AI

VIDEO TELEMATIC DEVICE

DC-M20L

Installation and User Guide

arvento®
Mobile Systems

Table of Contents

Introduction **1**
System Overview 1
Product Overview 1
Schematic Diagram Powered by Standard Power Cable 1

Installation Preparation **2**
Installation Technical Requirements 2
Understanding the Installation Environment 2
Vehicle Status and Related Electrical Information 2
Vehicle Power Connection 2

Preparation for Installation Materials and Tools **3**
Package Inventory Control 3
Installation Materials and Tools 4
Preparing the Micro SIM Card and Micro SD Memory Card 4

Installation **5**
Inserting the Micro SIM Card and Memory Card 5
Installation Site Selection for Main Unit 6
Installing the Main Unit 6
Adjusting and Stabilizing the Device 6
Power Connection, Signal Cable and Cable Connection 7

Device Configuration **7**

Reception and Cleaning **7**
Cleaning 7
Installation Acceptance 7

Introduction

This DC-M20L Solution Installation Guide has been prepared to guide installation personnel in the correct and efficient installation of the DC-M20L and its accessories and to improve installation efficiency.

This document primarily includes: Introduction, System Overview, Installation Preparation, Introduction to Installation, Acceptance, and Cleanup. This document is intended for installation personnel.

We reserve the right to interpret this document and to change the information and explanations contained herein. In case of any changes in the content of this manual, no further notification will be made.

Important Notice

1. Before installation, park the vehicle on a level surface and turn off the engine (do not park the vehicle on inclines or slopes).
2. Please read the packing list carefully and inspect the packaging thoroughly after unpacking.
3. Please read the tool list section carefully and make sure that the installation tools are available before starting the installation.
4. Before installation, observe the vehicle's surroundings and observe the following guidelines:
   a. The mounting position and wiring of the product must not obstruct the driver's view or the adjustment of the rearview mirror and sun visor.
   b. The camera used to monitor road conditions in front of the vehicle must be within the operating range of the windshield wipers.
   c. The mounting position of the in-cab driver monitoring camera must comply with local regulations.
   d. The installation position should facilitate the replacement and maintenance of the Micro SD card and standard SIM card.
5. Select a suitable installation position according to the environment of the vehicle. This document is for reference only.
6. Select the appropriate power connection method according to the vehicle's environmental conditions. Power connection should be performed by professionals, as improper operation of the vehicle's power system by non- professionals can be dangerous. This document isfor reference only.
7. If any problems arise during the installation of special tools, please contact the product supplier immediately for support.

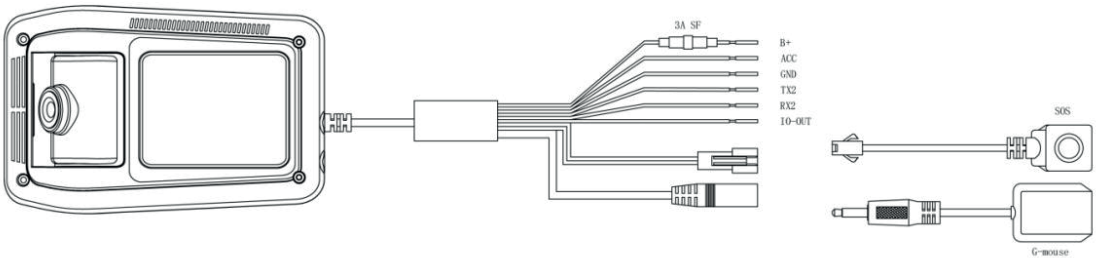
System Overview

Product Overview

The DC-M20L is a smart dash cam with built-in dual recording cameras. It helps drivers reduce traffic accidents and fleet management improve efficiency. Based on AI technology, it can proactively detect dangerous driving incidents and unsafe driving behaviors. It supports sending local real- time alerts to the driver to avoid risks and uploads incidents to the fleet management platform for driver training. Transmits real-time and accurate vehicle location information and operational data to the fleet management platform. Provides high quality remote intercom and real-time video playback, making fleet management easier and more efficient.

This product is suitable for various weather conditions such as day and night, sunny and rainy. It can be installed on vehicles such as buses, taxis, passenger cars, trucks, hazardous material transportation vehicles, school buses, dump trucks and cleaning vehicles.

Schematic Diagram Powered by Standard Power Cable



Installation Preparation

Technical Installation Requirements

Installation personnel must be familiar with the product features, applications and general structure. Installation personnel should be familiar with vehicle circuits, structures and common installation methods for in-vehicle devices.

Understanding the Installation Environment

Before equipment installation, Installation personnel should have a clear understanding of the vehicle model, the installation location of the equipment, the cable types and lengths required for different vehicle models, and a list of commonly used auxiliary materials. This ensures that equipment installation and debugging is completed smoothly.

Vehicle Condition and Related Electrical Information

Confirmation of the vehicle information is the basic prerequisite for a successful installation and the assurance of the division of roles to prevent vehicle damage. The next step for each component can only be taken after approval by the person responsible for the vehicle and the installation personnel for each operation.

a. Check the exterior and interior components of the vehicle for any damage.
b. Check that the vehicle can be started and operated normally.
c. Check the condition of the vehicle's power supply system.

Note: It is very important to confirm the above information. Installation can only proceed a f t e r confirmation of normal conditions.

Vehicle Power Connection

It requires the work of professional installers. The following mainly describes the method of connecting the power supply of the vehicle according to the power cable requirements of the product.

1. Required Instruments Multi-meter
2. Selecting the Power Connection Location

With the vehicle parked and the ignition OFF, use a multi-meter to check for power to the circuit. If positive, it is determined that there is a constant power supply and then measure the voltage.

If ACC is ON or ignition ON when the vehicle is parked, use a multi-meter to check for power to the circuit. If ACC is negative when ACC is OFF and positive when ACC is ON, the ACC cable is detected and then the voltage is measured.

Voltage Measurement at the Power Port

Stationary Power Supply: With the vehicle parked and the ignition OFF, use a multimeter to measure the voltage of the constant power supply cable, which is approximately 24V or 12V. If the voltage of more than one cable is within this range, select the cable with the higher current as the constant power supply connection cable.

ACC: When the vehicle ACC is ON or ignited, use a multimeter to measure whether the voltage is 24V or 12V. If it is 0 in the OFF state and 24V or 12V in the ACC ON or fired state, select the cable as the ACC power supply connection cable.

Note: When connecting the power supply, first measure the positive and negative terminals of the power supply with a multi-meter to avoid errors.

Preparation for Installation Materials and Tools

Package Inventory Control

After unpacking the product, please make sure that the device is intact and that all accessories are included

1

L key

2

Screw

3

Slot Protection Cover

4

3M Tape

5

G-mouse cable

6

Panic Button

7

Main unit

Installation Materials and Tools

Installation Materials and Tools List

	Name	Image	Usage	Amount
1	Screwdriver Kit		Tighten Screws (Optional)	1 piece
2	Plastic Leveler		Remove Tool Panel	1 piece
3	Plastik kelepçe		Bundle Cables	1 piece
4	Cleaning Cloth		Clean the Dashboard	1 piece
5	Telefon		Preview and Parameter Installing the Configuration App for Video Configuration	1 piece
6	Meter		Measure the Installation Height of the ADAS Camera and Assist Installation Other Scenarios	1 piece
7	Pencil		Mark Lines for Assembly	1 piece
8	Pliers		Cutting and Stripping Cables	1 piece
9	Insulated Rubber Tape		Wrap Wire Ends	1 piece
10	Scissors		Cut Insulated Rubber Band or Wire Clip	1 piece
11	TF Card Reader		For Future Use	1 piece
12	Multi-metre		Locate Vehicle Power Supply Measurement of Transmission Harness, Measuring Pulse Signal	1 piece
13	3M Adhesive Tape		Repair DMS Camera	1 piece
14	Three Legged Ladder		Help to Install BSD Camera	1 piece
15	Waterproof Sealant		Waterproof Filling After Drilling	1 piece
16	Su Geçirmez Bant		Waterproof Protection for Outdoor Wire Connectors	1 piece

Preparation of Micro SIM Card and Micro SD Memory Card

To ensure proper online communication and data storage of the device, please prepare a compatible Micro SIM card and a Micro SD memory card that meets quality requirements before installation.

Installation

Inserting the Micro SIM Card and Memory Card

Insert the Micro SIM card and Micro SD card as shown in the diagram below (pay attention to the insertion direction of these cards). Make sure it is smooth and flexible during insertion. When pushing the card, you should hear a clear "click" sound, indicating that the card is inserted correctly. If you feel significant friction or resistance during insertion, the card is inserted in the wrong direction. In such cases, remove the card immediately to avoid damage.

If the Micro SD card and Micro SIM card are too small to be inserted into the slot manually, you can insert the card into the slot and then use the supplied pry tool to push it in.

Micro SIM card and
Inserting the micro SD card

Note 1: Due to the device's operating temperature range of -20°C to +70°C, the Micro SD card and Micro SIM card must be able to function properly in harsh environments for extended periods of time. In particular, the metal contacts on consumer-grade Micro SD cards and Micro SIM cards are prone to oxidation when exposed to prolonged exposure to heat, humidity or salt spray conditions. Frequent insertion and removal of cards can lead to contact wear, and the card slot may be subject to deformation or bending under constant pressure, weakening the contact. Therefore, if you are using a Micro SIM card, industrial plastic or ceramic cards (MP2 / MP3
/ MS1 grade) with an operating temperature range of -40°C to 105°C are recommended for industrial equipment. If using a Micro SD card, an industrial grade Micro SD card that offers strong stability and can be used over a wide temperature range (-40°C to 105°C) should be used.

For safety purposes, it is recommended to use Micro SD cards verified by our company when purchasing the device. If you choose to purchase unverified Micro SD cards, there is a risk of damaging the device and thus affecting its lifetime.

Note 2: Before inserting the Micro SIM card, please checkwhether there is any dirt (such as dust, fingerprints or watermark) on the metal contact surface of the Micro SIM card. If there is, use a non-woven cloth or rubber to clean the surface.

Note 3: When inserting the SIM card, avoid touching the metal surface of the Micro SIM card with your hands to avoid contamination from dust and sweat.
After inserting the Micro SIM card and Micro SD card, tighten the card slot panel and screws.
After the Micro SIM card and Micro SD card are inserted, remove the lens protective film from the front and rear lenses of the device as shown in the diagram below.

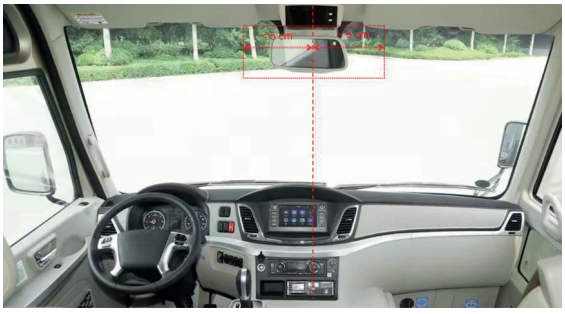
Selection of Installation Site for Main Unit

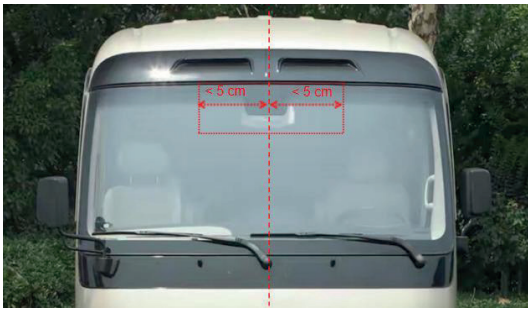
The installation space requirements for the DC-M20L are as follows:

1. The device must be mounted in the center of the windshield. Typically, it is mounted in the area above the center line of the windshield, close to the rearview mirror. If it is not possible to mount the device in the center as required, a deviation of less than 5 cm to the left or right is allowed (the deviation of the device relative to the center line of the windshield is calculated using the center line of the front lens).
2. The lens of the road condition monitoring camera must be within the working range of the left and right windshield wipers (make sure that the screen of the road condition monitoring lens is clean and spotless).
3. It is recommended to avoid installing other electronic devices around the device, including smart rearview mirrors, electronic tags, etc., as they may interfere with the device's positioning signal. The installation location should ensure that the main unit does not block the driver's view of the front blind spot reflector and that there are no obstructions (such as an interior rearview mirror or glass covering) in front of and around the camera lens in the driver's cab monitoring view.

The general selection of the installation site is shown in the diagram below

Diagram: Installation space for the main unit





Mounting the Main Unit

1. Park the vehicle on a level surface.
2. Clean the inside and outside of the target mounting area on the windshield using an alcohol swab. Make sure there is no dirt or debris on the windshield that could obstruct the view of the road condition monitoring lens. Make sure the glass is dry.
3. Remove the protective film from the 3M tape of the mounting base and stick it to the windshield
4. Press the device firmly against the windshield for 10 seconds and make sure that there are no air bubbles between the main unit and the glass.

Adjusting and fixing the device

When fixing the camera, make sure that the cabinet camera screen meets the following conditions:

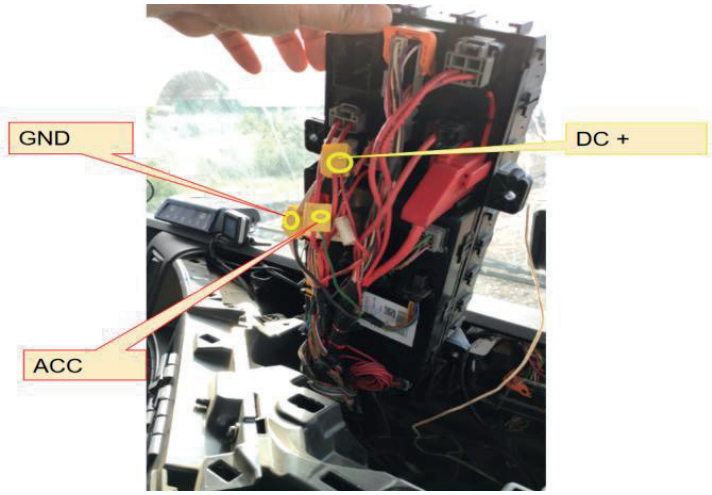
a. The center of the cabinet should be positioned in the center of the screen.
b. The cabinet screen must be horizontal.
c. The vehicle's steering wheel should be displayed in the lower left/right corner of the screen.

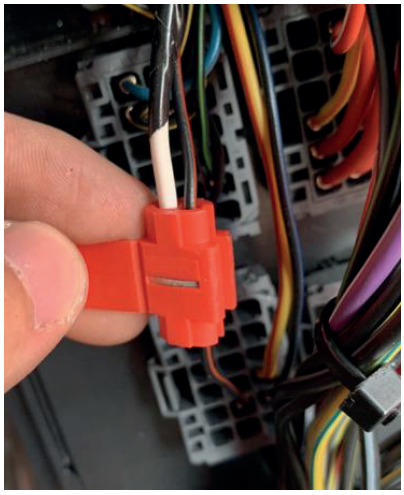
Correctly adjusted
The cabin monitoring camera image is shown on the side

Note: Only when the device is securely connected to the vehicle can the device be powered on. If the device is fixed after power connection, it must be switched on again before testing or use.

Power Connection, Signal Cable and Cable Connection

Connect the power/ACC/GND to the vehicle's power supply line.





Note: GThe power line should preferably be connected using "special non-stripping connectors" (no stripping is needed to avoid the risk of electrical leakage) and wrapped with insulating tape to prevent electrical leakage / short circuit.
After the connection is completed, wrap with insulating tape to prevent electrical leakage / short circuit.

Device Configuration

After the device is turned on, set it up using the configuration APP. Please refer to the configuration APP user manual for instructions.

Reception and Cleaning

Cleaning

Clean the assembly area, collect and remove tools and waste materials. Return the original items to their original positions in the vehicle. Installation work is now complete.

Installation Acceptance

Perform acceptance according to the acceptance checklist provided by the customer, focusing on installation details and parameter settings.

1. Pay close attention to parameter settings and take screenshots for documentation.
2. Verify video image quality and take and save sample videos.

Take photos of all devices and the central console after installation is complete..

1. Take installation position photos of all components.
2. After the installation is complete, take a processed photo of the cabinet.

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