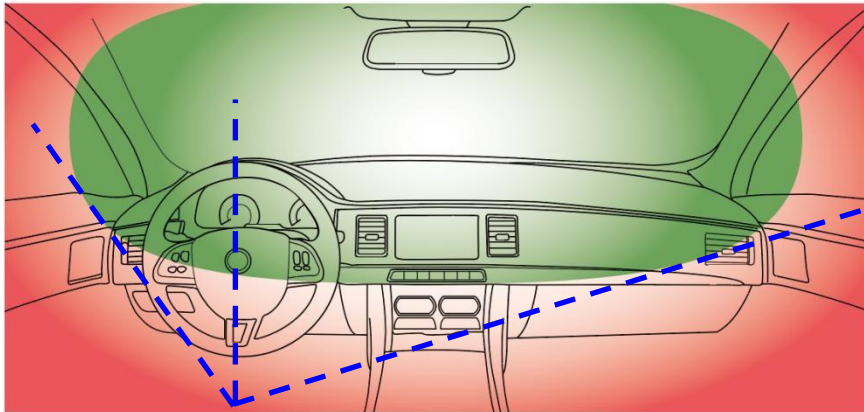
## Comp & Basics



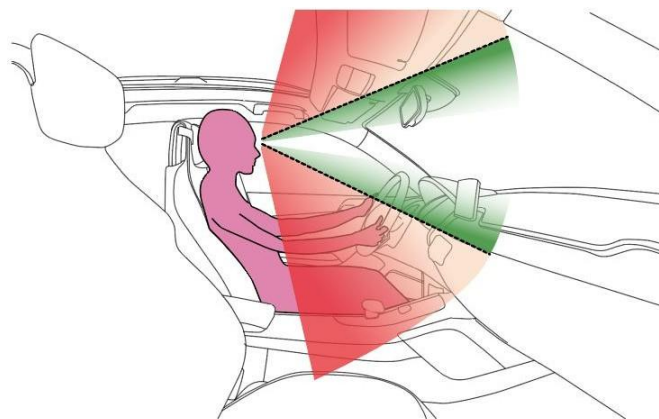
## Key Features

- 1. Fatigue, yawn, calling, smoking**  
The eyelid closure, the mouth opening, smart phone and LIGHTED CIGARETTE are detected during driving and the device will trigger.
- 2. Distraction (e.g.: turning head left/right or up/down off the road, texting, eating/drinking)**  
It will alarm when the gaze is beyond safe zone shown in the following figures.

## Monitor zone



Front View (gaze zone)

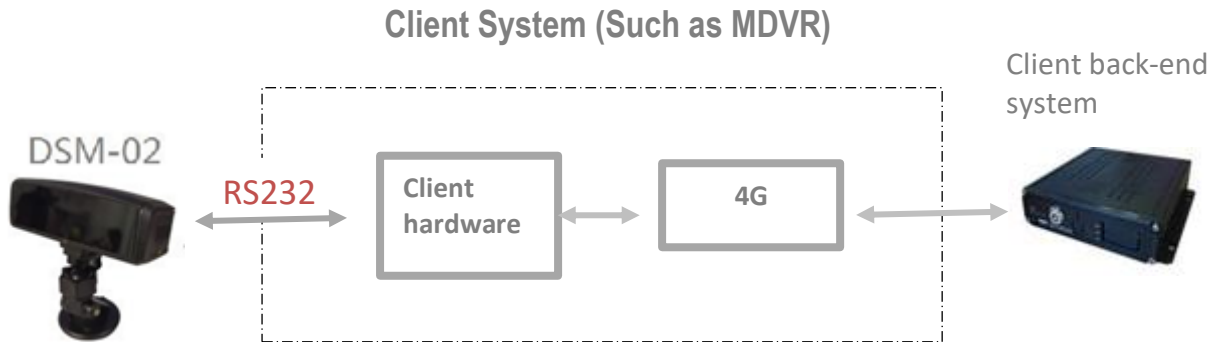


Side View (gaze zone)

1. Gaze zone: Green - Safe, Red - Unsafe.
2. If the gaze is at relatively stable off the green zone (e.g., reading smart phone when over 2s), the device will triggered.

## Work with MDVR system

It is simple for the connection, and the following diagram shows the generic flowchart of AC-22-DFMS.



## Spec & Standards of DFMS

Model No.	<b>AC-22-DFMS+</b>	
Face type	All, + Glasses	
Detection Scope	Face, Eye, Mouse, Phone, Cigarette & Head-pose	
Working Condition	Day and Night	
Working Distance	EFL 6mm lens: 50~85cm (20~33 inch)	
	EFL 8mm lens: 70~105cm (28~41 inch)	
Recognition rate	Fatigue	96.5% @naked eyes / 95.2% glasses
	Distraction	96.4% @ all
	Calling (*)	91.6% @ all
	Yawning(*)	92.3% @ all
	Smoking (*)	91.2% @ all
Alarm Type	Speak voice, Buzz	
Input Power	DC 8~24V, 1A	
Status Output Interface	UART (TTL& RS232), GPIO	
Working Temperature	- 20°C ~ +70 °C	
Dimension & Weight	93 x 50 x 37 mm & 623 g	

## Notes

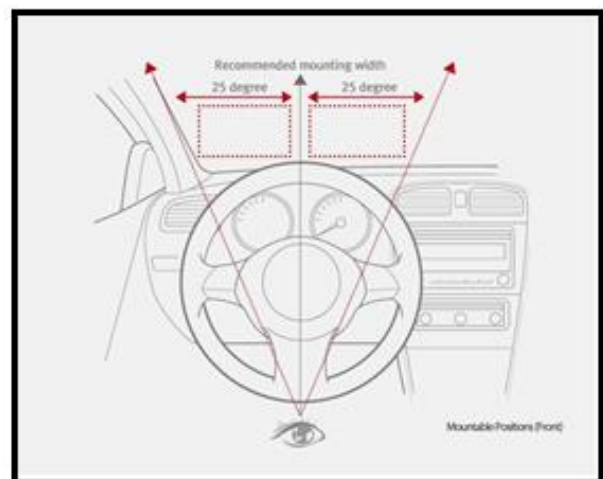
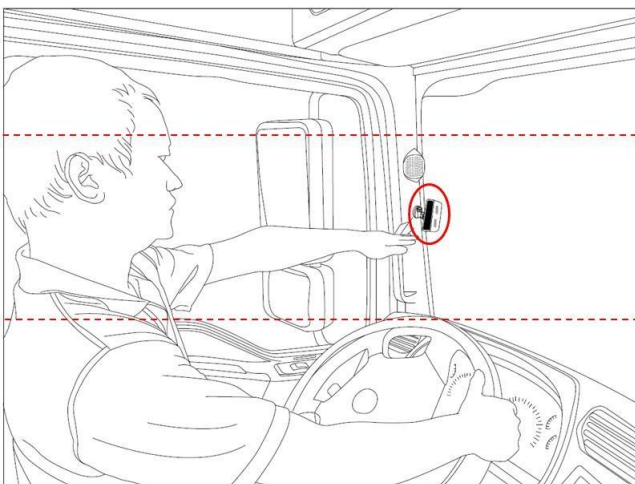
1. (\*) This is the optional, based on customer requirements.

## Spec & Standards of MDVR

DMS-box integrated MDVR		
Function	DFMS + MDVR + ADAS (optional) + 4G (optional)	
<b>DMS – AV2 channel</b>		
Work condition	Day and Night	
Face type	All, + Glasses	
Recognition rate	Fatigue (Blink)	93.6%
	Yawning (Open mouth)	95.1%
	Distraction (Turn head or absence)	95.8%
	Calling (Holding phone & speaking)	92.3%
	Smoking (Holding lighted cigarette)	92.7%
Output	Speak voice, text display in monitor	
	Image and video recording (Pre- 0~60s, Post-0~120s)	
<b>MDVR – AV1, AV3, AV4 channel</b>		
Input	3 channel AHD 1080p video + audio input	
Output	1 channel CVBS + 1 channel VGA + 1 channel speaker	
Video	H.264/H.265, 720p/D1/HD1/CIF	
Storage	TF card, USB flash drive, max 256 GB	
Positioning	Built-in locating module, GPS/GLONASS/GALILEO/BDS	
I/O port	USB 2.0, GPIO, IR, RS232 (optional)	
Power in	8~36V, 2A	
<b>General specification</b>		
Operating Environment	-30°C--+70°C, 8 % ~90% (No Condense)	
Language	English,	
Dimension (LxWxH)	155mm x 148 mm x 34.5 mm	
Weight (DMS -box)	480g	

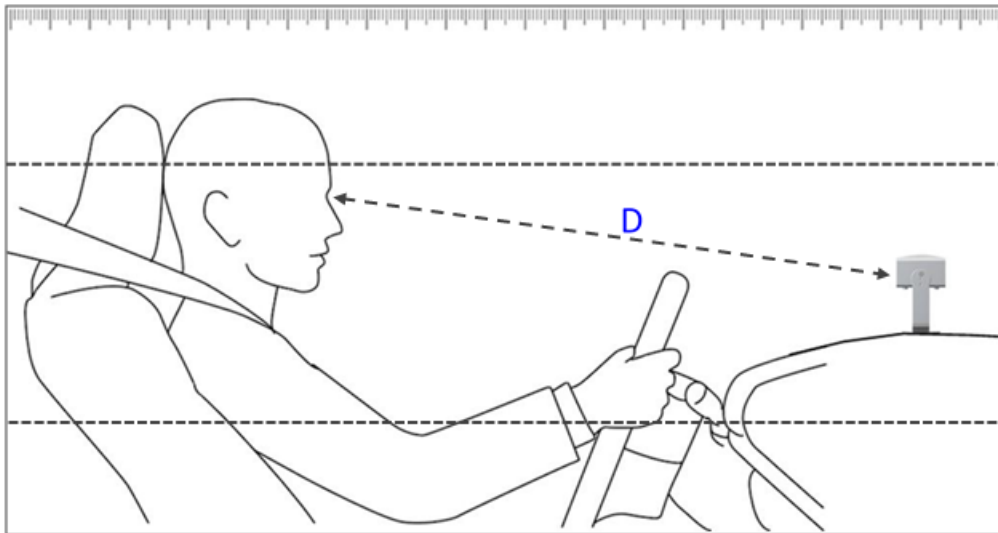
## Installation

Step 1: select the location



Note: DFMS is installed on A-pillar vertically

Step 2: define the distance



- 1- The distance(D) between eye and device MUST be within range as the below:  
EFL 6mm lens: 50~85cm, 70cm is recommended (for truck)  
EFL 8mm lens: 70~105cm, 90cm is recommended (for dumper)
- 2- Make sure to position the device between the forehead and armpit, otherwise the performance of device will be significantly reduced.

If the dashboard of your vehicle is too low, you need to choose another higher bracket.

Driver with Glasses? Sunglasses? **No problem!**



AC-22-DFMS adopt special filters to remove irregular sunlight reflection, catch the pupil status only.  
Drive at night, bad weather? **No problem!**

AC-22-DFMS adopt Infra-Red LEDs ensure the system work even while drive at night or in other low light situations, this is a very important feature because most fatigue driving accidents occur late at night or due to bad weather.





## Special Notes:

- Some specially coated corrective lens (inc. much thicker ones) and/or sunglasses can reduce therecognition rate.
- When hair blots out the eye, the device may make the alarming as fatigue function.
- Due to strong sunlight straight on the device (from side windows) or on driver's face (from front windshield), the device may reduce the recognition rate.
- Make sure that the power is not turned off during the firmware updating, or it may cause the boot fail.If the update progress failed, please retry to update it once again.
- Do not disassemble, repair, or modify the product, otherwise it may cause fire, electric shock, injury, andother accidents. Please contact the after-sales service for product repairing.
- AC-22-DFMS alarms will be saved in the SD card.