ViSense

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Technical Specification sheet

The Visense CrowdDynamics appliance provides an automatic analysis of passing visitors or crowds. It gives insight about your daily retail business, allows crowd control during events or gives quantified information about the efficiency of your pedestrian and bicycle road infrastructure. The small footprint makes it easy to deploy and scale, and no complicated sensor setup. The Visense CrowdDynamics appliance is an easy way to remotely give real-time information via your IP network.

Software

The software uses a model of the visual appearance of a human. This model is trained with millions of sample images in many different situations. The training, which was performed in our research laboratory, reveals a visual model that is represented by a complex numerical pattern that is used for mathematical comparison of image data. By comparing each position of the image content with the numerical pattern, the system recognizes the presence of a human at each position. This process is repeated 25 times per second on images of 1 Mpixel resolution so that the walking direction of all people in the image is monitored and people flow (people/hour) is registered.
Each tracked individual is counted including information about its position, speed and size and this information is stored in a local database. A web server provides visualization of information graphs and allows third party systems to interface with the appliance to import the metadata information for his needs.

Fast installation

The sensor is easy to install and similar to installing a surveillance camera. The sensor can be wired with a single Cat 5e cable using PoE over a distance of up to 100 meters. Simply focus the camera on the area of interest.
No complicated alignment of viewpoint measurement is needed. Configuring of the camera position and setup of a region of interest are simple steps that are done in the user-friendly GUI.

Software

The information resulting from the passing people is stored safely on a SSD storage device to store up to one year of counting data. Using a web browser you can access the built-in web server which creases comprehensive visualizations in bar graphs and line graphs. The web server also allows you to directly access the information using a web service API (The SDK for this is only available in the Enterprise model).

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Specifications

Performance

Counting Width	6 mtr.	12 mtr.	18 mtr.
Maximum throughput	350 people/min	700 people/min	1000 people/min
Maximum object speed	20 km/h	30 km/h	30 km/h
Maximum object density	4 pedestrians/m2		
Required light intensity	>3 lux		
Image sensor	1280 x 720 pixels		
Required frame rate	25 Hz		
Video connection	H.264 over RTSP		
Operating temperature	0 - 50 °C		
Storage temperature	-20 °C - 85 °C		

Network

Interface	RJ45 - 10/100/1000 BaseT
Cabling	Cat 5 (or higher)
Addressing	DHCP or Static IP
Time sync	NTP
Data delivery protocols	IPv4/v6, HTTP, web socket
Supported protocols	IPv4/v6, HTTP, TCP, RTSP, UDP, ICMP, DHCP, NTP, DNS
Access level restriction	User-based access restriction
Security	Password protected web sessions
User interface access	Web browser access via build-in web server

packaging

Operation system	Linux	
Storage	60 GB SSD : 1 year data	120 GB SSD : 1 year data
Dimensions (l x w x h)	8.5 x 8.75 x 1.75 in (21,9 x 22,23 x 4,45 cm)	
Power	19 VDC: max. 60 W, typical 30 W, AC/DC adapter supplied	
Ports	USB 2.0, USB 3.0, LAN	
Weight	1,4 kg	
Mounting options	Stand-alone, 19" single unit (1U), 19" double unit (1U)	
19" Front plate (optional) size	1U rack mount	
Enclosure	Black top-grade brushed aluminium front, steel casing	

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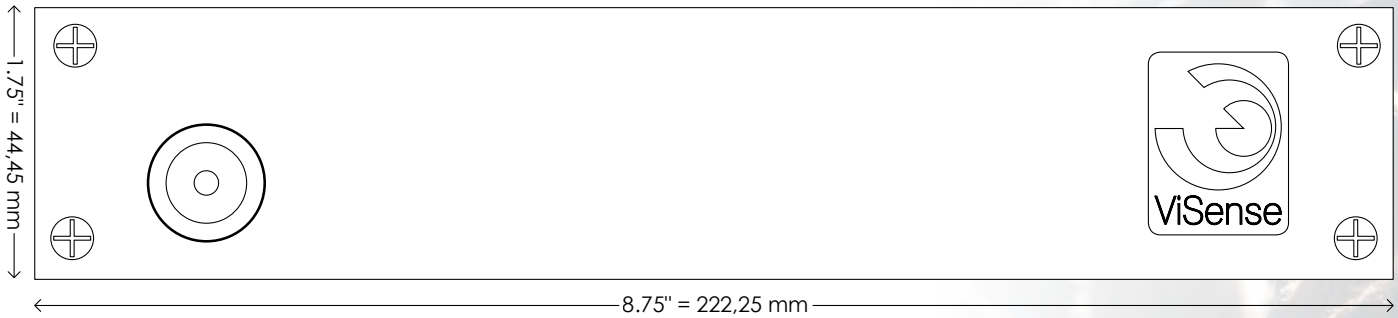
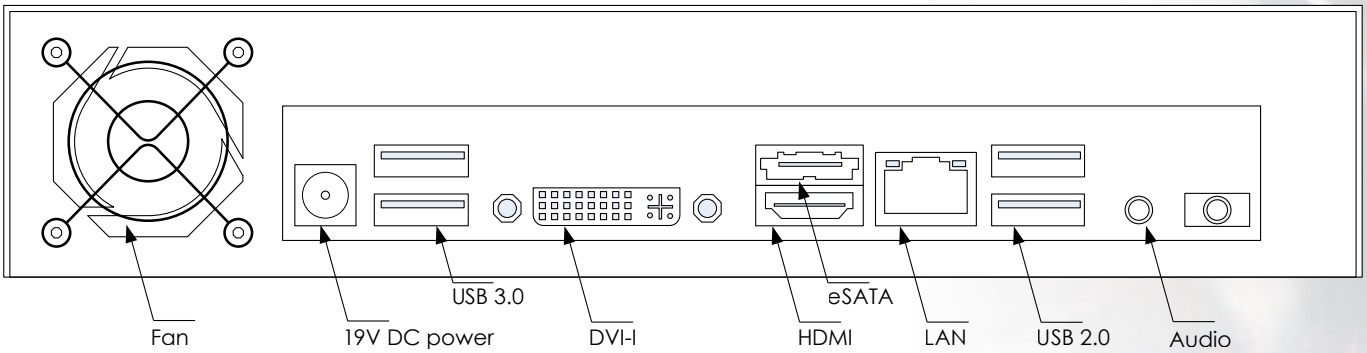
Outline dimensions

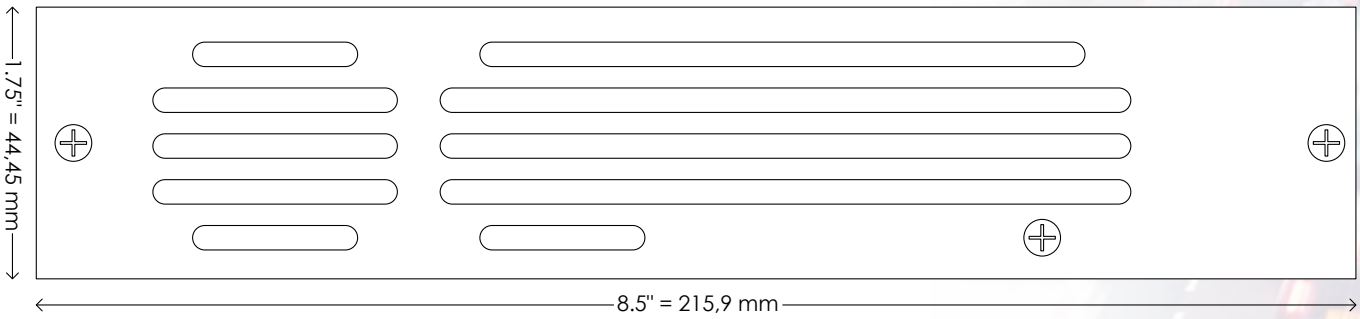
Front side



Back side



Side



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