

FleetCam Cargo Camera

Product Installation guide

Version 1.0



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Preface

About This Product Installation Guide

This manual provides critical safety information aimed at preventing harm to users and other's, avoiding property damage, and ensuring the safe use of the product. All content, including text, images, graphics, etc., is owned by Forward Thinking Systems / FleetCam. Without written permission, no unit or individual may excerpt, copy, translate, or modify any part of this product manual in any way. Unless otherwise stated, the company makes no declarations or guarantees regarding this guide.

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Disclaimer

The product described in this document is provided "as is" without any express or implied warranties, including but not limited to warranties of merchantability or fitness for a particular purpose. Forward Thinking Systems / FleetCam shall not be liable for any damages resulting from the use of the product or the specifications, including but not limited to loss of profits, data, or documentation.

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By using this product, you agree to comply with all applicable laws. Forward Thinking systems / FleetCam is not responsible for any misuse of the product or any infringement of third-party rights. If there is any conflict between this specification and applicable laws, the laws shall prevail.

Product Overview

Product Introduction

FC Cargo Camera is a highly integrated AI device designed for efficient cargo management and video monitoring. It is equipped with a high-speed processor, advanced operating system, and Video compression technology, supporting dual-channel video recording with resolutions up to 4K and 1080p. The FC Cargo Camera is equipped with GPS positioning, 4G connectivity and Bluetooth functions, and can connect to external sensors to ensure real-time alarm transmission and cargo door status monitoring. Additionally, the FC Cargo Cam is equipped with advanced AI visual recognition technology that can intelligently identify the cargo loading rate, helping users track the cargo location and loading status in real-time. The device can intelligently switch modes to optimize power consumption and extend battery runtime while collecting cargo data and detecting anomalies. Its robust, minimalist design offers high impact resistance, stability, and ease of use, making it ideal for complex cargo transportation environments.

Product Features

Dual-Channel Video Monitoring

Supports one channel for 4K images for cargo interior monitoring and one channel for 1080p for cargo exterior monitoring.

AI Visual Recognition

Features cargo loading rate recognition, providing real-time analysis of cargo loading conditions.

Local Storage

Supports one Micro SD card for local recording, with a maximum capacity of 1TB

Efficient Compression Technology

Supports H.264 compression technology, saving storage space.

Wireless Connection

Supports WiFi to facilitate connecting equipment for operation and maintenance; support BT5.1 to facilitate connecting sensor peripherals

Mobile Network

Supports 3G/4G network connection with a Nano SIM card.

Solar Charging

Supports external solar panels, providing solar charging capability.

GPS Positioning

Supports GPS tracking for real-time location monitoring.

Smart Cargo Management

Supports cargo management algorithms and various anomaly detection and alarm functions.

Remote Management

Supports remote control, data visualization, and report generation through the FT platform.

Low Power and Sleep Modes

Supports two power-saving modes. In low power mode, the device can detect door status but cannot be remotely awakened through the platform. In sleep mode, the device can detect door status, stay 4G on line, and can be remotely awakened through the platform

AI Features

Product Introduction



Cargo Loading Rate



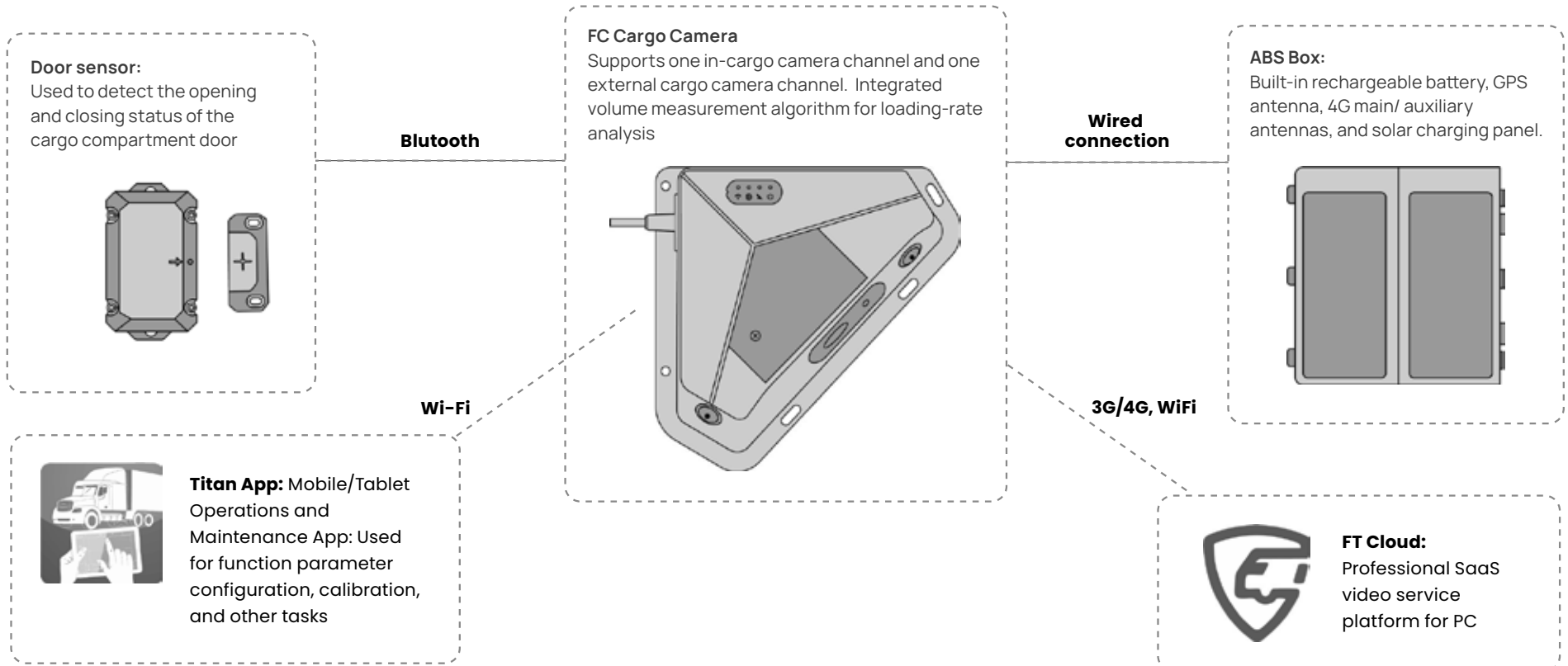
Loading/Unloading timeout



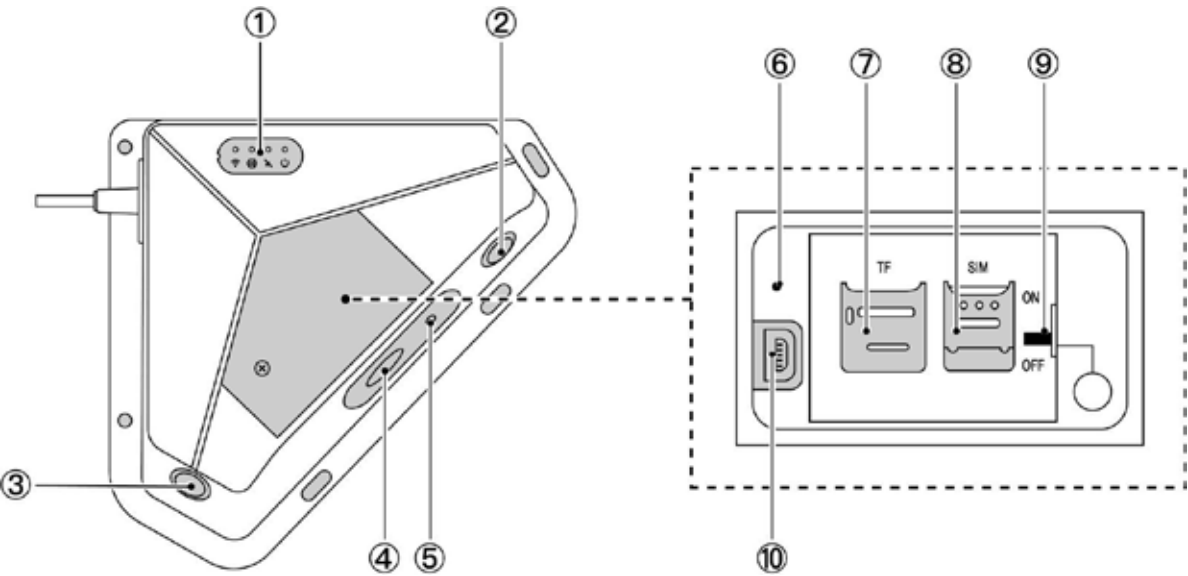
Video Cover

FC Cargo Camera revolutionizes trailer transport management with advanced AI and high-definition video technology. Leveraging big data and AI deep learning, the FC Cargo Camera can monitor cargo volume in real time and analyze loading rates, providing users with accurate loading data insights. The device integrates AI cameras and high-precision sensors, ensuring full visibility of the cargo and enabling intelligent management of the loading process. Additionally, the FC Cargo Camera features an illegal door opening detection function, effectively preventing security risks during transport and safeguarding the cargo. The FC Cargo Camera offers a smarter and more efficient solution for cargo transportation, helping users optimize transport efficiency and reduce operational costs.

Main Products



FleetCam Cargo

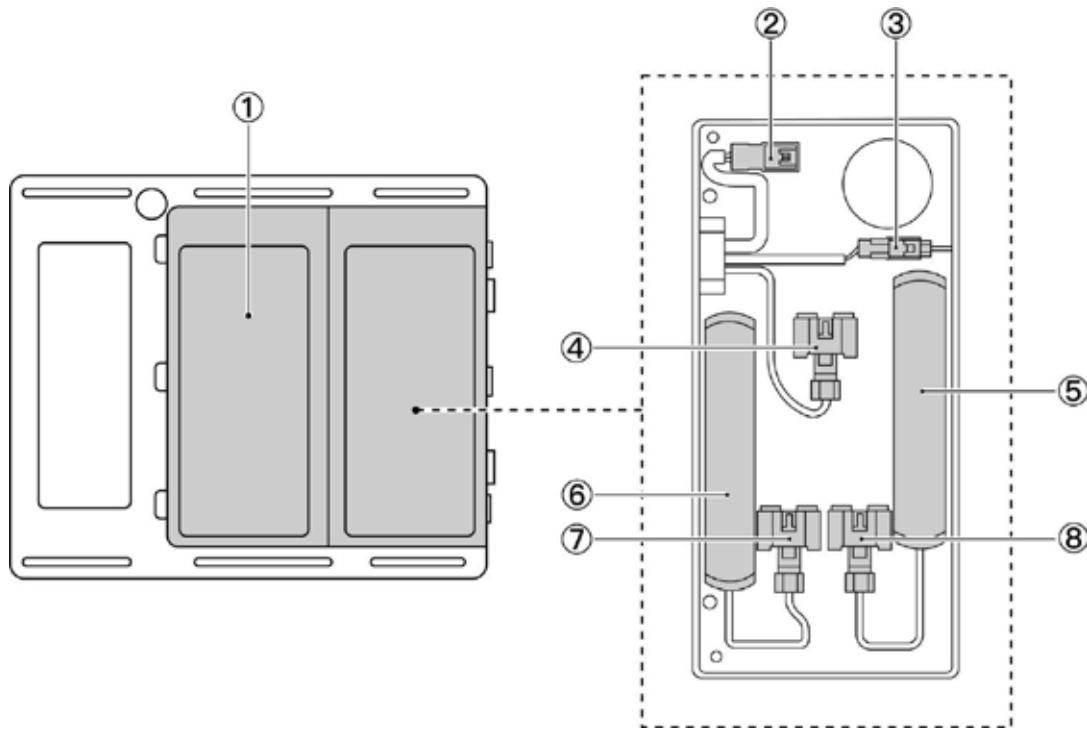


- 1. Status Indicator Light
- 2. In-Cargo Box Camera
- 3. External Cargo Box Camera
- 4. White LED Light
- 5. Brightness Sensor
- 6. AP Hotspot Toggle Button
- 7. Micro SD Card Slot
- 8. Sim Card Slot
- 9. Power Switch
- 10. Micro USB Port

Status Indicator Light

Indicator Light	Icon	Off	On ● / Flashing ○		
WiFi Status Indicator	📶	In disable or client mode	● In AP mode	● WIFI error	
Network Status Indicator	🌐	In sleep or low-power mode	● Server connection successful	● Server connection error	
GPS Signal Indicator	📶	In sleep or low-power mode	● Positioning successful	● Positioning error	
Power Indicator	🔌	In sleep or low-power mode	● Power supply normal	● Power disconnected Battery level above 10%	○ Power disconnected Battery level below 10%

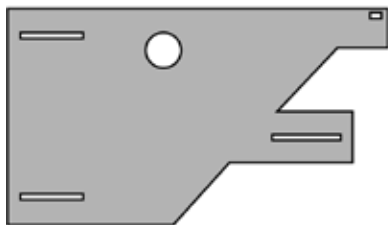
ABS Power Box



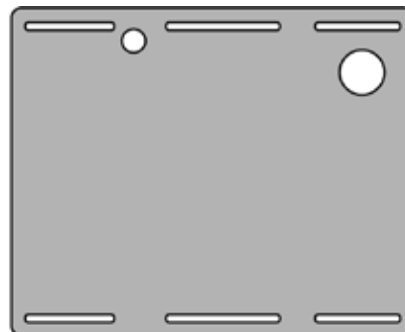
1. Status Indicator Light
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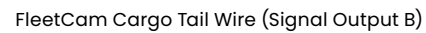
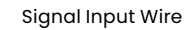
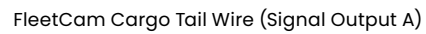
FleetCam Cargo and ABS Power Box Installation Stickers

FleetCam Cargo Sticker



ABS Box Sticker

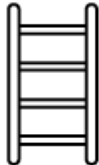




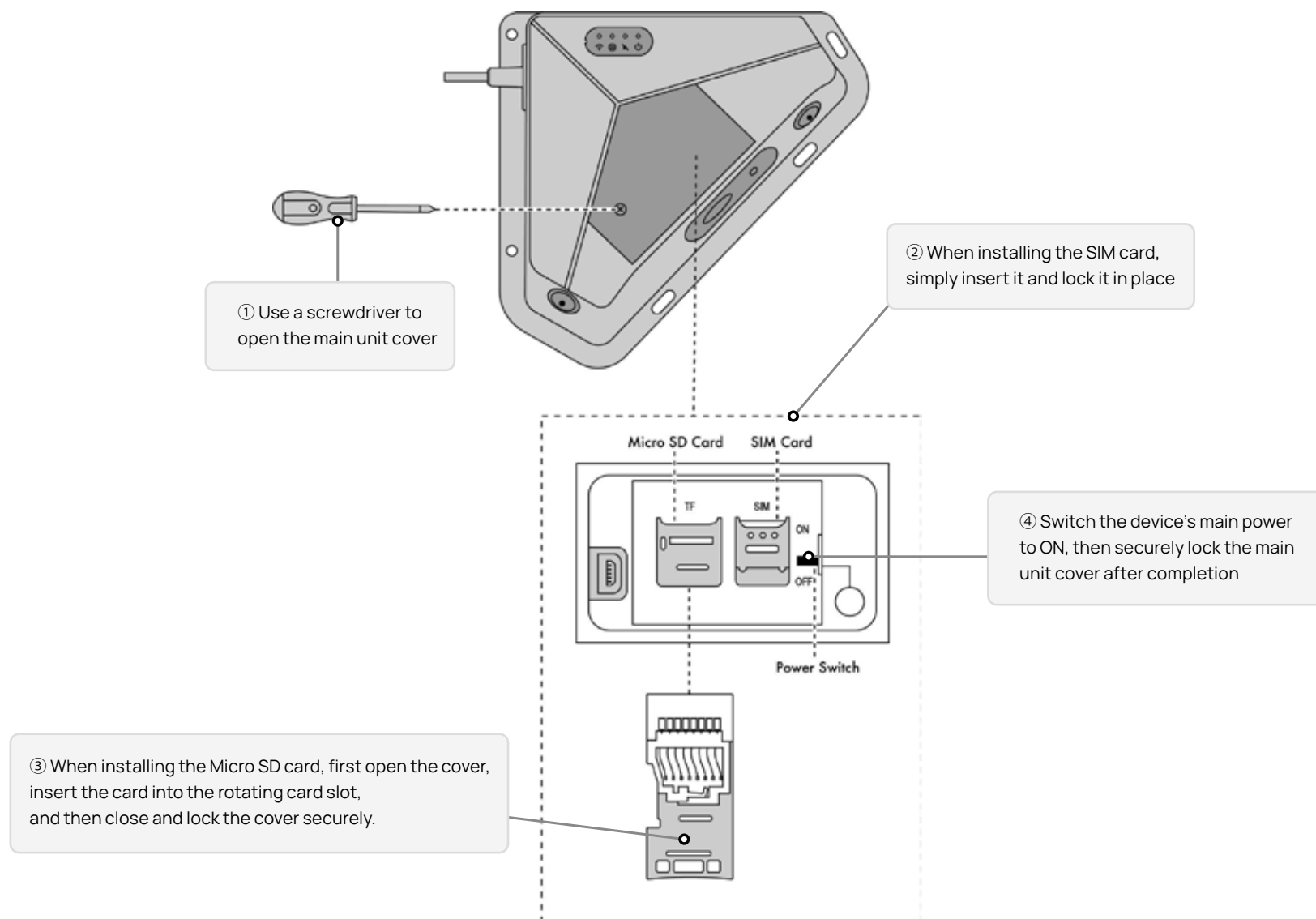
Quick Installation Guide

Preparation

Before starting the installation, please ensure you have prepared the necessary materials and tools:

				
Product Kit	Screwdriver Kit	Smartphone / Tablet	Micro SD Card	Nano SIM Card
				
Cleaning Cloth	Measuring Tape	Scissors	Marker	Wire Cutters
				
Electrical Tape	3M Adhesive	Handheld Drill	Drill Bit (30mm)	Drill Bit (3.5mm)
				
Multimeter/Test Pen	Cable Ties	AA Batteries	Ladder	Glass Sealant

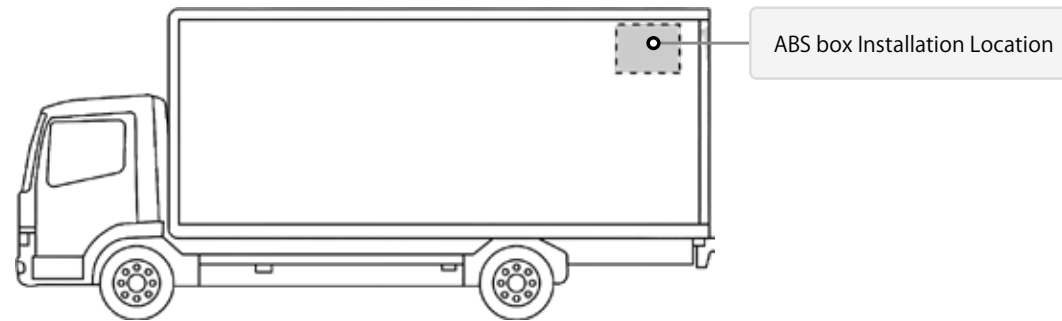
Step 1: Insert the SIM Card and Micro SD Card



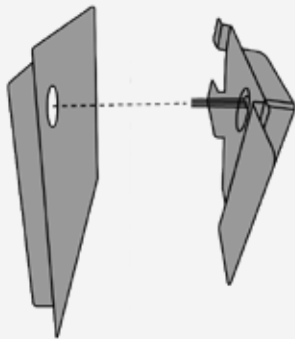
Warning

Please use industrial-grade Nano SIM cards (MP2) and Micro SD cards. Consumer-grade Nano SIM cards (MP1) and Micro SD cards are prohibited. The company is not responsible for any issues caused using non-industrial grade SIM cards.

Step 2: Installing the ABS Box

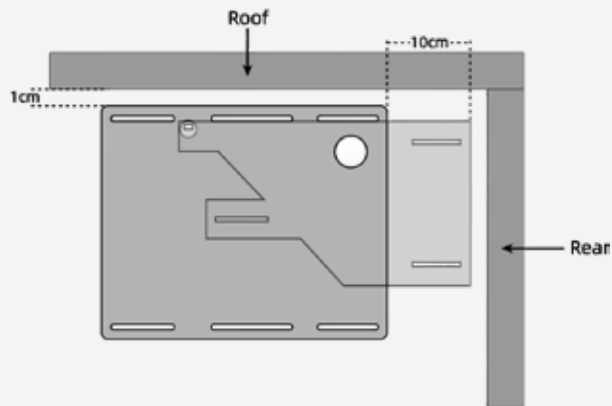


Warning



When installing the power box, it is necessary to drill a circular hole in the cargo box to allow the FleetCam Cargo Cam tail wires to pass through and connect to the power box, with both units installed back-to-back. Before finalizing the position of the power box, refer to the installation location of the FleetCam Cargo Cam inside the cargo box to ensure both can be securely fixed inside and outside the cargo box.

Since there are welding points between the crossbeam and the wall of the cargo box, placing the power box too close may affect the flatness of the bracket. It is recommended to position the power box at least 1cm below the bottom edge of the cargo box crossbeam to ensure proper alignment and stability.

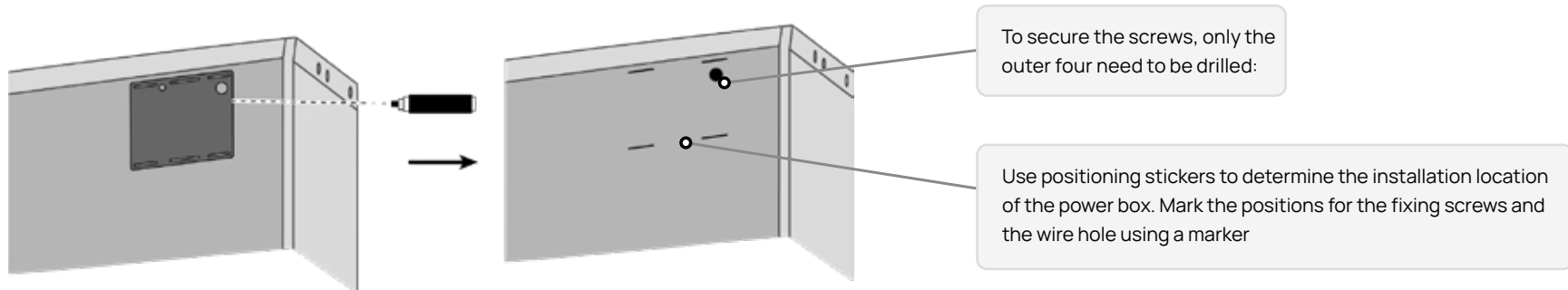


The FleetCam Cargo Cam and the power box should be installed as close to the rear of the vehicle as possible. Please note that the FleetCam Cargo Cam extends approximately 10 cm further toward the rear compared to the power box.

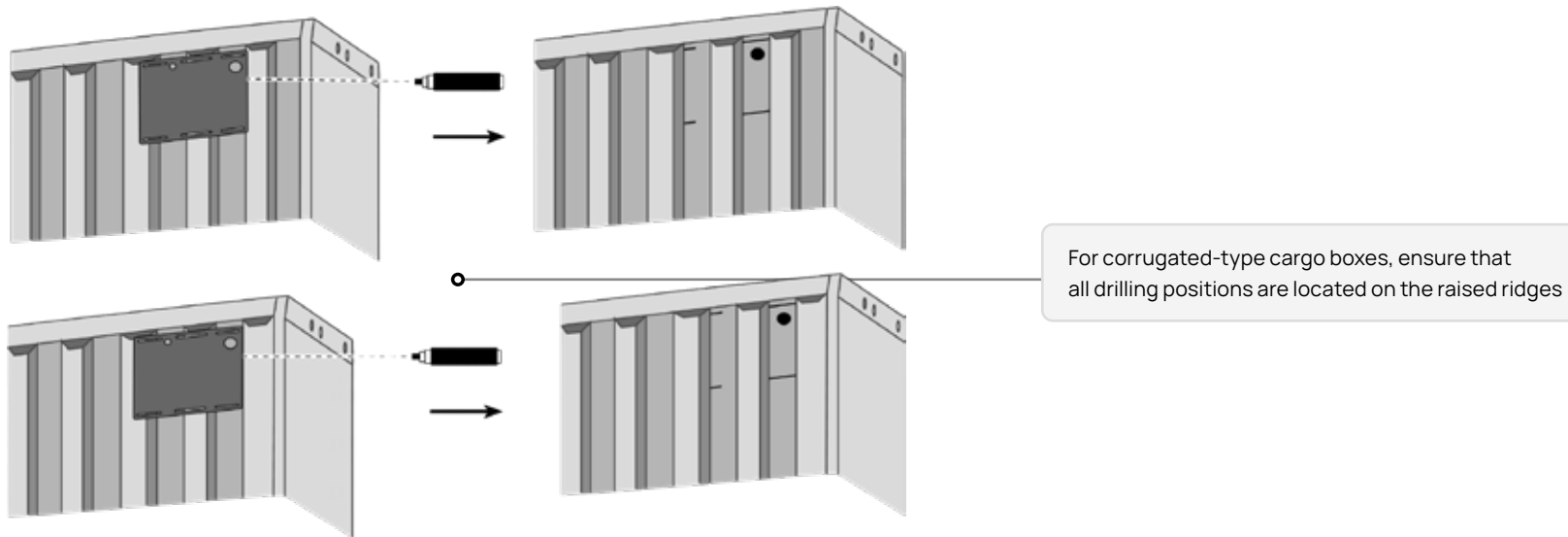
While positioning the power box as close to the rear as possible, make sure to reserve at least 4 in. of clearance. Also, when selecting the installation location for the FleetCam Cargo Cam, ensure that it does not collide with any structural components of the vehicle, such as the door.

The cargo box walls of trucks can be categorized into two types: **flat type** and **corrugated type**:

Flat Type



Corrugated type

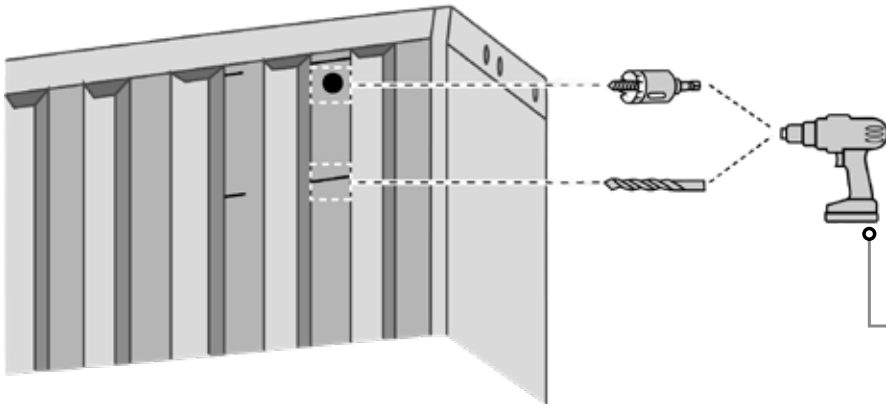


Warning

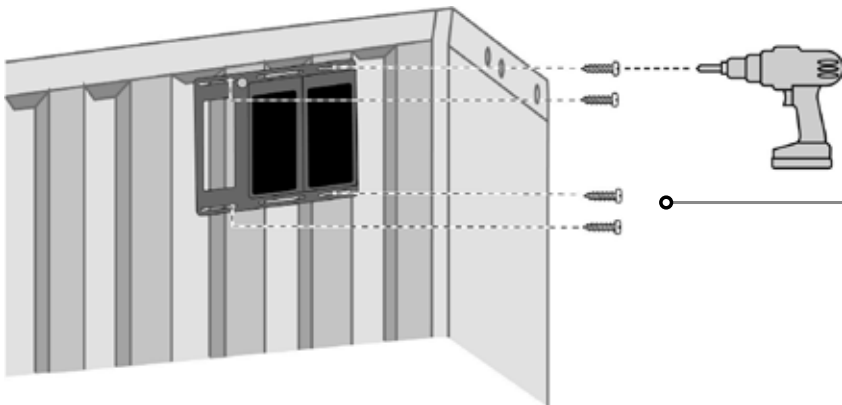
Before drilling the wire hole, if the metal wall of the cargo box makes it difficult to drill directly with a large-diameter drill bit, it is recommended to first use a small-diameter drill bit (e.g., 1/8") to create a pilot hole at the center, followed by the larger-diameter drill bit.

Warning

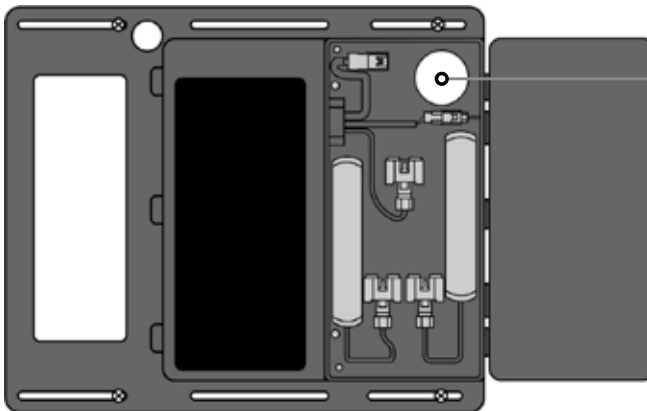
During the installation of both the power box and FleetCam Cargo Cam, the positioning stickers must be removed after completing the hole marking.



For the wire hole, use a 1-3/16" drill bit to accommodate the connecting wires between the main unit and the power box. For the screw holes, use a 1/8" drill bit to facilitate subsequent screw fixation



Position the power box at the planned installation location. Using an electric drill, drive the screws into the pre-drilled screw holes to secure the power box base

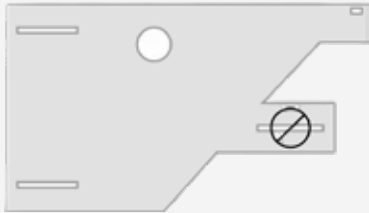


In the following steps, the FleetCam Cargo Cam's main unit's tail wires need to pass through this wire hole from inside the cargo box and connect to the external power box.

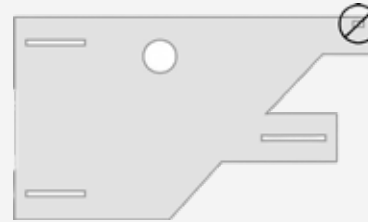
Step 3: Installing FleetCam Cargo

Warning

For corrugated-type and flat-type cargo box walls, to prevent screws from penetrating the wall and damaging the power box, the positions of the screw holes for fixing the FleetCam Cargo Cam will differ:

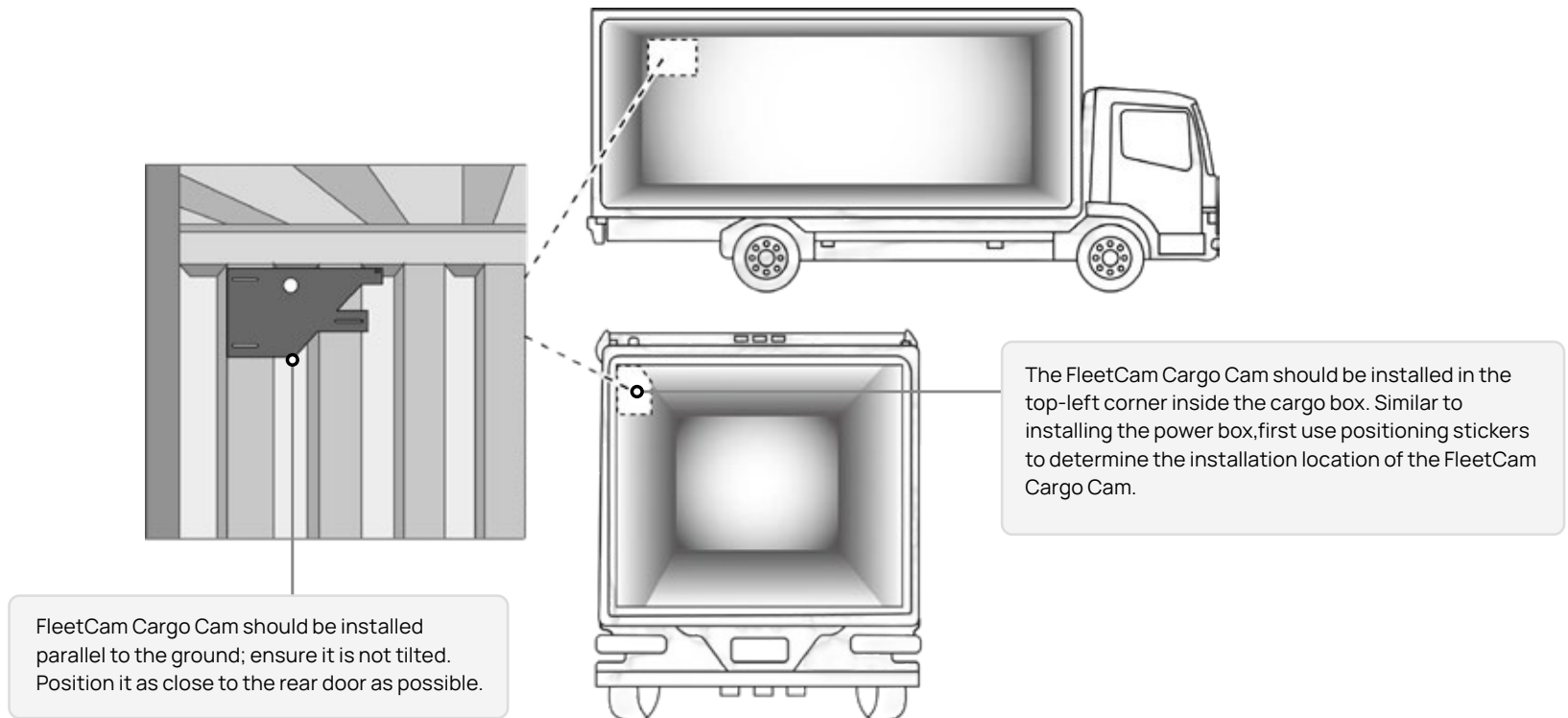


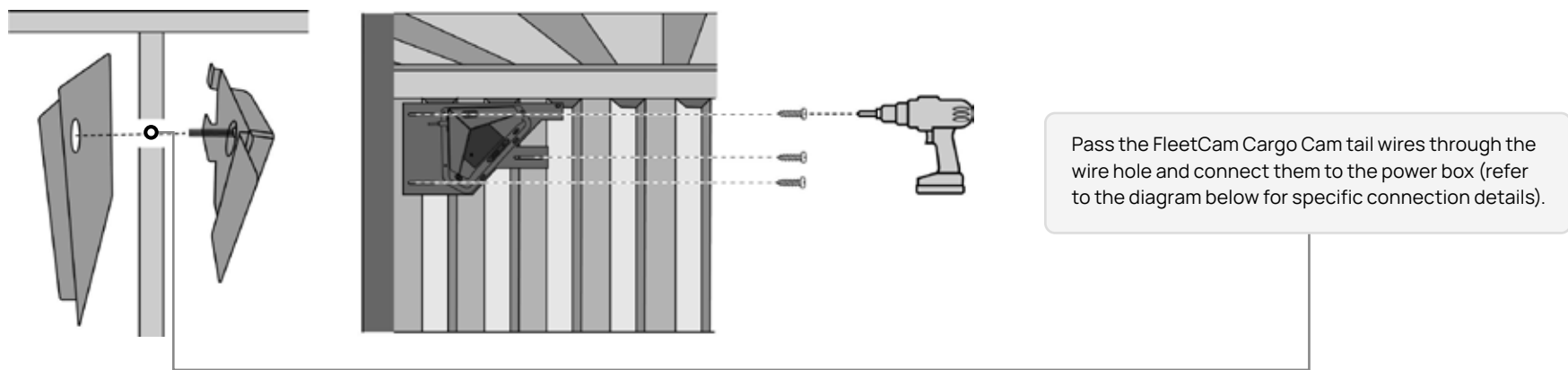
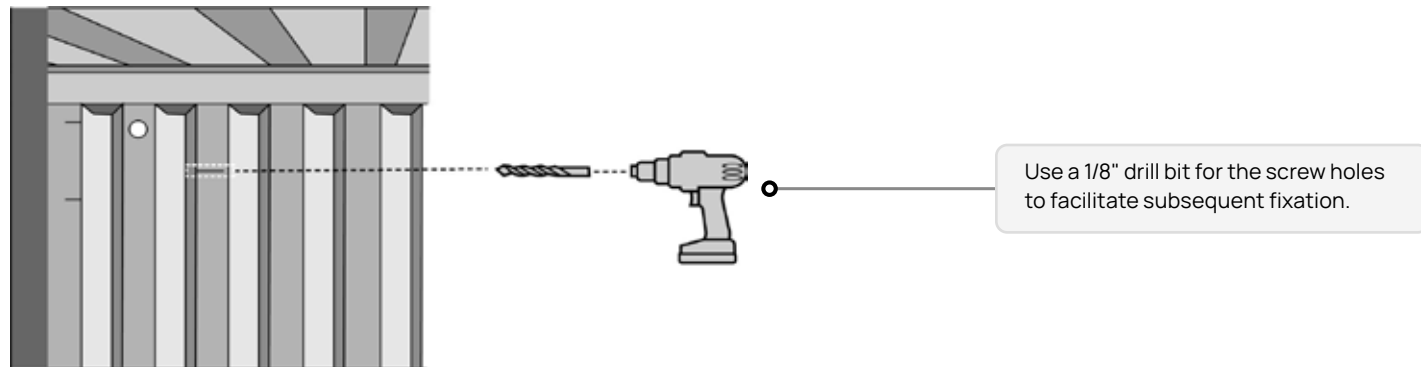
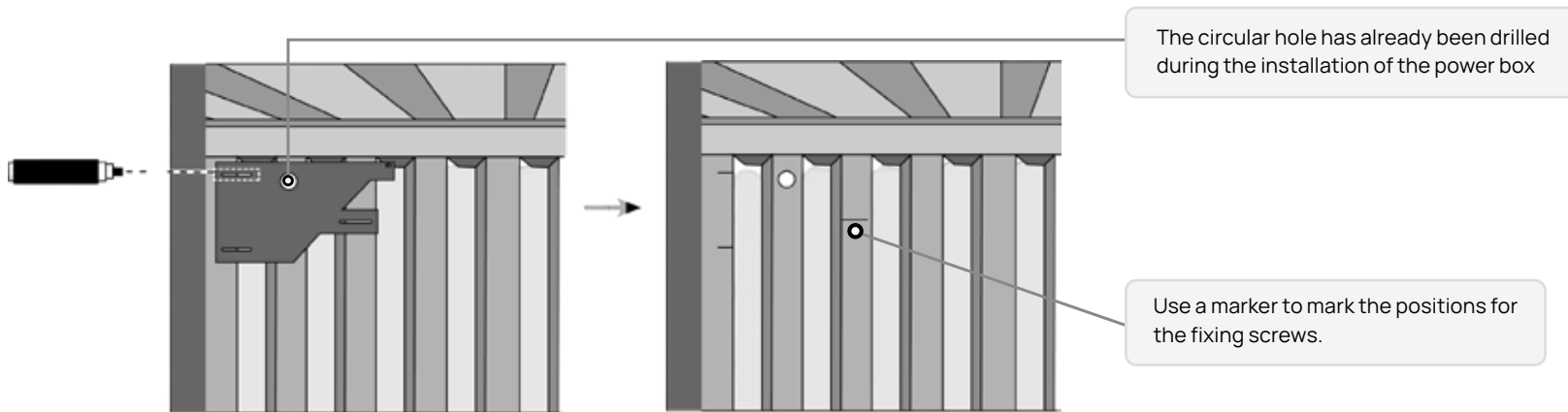
When installing on a flat-type cargo box wall, if the wall thickness is less than 5/8", avoid using the fixing holes marked in the diagram:

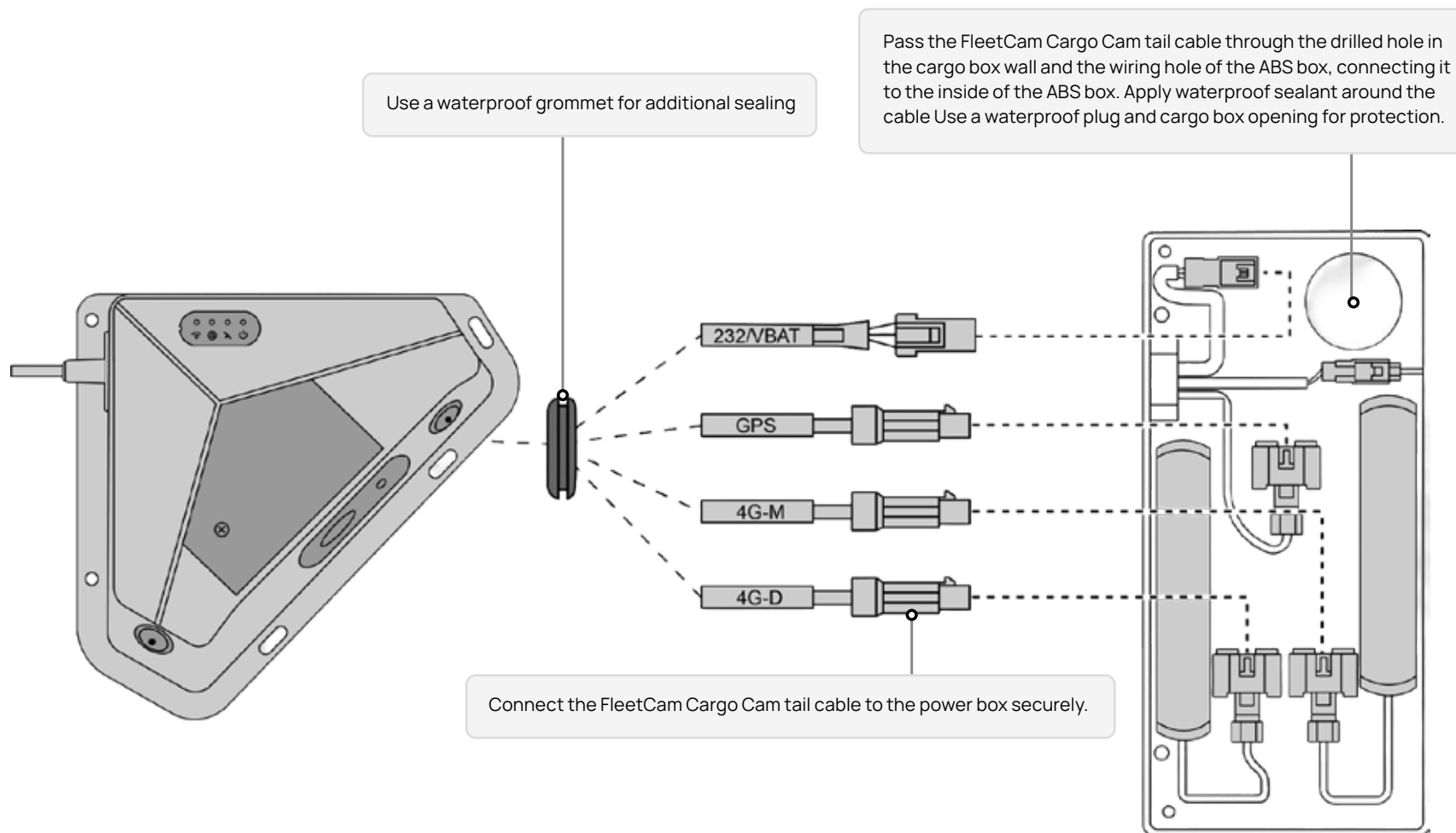


When installing on a corrugated-type cargo box wall, if the wall thickness is less than 5/8", avoid using the fixing holes marked in the diagram:

Below is an example using a corrugated-type cargo box wall.







Warning

After connecting the wires, adjust their position to ensure proper placement for sealing. Use a caulking gun to apply glass sealant around the passthrough hole and cables to achieve a waterproof effect.

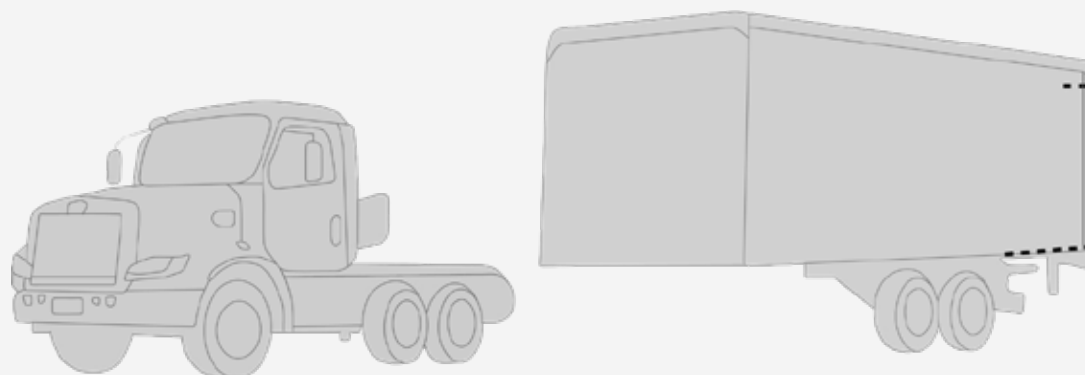
Once the connectors are properly connected according to their designated positions, do not unplug them to avoid breaking the latch or latch bracket. If disconnection is necessary, locate the release point, press it, and then carefully unplug the connector.

Step 4: Connect to Vehicle Power

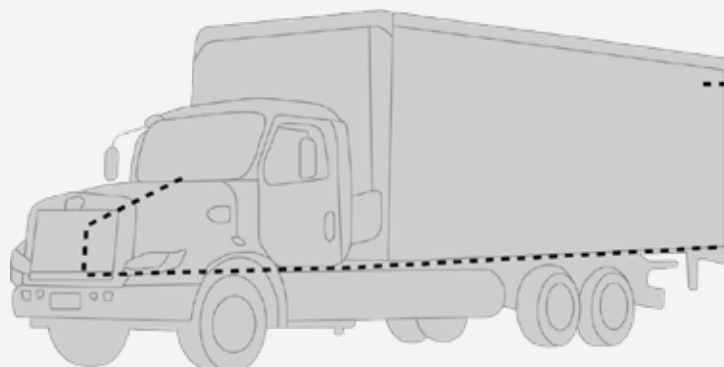
Warning

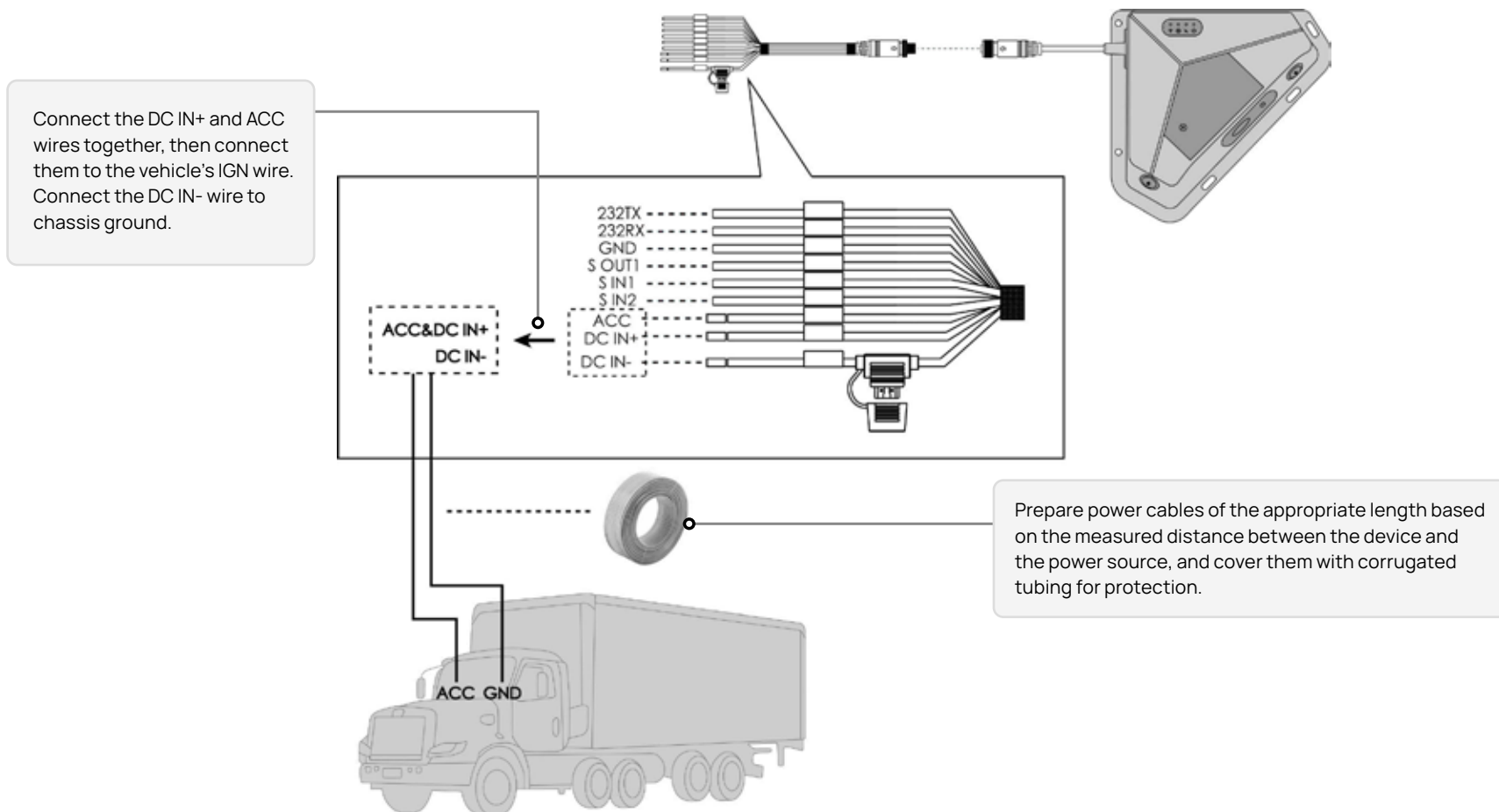
The vehicle's front section and cargo box can be classified into two types: **detachable (trailer)** and **non-detachable (box truck)**.

If the cargo box and front section are detachable, the FleetCam Cargo Cam system should draw power from the clearance light power source:
(For some vehicle models, the clearance light power supply requires the vehicle to be started and the clearance light switch to be turned on.)



If the cargo box and front section are non-detachable, the FleetCam Cargo Cam system draws power from the vehicle's IGN power source





Warning

- Before making any wire connections, use a multimeter to identify the required power and ground sources: Box Truck: Locate the vehicle's IGN wire and a suitable ground source. Trailer: Locate the clearance light wire (Pin 2 - Black Wire of the 7-Way Plug) and the ground wire (Pin 3 - White Wire of the 7-Way Plug).
- Since wiring paths vary by vehicle model, use a measuring tape to determine the distance between the clearance light power wire, ground wire, and the main unit to ensure the correct power cable length.
- Identify an existing passthrough hole in the cargo box for routing the power cable from inside to outside. If no suitable passthrough hole is available, use a drill or other tools to create one for proper cable routing.
- Route the power cable through the passthrough hole, securing it along the way using sealant, clips, and cable ties to prevent damage due to excessive vibration, friction, or movement.
- If the cargo box and front section are detachable, the FC Cargo Cam system draws power from the clearance light power source. Please locate the clearance light and ground wires at the 7-way plug. The wiring method is the same as the steps mentioned above.

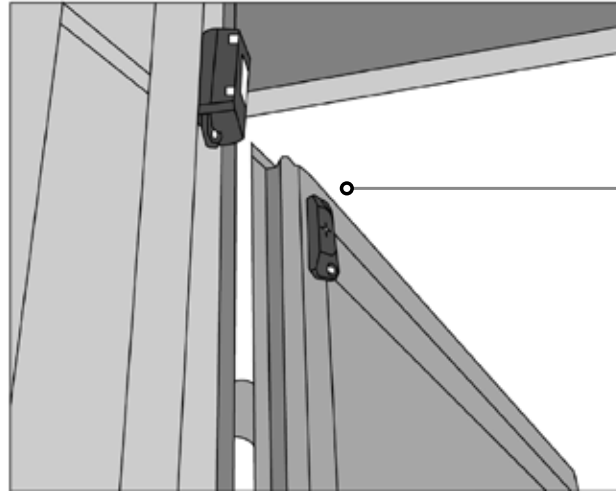
Step 5: Install the Door Sensor

Recommended: Install the door sensor on the side edge of the door:

The installation height of the door sensor should be near the top of the door

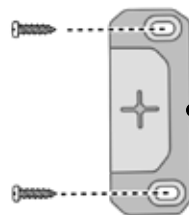
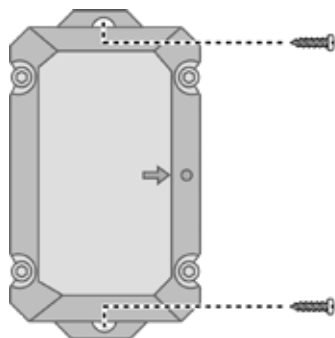


Choose a suitable installation position on the vehicle door where the sensor will not be hit or obstructed when the door opens and closes.



Warning

To ensure signal quality, please make sure that the two components are less than 3/4" apart when the door is closed, and strictly follow the relative installation direction of the products as shown in the figure below.

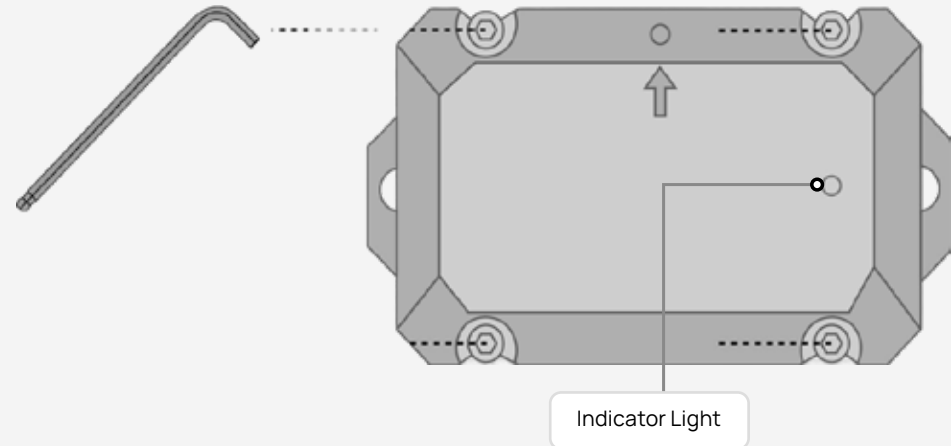


The door sensor, like the ABS box and FleetCam Cargo Cam, must be secured with screws. Predrill holes using a 1/8" drill bit to make screw installation easier.

Step 5: Install the Door Sensor (2)

Warning

- For double-door cargo boxes, install the door sensor on the first door that opens when accessing the cargo box.
- The door sensor does not come with batteries, please prepare two AA batteries. Open the sensor by unscrewing four hex screws and install the batteries.
- After installing the batteries, test the sensor by triggering it with the magnet to check for status changes via the indicator light. Once confirmed, tighten the screws to ensure waterproofing.
- Ensure there are no obstacles or cargo box walls between the door sensor and FleetCam Cargo Cam, as obstructions may weaken the Bluetooth signal and affect status recognition.



Warning

Bluetooth Door Sensor Disclaimer

Our Bluetooth door sensor relies on wireless communication for data transmission. The signal quality may be affected by various external factors, including but not limited to:

- Interference from surrounding wireless signals (e.g., routers, base stations, or other wireless devices).
- Extreme weather or other extraordinary events.

Users must ensure proper installation per the installation guide to avoid signal issues. It is the user's responsibility to identify and minimize potential interference sources. The company is not liable for any signal interruptions, delays, or connection failures due to environmental factors, and users assume all related risks and consequences.