



Vidar Container Quick Installation Guide



Quick Installation Guide for Container Code Recognition.

VIDAR CONTAINER

Quick Installation Guide

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1. INTRODUCTION

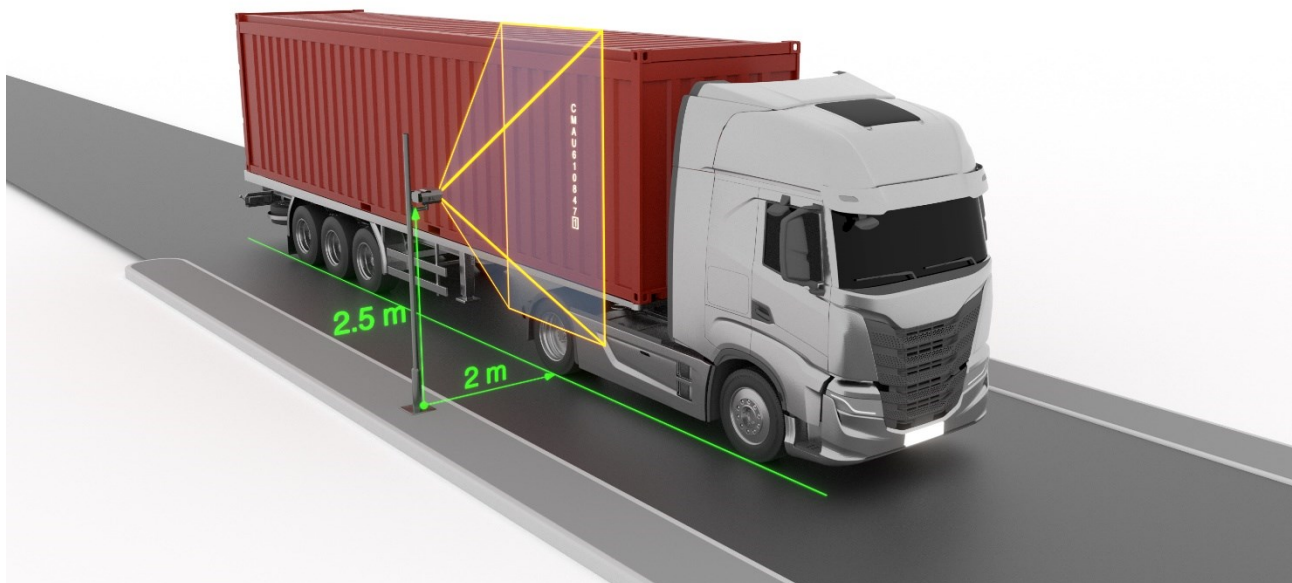
The purpose of this documentation is to provide a brief step-by-step guide for installing and configuring the Vidar Container camera to read ISO 6346 (BIC code), ILU (Intermodal Loading Units), and MOCO (Montan Container) container codes.

2. HARDWARE INSTALLATION

An optimal installation site is a necessity in order to ensure reliable and efficient operation. In order to achieve the best results, a precise measurement of the installation geometry is required.

Please refer to the below example for a recommended camera placement:

For single lane monitoring	
Placement	Side-scanning
Height	2.5 m
Distance from object	2 m
Roll	0°
Tilt	0°
Camera configuration	Vidar Container (Vidar Smart 2xHDx (1C+1BW), LT, Wide Zoom, IR+W panel, - extra white led illuminator recommended! OCR SW included.
Illumination (optional white)	Recommended illumination position is under the camera or 1-1 m on either side of the camera. Ideal lighting angle 60 degrees.



If you have a location with different conditions, please do not hesitate to contact us for more information!



The camera is capable of reading both vertical and horizontal container codes. The camera requires triggering, which can be a built-in trigger, or alternatively, the camera is also capable of receiving the trigger signal via the API.

3. EXTERNAL ILLUMINATOR UNIT

There are two recommended options for the installation of an external illuminator, as outlined below:

The box contains:

- Vidar Container camera
- Bracket

Required for camera operation: These are not included in the box, you can purchase it directly from Adaptive Recognition:

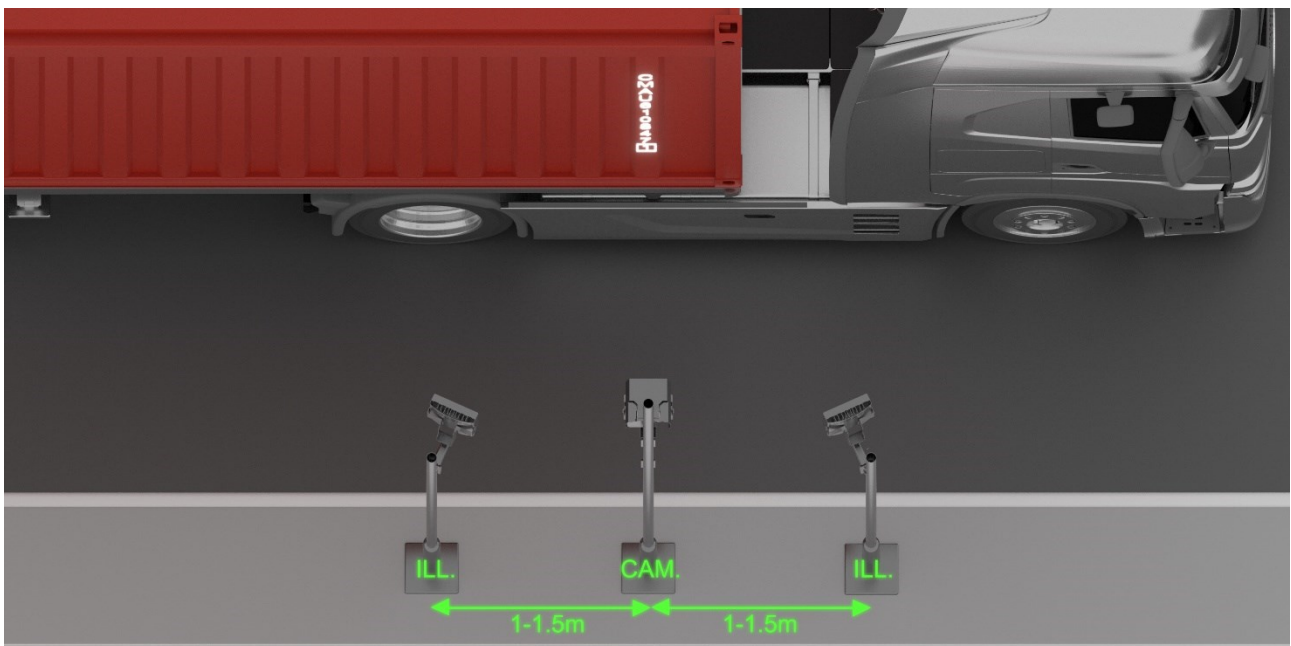
- Camera Power cable (EXPCAB-C01-0370)
- Camera Ethernet cable: COMBUY-OTH-0440

We recommend two types of illuminator installations:

- One illuminator placement



- Two illuminators placement

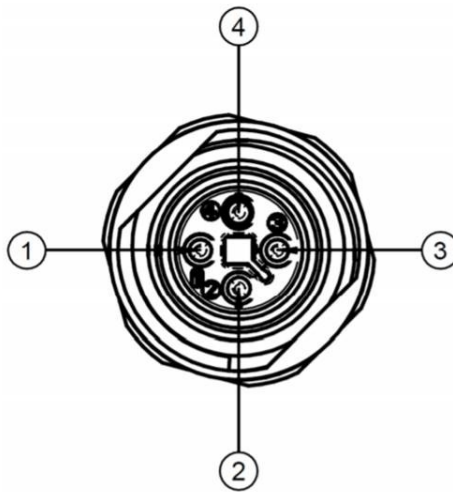


4. CABLE LAYOUTS

Power:
4 pos. M12 Male



4 Pole Power Connector	
Pin	Function
1	AC_1
2	
3	AC_2
4	



Ethernet:

(8 pos. M12 X coded, Female) RJ45

1	- D1+	(wh/or)	1
2	- D1-	(or)	2
3	- D2+	(wh/gr)	3
4	- D2-	(gr)	6
5	- D4+	(wh/br)	7
6	- D4-	(br)	8
7	- D3-	(wh/bl)	5
8	- D3+	(bl)	4

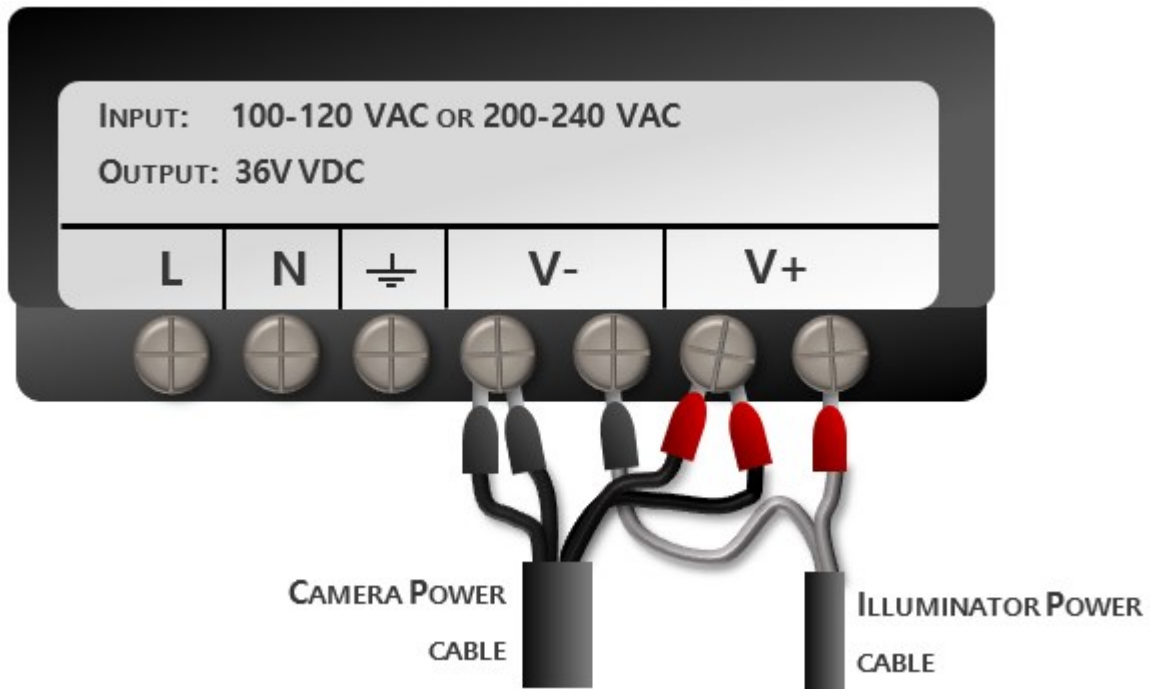
I/O (12 pin):

12 pos. M12 A coded, Female

PIN	WIRE	FUNCTION
1	BROWN	OPTO_IO_G (default: OPTO_IN_G)
2	BLUE	TA_USER
3	WHITE	RB_USER
4	GREEN	ILL_STR
5	PINK	USB_GND (USB/UART/PWR GND)
6	YELLOW	USB_D_P
7	BLACK	USB_D_N
8	GRAY	USB_5V
9	RED	SW_12V_OUT
10	PURPLE	OPTO_OUT_S
11	GRAY/PINK	OPTO_OUT_G
12	RED/BLUE	OPTO_IO_S (default: OPTO_IN_S)



Connecting the 36V DC power supply should be done as per the below wiring diagram:



1. Connect Camera Power Cable black wires 1 and 2 to power supply (V-).
2. Connect Camera Power Cable red wires 3 and 4 to power supply (V+).
3. Connect IR Power Cable black wire to power supply pin 5 (V-).
4. Connect IR Power Cable red wire to power supply pin 7 (V+).

In the following section, we will demonstrate the proper setup of the camera.

5. ACCESSING THE CAMERA

- Ensure that the camera and the computer are connected to the same network.
- Enter an alternate IP address or set your computer's IP in the 192.0.2.x subnet, where x is an integer between 1 and 254 except 3. Set the subnet mask to 255.255.255.0.
- Start a browser then enter http://192.0.2.3 address into the address bar. This is the camera's default IP address. Further information on setting up the camera can be found in the [Vidar User Manual \(Section 5\)](#).

6. DATE AND TIME

Current date and time and timekeeping settings are managed in the Date and Time section of the camera web-interface. Users have the option to set date and time manually, or use a time synchronization protocol (NTP) which will keep time synchronized with a server over the network. For further details, please refer to the [Vidar User Manual \(Section 5.2\)](#).



7. STREAM SETTINGS

In cases when trigger configuration is not optimal (e.g. the camera has to process an excessive amount of images per event), we recommend using a maximum of 5 frames per second stream on the sensor which is used for reading the container codes.

In case when the triggering is optimal (the camera takes only 1-5 images of a single container) the camera is capable of working on higher frame rates.

Time window and frame rate calculation to set trigger parameters:

Input data:

- distance is 5.5 m (length of the truck)
- speed of the truck and container is 5-30 km/h
- frame rate of the camera is from 5 to 20 fps (on the highest resolution)

Output:

- time window (trigger window)
- frame rate (to get proper number of triggered images)

Rule for set frame rate:

Speed (km/h)	Frame rate (fps)	Number of images
5	10	3
10	20	3
20	20	3
30	20	3

This can be configured under Advanced Settings -> Stream Settings.

For further information, please refer to the [Vidar User Manual \(Section 6\)](#).

8. EVENT MANAGER

Users can add and remove trigger sources in this menu. The primary source is Sensor 1 by default. At the **Trigger Selector** section, select the **Laser Trigger** module to use the built-in, laser-based distance measuring unit for detecting passing vehicles in the lane which the camera is set up to monitor. The optimal camera distance for proper focus adjustment should be between 1 to 3 meters. In specific cases, when the user is forced to use a wide trigger window – e.g. in the case of the built-in Laser trigger, a 2 second-wide trigger window is recommended. To achieve the proper settings, go to **Live view / Extensions** menu, activate the **Image Center** function to see the direction of the laser trigger.

The laser trigger proves most effective in situations where the target vehicle remains in motion ahead of the camera. This is due to the time it takes for the container code to come into the camera's frame after the trigger signal.

When setting up the Laser Trigger, make sure that you use the Virtual background option, when the camera sees further than 15 meters. In the Virtual background distance field, the user can define a maximum distance which when measured by the laser will still set it off.

For containers with code placement at the vehicle's front end, selecting the "**Rising edge**" trigger mode is recommended. In this scenario, the "**Start offset**" value should be set to 0, and the "**End offset**" value to 2000, indicating that the trigger is activated precisely at the code's beginning. Conversely, when the code is located at the rear of the vehicle, opting for the "**Falling edge**" trigger mode is appropriate. Adjust the "**Start offset**" to -2000 and maintain the "**End offset**" at 0, ensuring optimal code capture at the rear.

After entering the desired data, press the **Save** button to save the settings.

Important!

If you implement the above-mentioned recommendations for the laser trigger settings, remember to also lower the frame rate on the sensor designated for OCR to 5 FPS. Refer to the Stream Settings section above for further information.

The screenshot shows the 'TRIGGER SELECTOR' interface. At the top, there are two trigger options: 'Laser Trigger' (selected) and 'Software Trigger'. Below these are several empty slots for additional triggers. The 'LASER TRIGGER' configuration panel is expanded, showing various settings:

LASER TRIGGER		SAVE	?
Device number:	#0	Trigger mode:	Rising edge
Virtual background:	<input checked="" type="checkbox"/>	Virtual background distance [m]:	15
Start offset [ms]:	0	End offset [ms]:	2000
Current distance [m]:	2.78	Reference distance [m]:	2.78
Trigger health [%]:	100	Trigger count:	1

At the bottom of the configuration panel is a 'CALIBRATE' button.

Calibration can be initiated manually by pressing the **Calibrate** button. The current background distance is displayed in the **Reference Distance** field. Raw, unprocessed data is presented in the **Current Distance** field in meters. It is normal (and the algorithm compensates for it) for this value to exhibit some degree of fluctuation.

The **Trigger Health** indicates the actual quality of the measurements taken. In challenging weather conditions (heavy rain, snowfall), this value will indicate if a sufficient number of high-quality measurements were not obtained, potentially leading to suboptimal triggering performance.

For detailed information see [Vidar User Manual \(Section 7.1\)](#)

9. ENGINE MANAGER

This section allows the user to manage the Carmen ANPR engines and Hardware Key Licenses used in the system.

Currently used engines are listed in the **Selected Engines** tab.

- **Preselection engine and ANPR engine:** The latest engine can be downloaded via the below URL: <https://adaptiverecognition.com/doc/cameras/vidar-anpr-cameras/vidar-container-camera-for-countainer-code-capturing/#software>
- The proper selection of engines is always based on licenses. User should search for and download the latest version containing the names 'iso', 'moco', and 'isoilu' from the engine names.

cmocr-7.3.2.142-llu-univ-23Q2	Download	2023.07.26	Change log
cmocr-7.3.2.141-isoilu-univ-23Q2	Download	2023.07.26	Change log
OCR-2023-Q1-MOCO-7.3.2.129	Download	2023.03.24	Change log

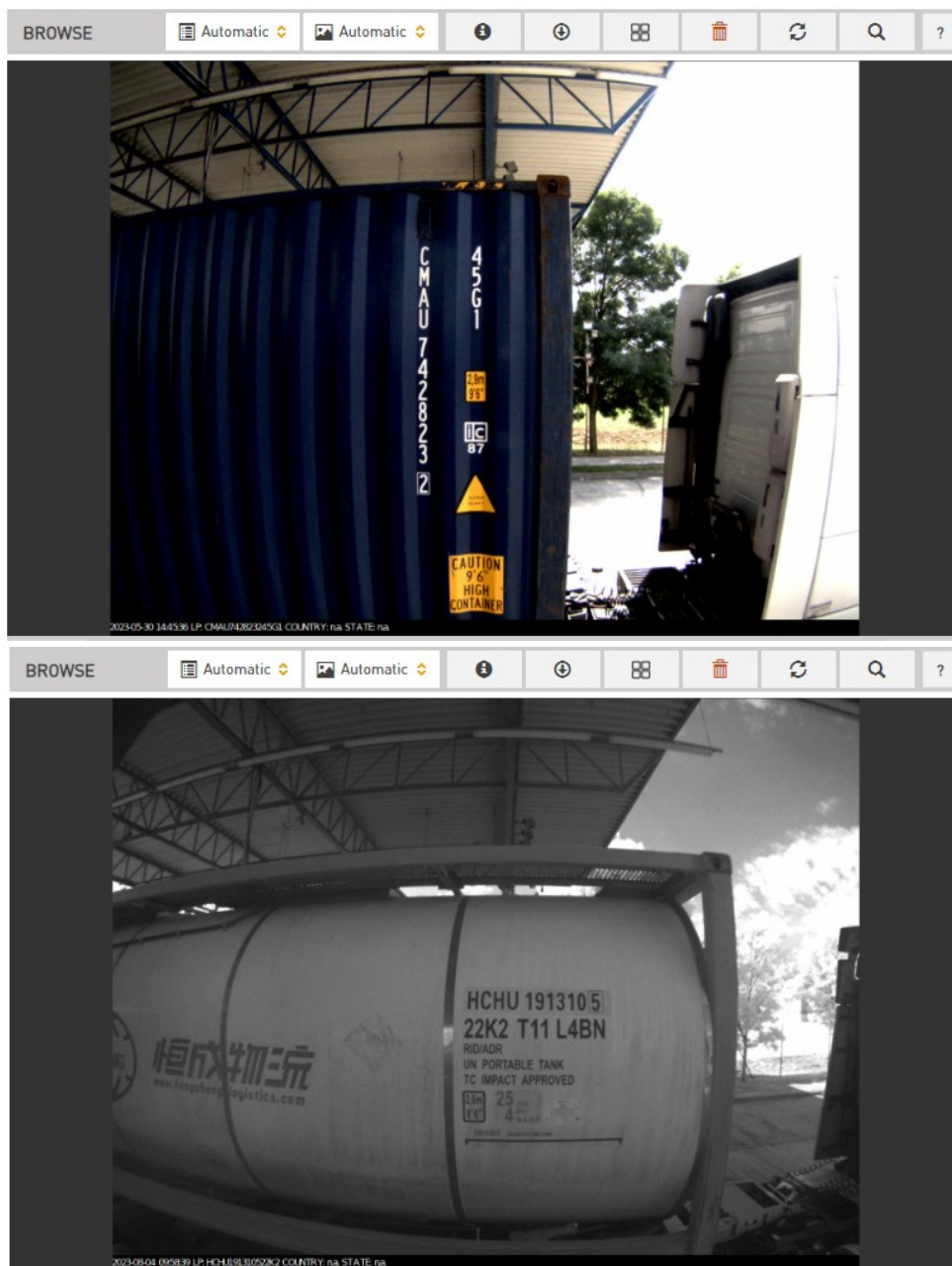
For further information, please refer to [Vidar User Manual \(Section 7.2.4\)](#).

10. OPTICS AND BRIGHTNESS CONTROL

Set the appropriate zoom and focus values. Ensure that the middle character of the container code is in the center of the camera's view. For detailed information, see [Vidar User Manual \(Section 6.5\)](#).

For proper Brightness Control setup, go to the **Live View** menu, navigate to the **Mode** submenu, set it to **Outdoor (AUTO)**, and select the **Parking** mode in the **Environment** settings.

Once the camera has been set up, the results can be reviewed under the ANPR - Browse section.



Please note that this is only a Quick Installation Guide. For a detailed walkthrough on how to set up Vidar cameras, be sure to refer to the full [Vidar Installation Guide](#) and [Vidar User Manual](#)!



CONTACT INFORMATION

Headquarters:

Adaptive Recognition, Hungary Inc.
Alkotás utca 41 HU
1123 Budapest Hungary
Web: adaptiverecognition.com

Service Address:

Adaptive Recognition, Hungary Inc.
Ipari Park HRSZ1113/1 HU
2074 Perbál Hungary
Web: adaptiverecognition.com/support/

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If this is your first online support request, please contact your sales representative to register you in our Support System. More help [here \(www.adaptiverecognition.com/support\)](http://www.adaptiverecognition.com/support)!

Returning User

All registered ATSS customers receive a personal access link via e-mail. If you previously received a confirmation message from ATSS, it contains the embedded link that allows you to securely enter the support site.

