

VC-2D AI – AGE & GENDER DETECTION

MANUAL

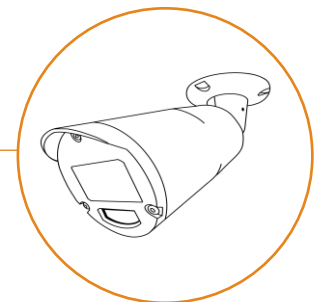


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1.0 GENERAL INFORMATION

- ⚠ **WARNING:** Failure to comply with the warnings may result in serious injury or death.
- ⚠ **CAUTION:** Failure to heed the warnings could result in property damage or personal injury.

Warning

- **Do not disassemble or modify the device.** Do not touch any part of the device that is exposed due to a damaged or open case.
- **If the device overheats, smokes, or emits unusual odors,** disconnect from the network immediately.
- **Protect from moisture/do not handle with wet hands.** Failure to do so may result in fire or electric shock.
- **Do not use the product in the presence of flammable dust or gas.** Failure to do so may result in fire or explosion.
- **Keep the product out of reach of children.** Failure to do so may result in injury or product damage. The small parts included in the scope of delivery as well as the packaging can lead to a risk of suffocation.

Caution

- **Do not expose the device to extreme heat or cold.** If ignored, the device could be destroyed, or the measurement accuracy could be irreparably damaged.
- **Keep the power and network line unloaded.** Do not hold the device by the supply line.

Privacy

This system does not generate biometric templates for the unique identification of individuals, but only recognizes physical characteristics to classify the person. Thus, the processing according to the Guidelines 03/2019 on the processing of personal data by video devices of 29 January 2020 of the European Data Protection Board does not fall under Article 9 GDPR.

Privacy by Design

- All application logic runs locally on the camera.
- No image data is stored or sent for processing. Only the user data (timestamp of the measurement, gender, age) is transmitted to a server that can be defined by the customer himself.
- The camera is not used for surveillance.

Disposal

This device is an IT device that may have stored sensitive information. In your own interest, please ensure that the device is disposed of safely and professionally.

This symbol indicates that electronic devices must be disposed of separately.

- Dispose of the appliance only at a suitable collection point. Disposal with household waste is not permitted.
- Separate disposal and recycling can preserve natural raw materials and prevent the harmful consequences for human health and the environment caused by incorrect disposal.



Declaration

Vitracom GmbH hereby declares that the VC-2D AI product complies with the requirements of applicable EU directives. Modifications to the device with electromechanical relevance make it less effective. The full text of the EU Declaration of Conformity can be found at vitracom.de



Manufacturer's specs

Vitracom GmbH, Steinhäuserstraße 9, D-76135
Karlsruhe, Germany

Email: info@vitracom.de Internet:
www.vitracom.de
WEEE Reg No. DE 37414800

Scope of delivery

Component	Quantity
VC-2D AI Camera	1
Drilling jig	1
Dowel	3
Screw	3
Screw connection + gasket for network plug	1

2.0 PLANNING AND INSTALLATION

REQUIREMENTS

- Make sure that there is a minimum brightness of 100 lux in the measuring range.
- For robust classification, only people moving towards the camera are scored. Crossrunners are not counted. Therefore, make sure that people are moving towards the camera in the direction of walking. Choose a suitable camera position accordingly and avoid extreme oblique vision.
- Even when wall-mounted, the camera must always be installed at an angle and with a downward view. It is not possible to mount the wall at person height with a frontal view of the respective persons.
- A network connection is required for setup and data collection. The camera must have access to a server interface to which the data can be sent. No data can be queried from the camera.
- The power supply is provided by the network line. Make sure the connector is IEEE 802.3af compliant.
- Permanent online access is required for system access via Vitracom Device Management as well as for continuous software updates. The following firewall permissions must be granted:

Origin	Target	Port	Protocol	Function
Sensor	vpngate.vitracom.net (93.186.174.122)	1194	UDP	Data Submission & Service/Monitoring
Sensor	ntp.vitracom.net (93.186.174.85)	123	UDP	Time Synchronization
Sensor	vc3dv2.vitracom.net (93,186,174,200)	4506, 4506	TCP	Device Management
Sensor	repo.vitracom.net (93,186,174,200)	80	TCP	Software

Optimal mounting height and measuring distance

Mount the camera at a height of 2.5 m to 2.7 m and at an angle of approximately 30° degrees. The optimal measurement then takes place in 1 and 3 m distance.

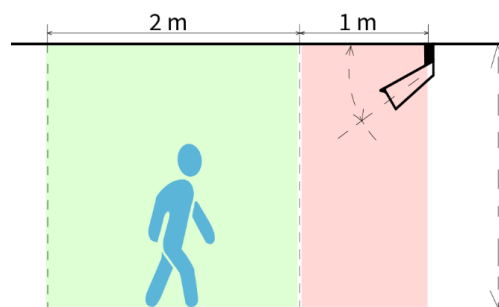


Illustration 1: Optimal distance to the camera

ASSEMBLY

The camera is mounted on the ceiling or wall via three screw points. The power and network cable is routed out through the bracket to the rear and can be routed either through a through hole or through the intended cut-out on the side of the mounting plate of the camera mount (see figure).



Illustration 2: Surface-mounted cable routing

! Please note

- Always lay the camera cable in a strain-relieved manner.

1. Mark the appropriate mounting position and use the enclosed template to help you mark it.
2. Connect the network cable to the camera's lead line and run the line out through the through hole or on the side of the bracket (Figure 2).
3. Screw the bracket into place.
4. Remove the screen protector and red sticker from the front of the camera.

If the camera is powered, then it will be turned on and ready for use within a few seconds. There is no separate on/off switch.

CAMERA ORIENTATION

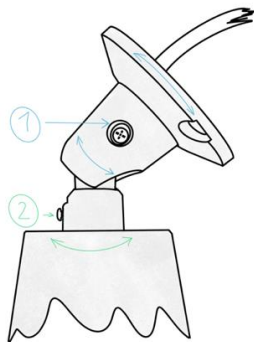


Illustration 3: Adjustment options of the camera mount

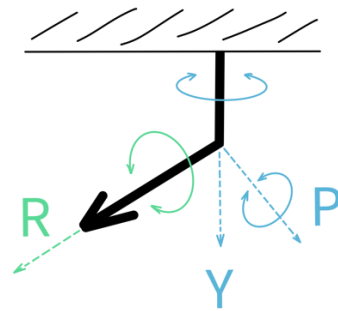


Illustration 4: Display of rotation angles Roll, Pitch, Yaw

The **inclination and viewing direction** of the camera (angle P, Y) can be adjusted via the mount after mounting. To do this, loosen the screw a little (Figure 3: Position 1).

The screw (Figure 3: Position 2) can be used to rotate the camera in the axis of the viewing direction (angle R). This makes it possible, for example, to rotate an image tilted by 90° degrees. Always adjust the camera so that the housing protrusion is up.

Adjust the camera so that people move as directly as possible towards the camera in the direction of walking.

3.0 COMMISSIONING

LOGIN ON THE FRONTEND

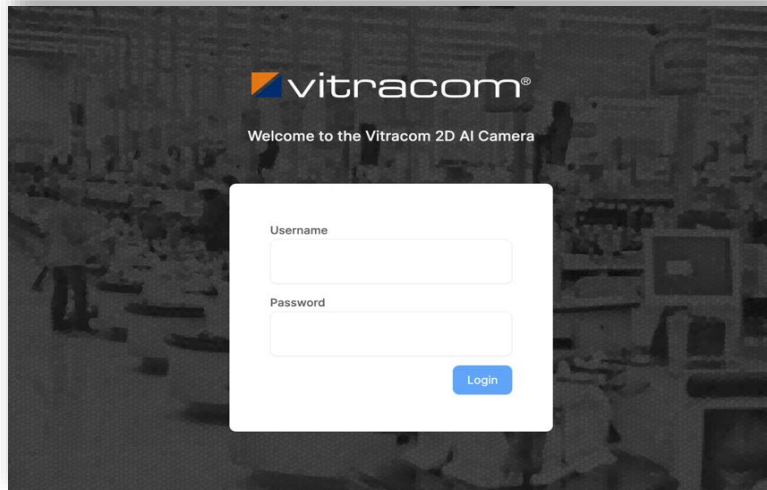


Illustration 5: Login Mask

Upon delivery or after a factory reset, the network configuration is set to DHCP. In this case, the camera obtains the settings from a DHCP server. If there is no DHCP server, the camera can be reached via the static IP address 192.168.0.11.

1. Log in to Device Management with your account and search for the serial number of the device. These can be found on the packaging or on the back of the camera. You can also scan the QR code.
2. In Device Management, select "Go to Device" on the right. A new browser tab will open, in which the camera's login screen will be displayed.
3. Log in with the username "vitracom" and the password provided for it. During commissioning, we recommend changing the initial password to protect it against unauthorized access.

If you want to establish a local network connection with the camera, you can reach the frontend via HTTPS and port 80. The camera reports to the local network with its serial number and current IP address and can thus be found via a Bonjour or AVAHI browser.

i [Frontend access data \(factory settings\)](#)

Network	User	Password
DHCP192.168.0.11 (fallback)	vitracom	vitracom

For security reasons, please change the password! This is described in section

4.0 Other Settings - Password change described.

OVERVIEW FRONTEND – LIVE DISPLAY

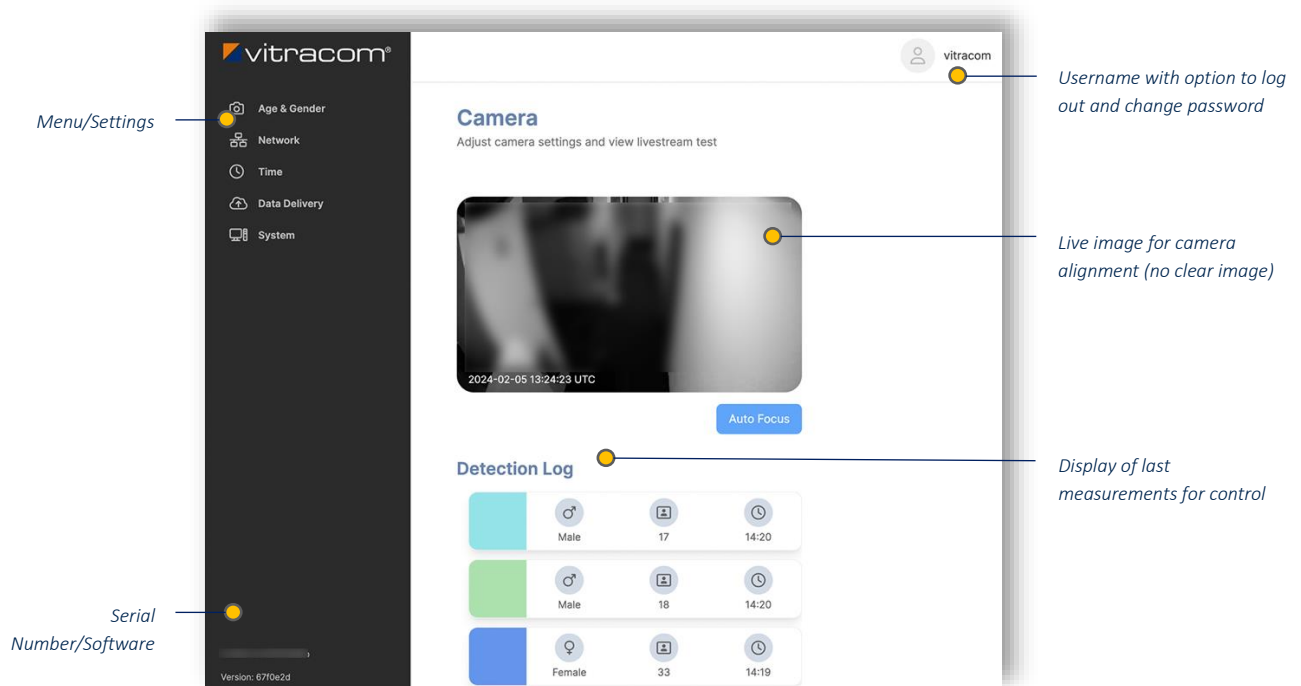


Illustration 6: View Age & Gender

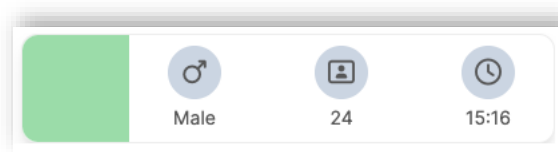


Illustration 7: Representation of a measurement

After logging in, the Age & Gender view appears, in which the current camera image and the last measurements are displayed. For each detection, the gender, age and time of the event are specified.

A colored line in the live image indicates when a person's face is detected and tracked. A permanent measurement takes place during the entire tracking period. The result is displayed when the person's face can no longer be captured (person leaves the field of vision, occlusion, too far away...). The color shown for a measurement corresponds to the color of the drawn line in the camera image. The last measurement always appears at the top.

Hints

- For privacy reasons, motion is blurred. The camera is not used for surveillance, but only for recording the statistical distribution of age and gender.
- In order to be able to control the function, the last measurement is always displayed after login.

FUNCTION CONTROL/SETUP

The application starts automatically after commissioning. Software parameterization is not provided for detection, age and gender determination. The brightness of the camera image is automatic.

The detection performance as well as the quality of the measurement results depend largely on the following factors:

- Illumination in the area to be measured.
- Camera
 - Distance between person and camera.
 - Direction of movement/direction of gaze of the person.
- A face must be recognized across multiple images in order for a valid measurement to be made.

CHECKING THE FUNCTION

1. Check the camera's field of view with the camera image and make sure that a person's face is fully visible in the optimal detection range and is not obscured or cut off at the edges. If necessary, rotate or tilt the camera to adjust the angle of view.
2. After each adjustment of the viewing angle, make sure that the image is in focus. To do this, trigger the camera's automatic focus (button below the camera image). Refocusing may change the image area slightly. The camera image is then briefly blurred.
3. Control the face recognition by moving several times in the desired direction of movement and check if measurements are triggered. If necessary, check this with several people.
4. Make sure that the date and time displayed is correct. If necessary, check the NTP server in the corresponding menu so that the measurement data can be sent with a correct time.

Hint

In order to collect statistics on age and gender, it is not necessary to cover all persons.

4.0 OTHER SETTINGS

NETWORK

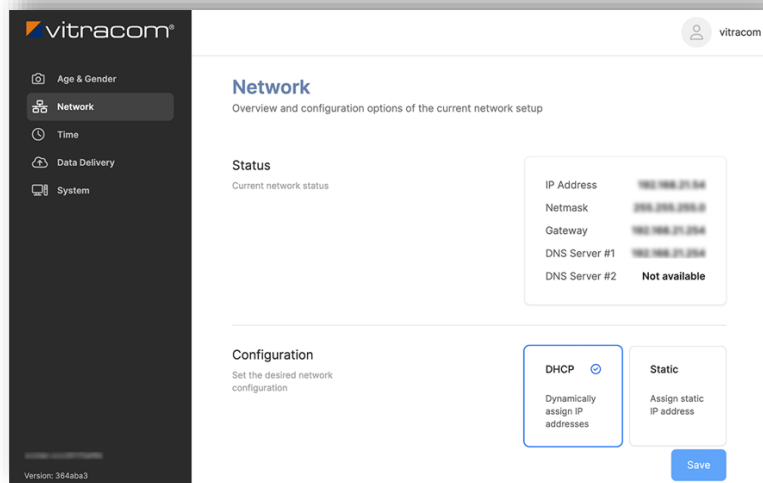


Illustration 8: Network Settings Menu

In the Network menu, under Status, the current setting is displayed. By default, the camera is powered by a DHCP server. However, with the *Static* configuration, the respective settings can be set manually.

Apply the changes using the *Save button*. The changes will only be applied after the application is restarted.

TIME

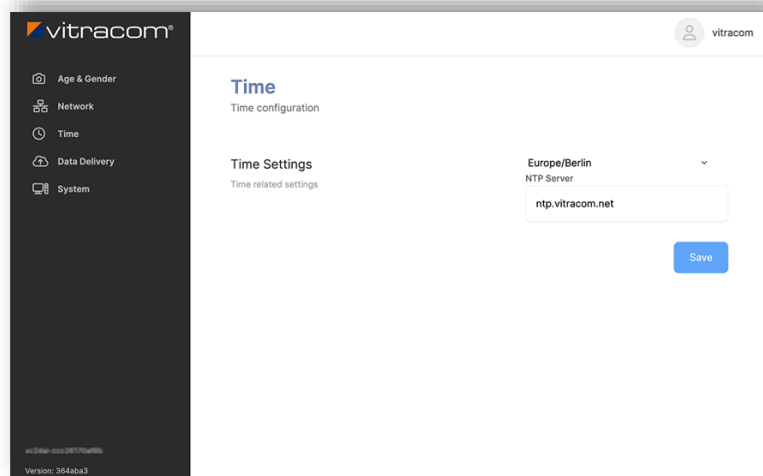


Illustration 9: NTP Server Setup Menu

The *Time* menu allows you to set an NTP server and select a time zone. By default, the system time is synchronized with the server *ntp.vitracom.net*. However, you can store any time server of your choice that can be reached in the network.

Make sure the time zone matches the location of the camera. Apply changes with the Save button and a final restart.

Check the camera's system time with the date and time in the live image in the Age & Gender menu.

i Hint

The system time is battery-buffered.

DATA DELIVERY

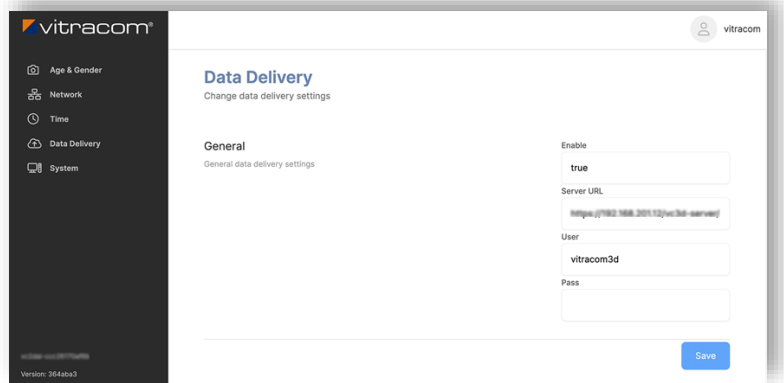


Illustration 10: Settings for data delivery

In the Data Delivery menu, it is defined to which interface the user data is to be sent and with which user/password the camera on the server should authorize itself, if applicable.

If necessary, a proxy server can also be stored as an option.

SYSTEM

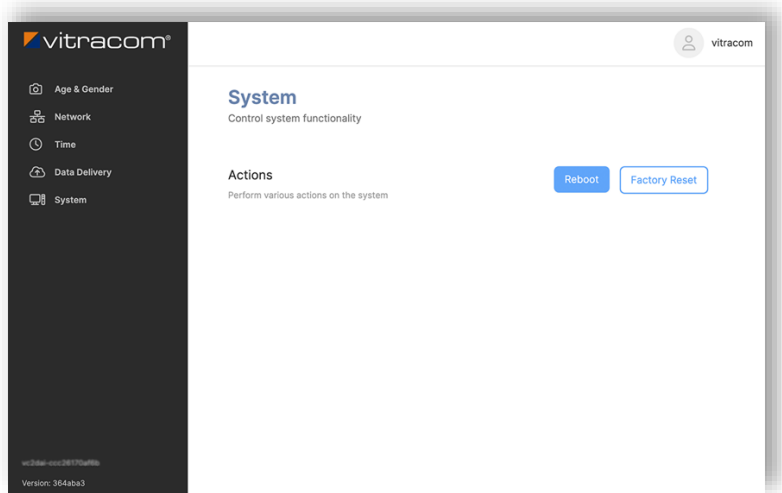


Illustration 11: View System

The System view can be used to perform two functions:

- Reboot – The camera will restart. Pending configuration changes are applied. At the startup of the application, a focus is also carried out again.
- Restore to factory settings – The camera will restart. All changes will be reset to the default settings. The network settings will be reset back to DHCP. Therefore, make sure that the camera gets a valid network setting via a reachable DHCP server after factory reset.

PASSWORD CHANGE

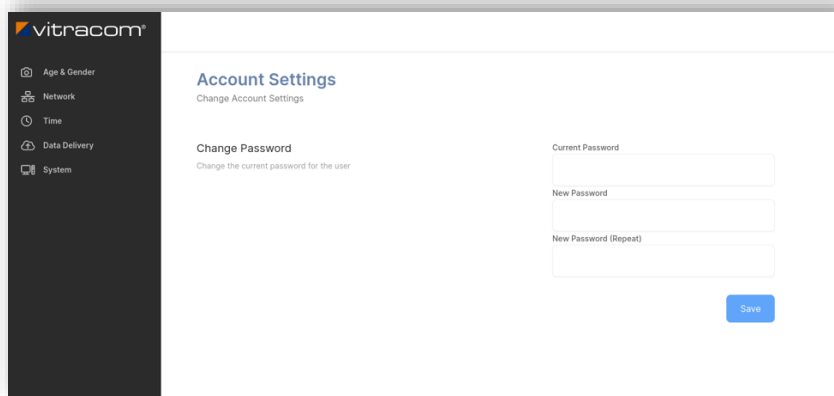


Illustration 12: View to change login password

You can change the default password from the Account Settings view. The view is accessed via the drop-down menu of the logged-in user (upper right corner).

5.0 ASSISTANCE IN THE EVENT OF AN ERROR

The front end of the camera is not accessible (locally and via device management)

1. Make sure that the network port is a PoE port and that the associated switch is providing the necessary power.
2. Check locally on the network to see if the camera is calling the IP address 192.168.0.11. This is the case when the network setting *is set to DHCP* , but there is no DHCP server.
3. If the camera can be reached locally, but not via device management, it may be due to the settings of a firewall and thus no VPN service connection to Vitracom can be established. Check the firewall rules. Information on this can be found in section *2.0 Planning and installation*.

No faces/too few faces are detected

1. Check that the camera's field of view is adequately illuminated.
2. Check people's paths and make sure that people's faces are not covered, cut off or only visible in the side profile. If necessary, change the camera's pan and tilt angle, or choose a more suitable mounting location.
3. Perform autofocus.

The measurements are delayed

1. Check the camera's system time. This is shown in the live image.
2. Check if the setting *Time* (section
3. *4.0 Other Settings - Time*) an NTP server is stored and check its availability.

Detections without measurement results

1. Check whether people may not be in the camera's field of view for a sufficient amount of time. If necessary, change the detection area or the mounting location.
2. Check the data delivery settings (section
3. *4.0 Other Settings - Data delivery*). Check that the specified server URL is correct and reachable and that data delivery is enabled.

Long loading time of the frontend

- Make sure that the camera is operating within the specified operating temperature. If necessary, check the environmental conditions.