



# **FAQ for the AI Functions of the new eneo IN series**

**ENGLISH**

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## Face Detection (FD)

What is the recommended installation height and distance for your FD program? What distances can the face be detected and recognized?

Answer: At least 80\*80 pixels are required to recognize a face. Please refer to the “eneo Insight Installation Tool” to calculate your best installation height and detection distances. The software can be found in the eneo download portal.

Is it possible to recognize faces of any race?

Answer: Yes, regardless of skin color.

Can faces of any age and gender be recognized?

Answer: Yes, if face attribute detection is enabled, age, gender and other attributes are displayed by the NVR.

Can a face be recognized when it's blocked by sunglasses or a mask?

Answer: Yes, but the recognition accuracy will be reduced.

Can a face be recognized from the side?

Answer: Yes, faces can be detected from the side.

How many faces can you capture at one time?

Answer: It is related to the performance of different models. Please refer to the chapter “platform data” at the end of the document.

Can you capture a face when a person's face is bowed or raised?

Answer: If you tilt your head slightly or bow your head slightly, you can capture it, but if you bend your head down, you cannot be captured.

Is there a difference between the accuracy of capturing at night and capturing during the day?

Answer: There is a difference, at night the capture will be worse because light is weak.

What are the advantages of the face detection module?

Answer: Compared to continuous recording and motion detection recording, you can search for the video of a specified person more quickly.

If the factory default is restored or the hard drive is formatted, will the face data be lost?

Answer: The hard disk has three different formatting options, the user can choose freely, or choose

format all, or choose to format the AI database. Different camera models can import different numbers of faces, please refer to the chapter “Platform data” at the end of the document.

**How many faces can be imported into the database?**

**Answer:** Please refer to the chapter “Platform data” at the end of the document.

## Pedestrian Detection (PD)

What is the recommended installation height and distance for your PD program? What distances can the pedestrian detect?

Answer: Please refer to the “eneo Insight Installation Tool” to calculate your best installation height and detection distances. The software can be found in the eneo download portal.

Does it have to be moving people to be detected? Can a stationary person be detected?

Answer: In the AI settings menu you can choose between “Static Mode” and “Motion Mode”. In “Static Mode”, all objects in the camera's field of view will be analyzed. In “Motion Mode”, only moving objects will be analyzed.

Does it have to be a standing human figure to be detected? Can a person sitting or lying down be detected? Can squatting people be detected?

Answer: Detection is not limited to standing people, other stances are also detected, but the accuracy rate of other stances will be reduced.

How many humans can be detected at the same time?

Answer: Different camera models can detect different amounts of humans simultaneously, please refer to the chapter “platform data” at the end of the document.

Can a human occluded by an object be detected?

Answer: It depends on the occlusion ratio. A human can be detected if up to the half body is occluded. The detection is triggered by body parts, it's not required to see the whole body.

Can humans be detected from the side or back?

Answer: Yes.

Can you detect a human at night?

Answer: Yes, a human can be detected in low light environment. Also IR-Mode or white light mode work. The detection rate may be influenced negatively by noise or sensor distortions.

Is the a detection accuracy influenced by movement speed?

Answer: Yes, it is related. Moving humans can be detected but the detection rate is decreasing with the speed.

Is the detection accuracy affected by weather? Can humans be recognized in rain, snow or fog?

Answer: There is an impact, detection works in light weather conditions, but accuracy will decrease

the stronger the weather condition is. In heavy weather (strong rain/fog), the detection will stop working.

**What are the advantages and uses of the pedestrian Detection Module?**

**Answer:** Pedestrian detection can reduce the false alarm rate of motion detection and filter out alarms caused by leaves or animals. Pedestrian detection can be used in conjunction with object tracking to improve security.

## Vehicle Detection (VD)

What is the recommended camera installation height and detection distance for your VD program?

Answer: Please refer to the “eneo Insight Installation Tool” to calculate your best installation height and detection distances. The software can be found in the eneo download portal.

What types of vehicles can be detected?

Answer: Cars, busses, trucks, bicycles, motorbikes. Tricycles are sometimes difficult to recognize.

Can a moving car be detected? At what speed can the vehicle be detected?

Answer: Yes, vehicles below 15Km/h can be detected.

How many vehicles can be detected at the same time?

Answer: Different camera models can detect different numbers of vehicles, please refer to the chapter “platform data” at the end of the document.

Is it relevant if the vehicle is driving forward or backward?

Answer: The vehicle can be detected independently from the movement direction.

Can a train or plane be detected?

Answer: No. The shape is unknown to the system and the speed is usually too high.

Is the vehicle detection accuracy affected by weather? Can vehicles be detected in rain, snow or fog?

Answer: There is an impact, detection works in light weather conditions, but accuracy will decrease the stronger the weather condition is. In heavy weather (strong rain/fog), the detection will stop working.

Will the detection accuracy be affected if the vehicle is using headlights at night?

Answer: Yes, headlights will affect the accuracy.

What are the recommended installation scenarios for vehicle detection?

Answer: Intersections, street, Parking entrance and exit, linkage gate, etc.

What are the advantages and uses of vehicle detection?

Answer: Users can search for videos related to transportation more quickly, that's e.g. useful for investigating traffic accidents

## License Plate Detection (LPD)

What is the recommended installation height and distance to car for your LPR program? What distances can numberplates be detected and recognized?

Answer: Please refer to the “eneo Insight Installation Tool” to calculate your best installation height and detection distances. The software can be found in the eneo download portal.

Which countries are exactly supported by your LPR program?

Answer: We support European and American license plates that consist of the letters A-Z and 0-9.

What's the maximum speed of a car that your program can support?

Answer: The number plate should be clearly visible for about 1 second. The vehicle should move slower than 15 Km/h.

What happens if multiple number plates appear in the picture?

Answer: It will capture the images at the same time, the capturing capacity is related to the CPU, please refer to the chapter “platform data” at the end of the document.

I have a special/regional/custom number plate, will it be supported?

Answer: Possibly, if your license plate is composed of the characters A-Z and 0-9. Please note that special characters are not supported.

I have a driving school car with ads on the sides of the car, will it confuse your program if there are number plates printed on my car?

Answer: If the advertisement is a car with a license plate it will be recognized, a license plate without a car should not be recognized.

Is your program ensuring that the number plate is mounted on a car, or are any number plates recognized? How can I ensure that only number plates on cars are recognized?

Answer: The license plate recognition requires both, the car and the license plate, a license plate without a car should not be recognized.



## Perimeter Intrusion Detection(PID) / Line Crossing Detection(LCD)

Does intrusion rules have a direction?

Answer: Yes, please check the arrow-icons in your configuration window.

How many rules can I set?

Answer: Up to 4 rules.

Can any intrusion trigger the alarm?

Answer: You can choose to select additional filters for humans, cars and bikes. If neither is selected, then motion detection will be used and any moving object will trigger an alarm.

Will falling rain or snow trigger an alarm?

Answer: If you choose to detect humans, bikes or vehicles, it won't trigger an alarm. If neither is selected, then motion detection will be used and rain/snow may trigger an alarm, depending on your sensitivity setting.

If people keep walking back and forth in a set area, will the alarm be triggered repeatedly? Or is it only triggered once?

Answer: As long as the person stays in the area, only one alarm will be triggered.

Are there any special requirements for setting areas or lines?

Answer: For best results, please try to avoid edge regions. Polygons should be convex polygons.

How to find a suitable sensitivity level?

Answer: Use the default sensitivity first, lower the sensitivity if a false positive is found, and increase the sensitivity if a missed detection is found.

## Cross Counting Detection (CC)

How many lines are supported?

Answer: One line only.

Will any objects that cross the line be counted? Or divide people and objects?

Answer: You can set rules for different statistical categories in the menu, you can count people, vehicle, and any target.

Do the statistics differentiate between the directions?

Answer: Yes, in and out.

Is there a maximum limit to statistics?

Answer: The storage for statistical data is quite big,  $2^{32}$  informations can be stored.

Are there any special requirements for setting lines?

Answer: Preferably not on the edge, and the area should be larger than the target.

How to find a suitable sensitivity level?

Answer: Use the default sensitivity first, lower the sensitivity if a false positive is found, and increase the sensitivity if a missed detection is found.

## Heatmap (HM)

What's heatmap?

Answer: The heatmap is a video analysis tool that creates a graphical overlay over the camera image that visualizes the frequency of detected motion.

How many heatmap regions can be created for the same image?

Answer: Only one map.

Is there a size limit for objects?

Answer: Very small objects may not be counted. Objects must be bigger than 1/30 (3,33%) of the screen width and height.

Are there any special requirements for setting heat maps?

Answer: This algorithm is using motion detection to find activity. It does not work well if the whole scene is changing often (100% activity in the picture).

Are heatmaps just recognizing people? What about animals or vehicle?

Answer: All movement is considered in the statistics, regardless of the type.

What do the colors in the heatmap mean?

Answer: Red color represents a large amount of activity, blue color represents a small amount of activity.

Can heatmap screenshots be saved to hard disk?

Answer: No.

What is the update frequency of the heatmap statistics?

Answer: The activity data is accumulated for 10 minutes before it's processed.

Can the statistics evaluate specific time periods? For example 8:00-10:00 in the morning or 15:00-17:00 in the afternoon?

Answer: Yes, a schedule can be set in the menu.

What is a heatmap used for? Which scenarios does it apply to ?

Answer: The heatmap helps users to intuitively understand the flow of people in an area. This is especially useful for retail businesses to track customer movement to better understand consumer

behaviour. You can see which row of shelves attract most customers. It can also be used to evaluate the traffic of populated areas such as amusement parks or museums.

## Crowd Density Detection (CD)

How to understand Crowd Density Detection?

Answer: Crowd density detection is based on face detection technology, which is used to detect crowd gathering to maintain a controllable order in certain area. When the total number of detected people in a certain area exceeds the pre-set allowed number, the system will send an alert. The main purpose is to limit the number of people in the area

Is it just people? Will pets or animal be counted?

Answer: Only people

Are there any special requirements for setting up the detection area?

Answer: Mainly heads will be counted, please ensure that the heads will be inside the detection area, not the feet.

How to find a suitable sensitivity level?

Answer: Use the default sensitivity first, lower the sensitivity if a false positive is found, and increase the sensitivity if a missed detection is found.

How many areas can I configure?

Answer: Only one area.

If the face is not captured, will it be omitted from the statistics?

Answer: It's not required to capture the face. The system will search for heads.

What is the recommended installation height and distance for the CD program?

Answer: Try to ensure that the head in the detection area, and the head's sizes are within the detectable pixel range.

What is Crowd Density Detection used for? Which scenarios does it apply to?

Answer: It's applicable to some areas with restricted flow of people. Such as bank counters, VIP rooms, restaurants, hospitals, exhibition halls, etc.

## Queue Length Detection (QD)

What's queue length detection used for?

Answer: Queue length detection is used to detect the status of a queue. The number of people waiting and their dwell time is detected.

Does it mean that the alarm will be triggered when the queue length exceeds the set area? Or mean the number of people exceeds the limit?

Answer: An Alarm is triggered if the number of people in the detection zone exceeds the limit.

How does the time limit work?

Answer: The system is measuring the time that an individual has to stay in the line. If the waiting time of a single person exceeds the set time, an alarm will be issued.

Can the queue waiting time be set in seconds or minutes or hours?

Answer: In seconds.

Can it also count animals and other entities than people?

Answer: No, just people will be counted.

How many detection areas can be configured?

Answer: Only one area.

What is queue length Detection used for? Which scenarios does it apply to ?

Answer: It's used to unblock the queue and reduce waiting time. Such as supermarket checkout counters or bus stops.

## Rare Sound Detection (RSD)

What's rare sound detection?

Answer: Rare Sound Detection will trigger an alert when it detects abnormal sounds, like baby crying, dog barking or gunshots.

Can I detect other sounds than the 3 predefined sounds?

Answer: No.

Is the sensitivity related to the volume of the sound?

Answer: Yes, sensitivity is related to the sound volume. We suggest to use the default sensitivity. You can increase the sensitivity if you want to detect fainter sounds.

Does the camera need to see the source of the sounds?

Answer: No, the source of the sound does not need to be visible.

What is rare sound detection used for? Which scenarios does it apply to?

Answer: It is mainly used to check the safety of family members at home. It is mostly installed indoors to prevent burglary and robbery.

## Platform data

| camera model   | Maximum number of elements captured in one picture |        |          |                |
|----------------|--|--------|----------|----------------|
|                | Faces  | Humans | Vehicles | License Plates |
| IND-42M2808M0A | 16   | 16     | 16       | 16             |
| IND-45F0028M0A | 16   | 16     | 16       | 16             |
| IND-62M2812M0A | 16   | 16     | 16       | 16             |
| INB-52M2812M0A | 16   | 16     | 16       | 16             |
| IND-65M2713M0A | 32   | 32     | 32       | 32             |
| INB-55M2713M0A | 32   | 32     | 32       | 32             |
| IND-68M2713M0A | 32   | 32     | 32       | 32             |
| INB-58M2713M0A | 32   | 32     | 32       | 32             |
| INB-65M2812MFA | 16   | 16     | 16       | 16             |
| INP-58M2812M0A | 32   | 32     | 32       | 32             |
| INB-68M2812MFA | 32   | 32     | 32       | 32             |
| IND-68M2812MFA | 32   | 32     | 32       | 32             |
| INP-75A0033MIA | 64   | 64     | 64       | ---            |
| IND-65M2812MFA | 16   | 16     | 16       | 16             |

### Element storage capabilities

#### **MNR-18N04000A**

#### **INR-18N040005A**

The number of faces/numberplates in the group: 1.000

Maximum number of faces: 1.500

#### **MNR-18N16000A**

The number of faces/numberplates in the group: 1.000

Maximum number of faces: 3.000

#### **INR-28N08005A**

The number of faces/numberplates in the group: 2.000

Maximum number of faces: 5.000

#### **INR-28N320005A**

The number of faces/numberplates in the group: 2.000

Maximum number of faces: 1.0000





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