



GDPR Compliant sensors with **on-board AI** and computer vision featuring an **industrial-grade** design, **easy setup**, **high accuracy** and making it ideal for smart(er) cities and industries' applications.

Key features

- ✓ GDPR compliant by design
- ✓ AI accelerator-based processing for best-in-class performance
- ✓ Single & dual sensors for wider coverage and optimized Return on Investment
- ✓ Easy to install and configure remotely via web platform
- ✓ Effective in low light conditions
- ✓ Remote firmware updates
- ✓ Data transmission via Ethernet or Cellular
- ✓ DC12V or PoE* supply mode
- ✓ 8-PIN circular connector for local applications (streetlight control, signage...)

* PoE is optional for the single version via accessory

SPECIFICATION



| Performance | Single | Dual |
|---------------------------------|---|--------------------|
| Technology | Edge AI camera sensor | |
| Use Environment | Indoor and outdoor | |
| AI Processor | NPU (Neural Processing Unit) | |
| Accuracy | 99.5% ⁽¹⁾ | |
| Camera | Single | Dual |
| Image Sensor | 1/2.8" progressive scan CMOS | |
| Resolution | 2MP, 1920(H)×1080(V) | |
| Angular Field of View | H: 105.19° V: 55.49° D: 125.08° | |
| Min. Illumination | Color 0.0009lux @ F1.0 (AGC ON) | |
| WDR (Wide Dynamic Range) | Support | |
| BLC (Backlight Compensation) | Support | |
| DNR (Digital Noise Reduction) | 3D DNR | |
| Lens Type | Fixed (M12) | |
| Focal Length (Zoom Ratio) | 2.8mm | |
| Max. Aperture Ratio | F No. 1.0 | |
| Min. Object Distance | 1m | |
| Electronics | Single | Dual |
| Power Source | DC12V (acceptable voltage range: DC9V to DC16.8V) | |
| | PoE (IEEE802.3af) via accessory | PoE+ (IEEE802.3at) |
| Max. Power Consumption | 11.5W @DC12V | 13W @DC12V |
| Average Power Consumption | 10.5W @DC12V | 12W @DC12V |
| Network | Single | Dual |
| Set Up | Web GUI embedded on the device | |
| Data Consumption ⁽²⁾ | 500Mb per month | 1GB per month |
| Bluetooth | 5.0 | |
| Wi-Fi | 2.4GHz | |
| Ethernet/PoE | Single | Dual |
| Recommended Cabling | CAT6 or later | |
| Addressing | DHCP, Static IP for maintenance | |
| Distance Limit | 100m | |

⁽¹⁾ Accuracy is assessed based on performance under representative conditions. In very complex environments, such as those with obstructions or very low light conditions etc., this value may vary.

⁽²⁾ Data consumption is based on capturing 2 images daily to monitor the quality.

SPECIFICATION

| LTE/4G (Optional) | Single | Dual |
|---|---|---------------------------|
| Standard | LTE-A Cat 6 | |
| Region/Operator | EMEA/APAC (excluding Japan and CMCC)/Brazil | |
| Frequency Bands | LTE-FDD: B1/B3/B5/B7/B8/B20/B28/B32 ⁽³⁾ LTE-TDD: B38/B40/B41 2xCA: B1+B1/B5/B8/B20/B28; B3+B3/B5/B7/B8/B20/B28; B7+B5/B7/B8/B20/B28; B20+B32 ⁽³⁾ ; B38+B38; B40+B40; B41+B41 WCDMA: B1/B3/B5/B8 | |
| SIM Card Format | NANO (4FF) | |
| Interfaces | Single | Dual |
| Ethernet/PoE | Female RJ45 port | |
| DC12V and GPIO | 8-PIN female circular port | |
| Antenna | Female SMA connector | |
| Mechanics | Single | Dual |
| Housing Dimensions (without antennas) | 180mm(L)x150mm(W)x90mm(H) | 280mm(L)x170mm(W)x90mm(H) |
| Camera Dimensions | 74mm(H)x151mm(D) | |
| Weight | Approx. 1900g | Approx. 2900g |
| Housing Material | Aluminium | |
| Color | White (extra colors on demand) | |
| Housing Impact Protection | IK08 | |
| Ingress Protection | IP67 | |
| Installation | Wall mounting, Optional: Pole mounting with provided pole mount | |
| General | Single | Dual |
| Model ⁽⁴⁾ | NP-1, NP-1-4G | NP-2, NP-2-4G |
| Operating Conditions | -20°C to 60°C, less than 95% RH | |
| Included Accessories | PoE/Ethernet IP67 connector, Allen key, DC12V power cable | |
| Optional Accessories | AC230V to DC12V voltage converter, Antennas, Pole mount including hose clamps, PoE Splitter for the single version, Battery, Relay/Optocoupler | |
| Services | Single | Dual |
| Warranty | 1 year, extendable on demand | |
| Remote Technical Support ⁽⁵⁾ | Yes | |
| Integrator Platform | Yes | |
| Dashboard | Optional – on demand | |
| SIM Card | Optional – on demand | |

⁽³⁾ LTE-FDD B32 support receiving only, and is only for secondary component carrier in 2xCA.

⁽⁴⁾ Details can be found in the “MODEL NAMING CONVENTION” chapter.

⁽⁵⁾ Remote technical support by default includes assistance with installation and maintenance of detection quality.

NETWORK SERVICES AND PORT

To ensure the proper operation of the camera sensor, this section outlines the external services the device accesses and the ports it exposes. This information is essential for configuring network access and ensuring the device's compatibility with external networks.

External Services Called by the Device

| Domains/IP addresses | Ports | Description |
|-------------------------------|---------------------------|--|
| .vziosense.ai | 443, 80 | VizioSense services, required for device management and data exchange. |
| .vziosense.com | - | Additional VizioSense services and resources. |
| ports.ubuntu.com | - | Ubuntu package and update repositories. |
| .docker.io | - | Docker image registry. |
| .docker.com | - | Docker website and services. |
| .rport.io | 443 | Remote management and monitoring services by Rport. |
| .openrport.io | 443 | Remote management and monitoring services by OpenRport. |
| www.amazontrust.com | 443 | Amazon Trust Services, including certificate authority services. |
| .amazonaws.com | 443, 1194, 8443, 80, 8883 | Amazon Web Services (AWS) for cloud storage, compute, and IoT services. |
| .cloudfront.net | 443 | Amazon CloudFront content delivery network (CDN) for distributing content. |
| objects.githubusercontent.com | 443 | GitHub-hosted content access. |
| .github.com | 443 | GitHub website and API access. |
| .canonical.com | 123, 80 | Canonical services for updates and time synchronization. |
| time.cloudflare.com | 123 | Cloudflare NTP service for time synchronization. |
| ntp.ubuntu.com | 123 | Ubuntu NTP server for time synchronization. |
| .pool.ntp.org | 123 | NTP pool servers for time synchronization. |
| 8.8.8.8 | 53 | Google's public DNS service. |
| 8.8.4.4 | 53 | Secondary Google's public DNS service. |

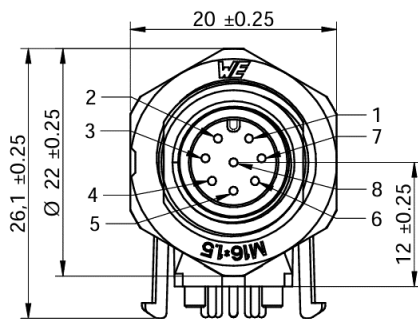
Ports Exposed by the Device

| Port | Description |
|------|--|
| 22 | SSH - secure shell for remote debugging and maintenance. |
| 8080 | HTTP Alternative - used for local web UI access. |

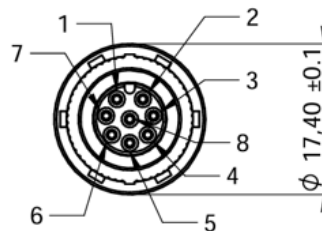
INTERFACES



- ① Camera(s)
- ② 8-PIN female circular port for DC12V and relays/optocouples
- ③ Female RJ45 port for maintenance or PoE (optional for the single version)/Ethernet connection
- ④ Wi-Fi & Bluetooth Antenna (optional)
- ⑤ LTE/4G Antenna (optional)



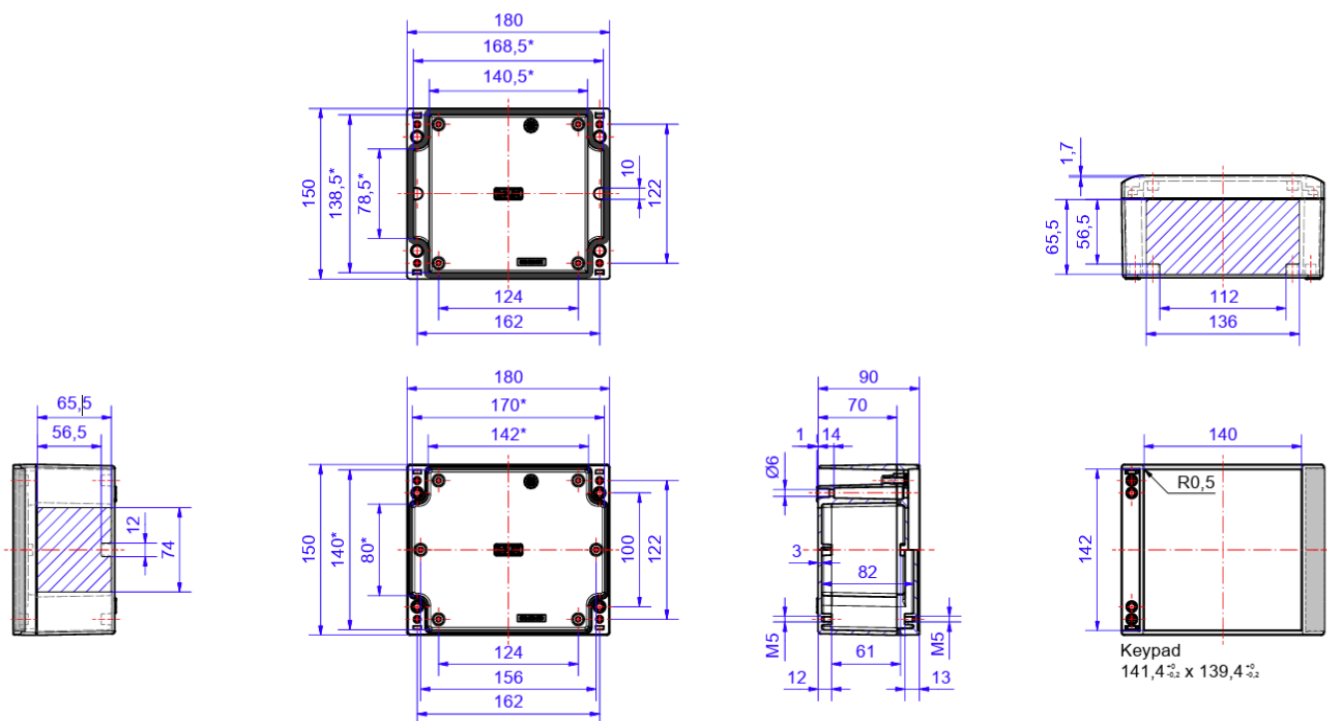
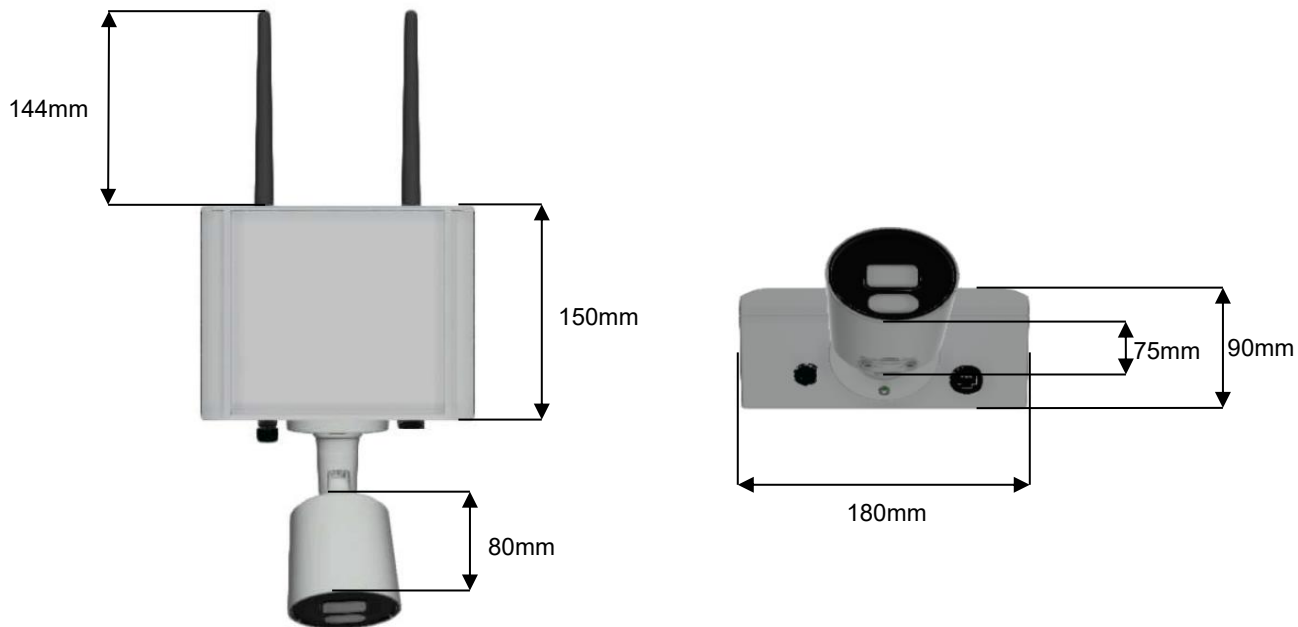
8-PIN Female Circular Port



8-PIN Male Circular Connector (as accessory)

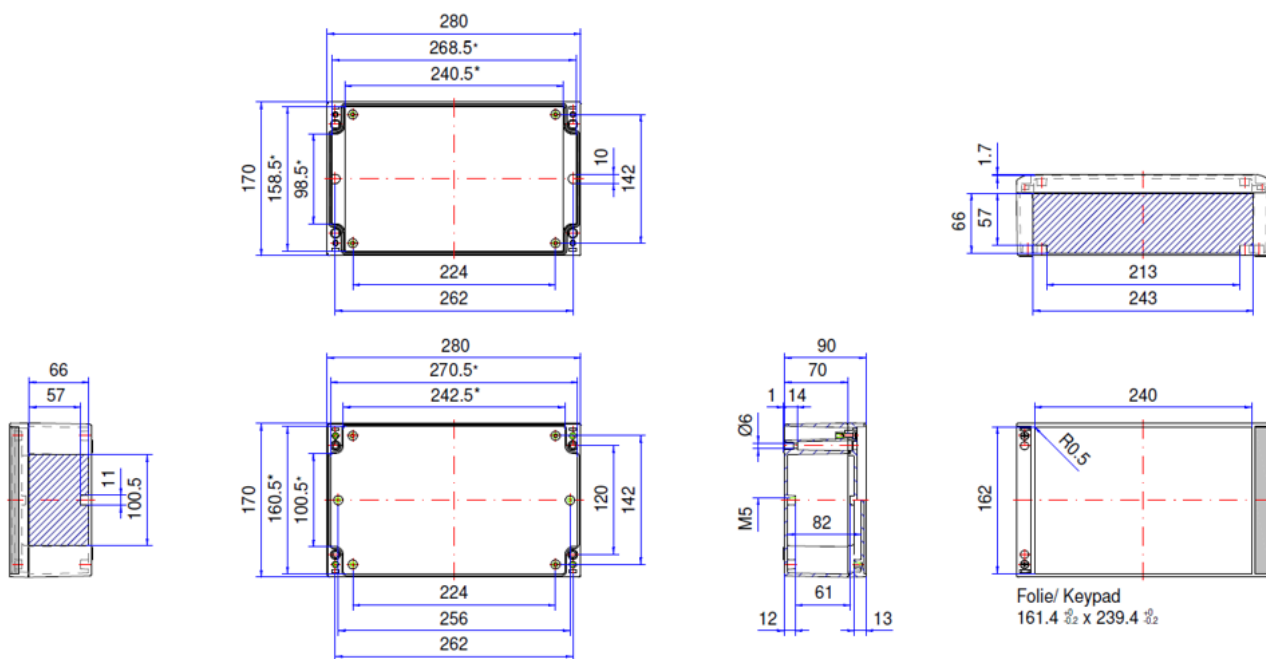
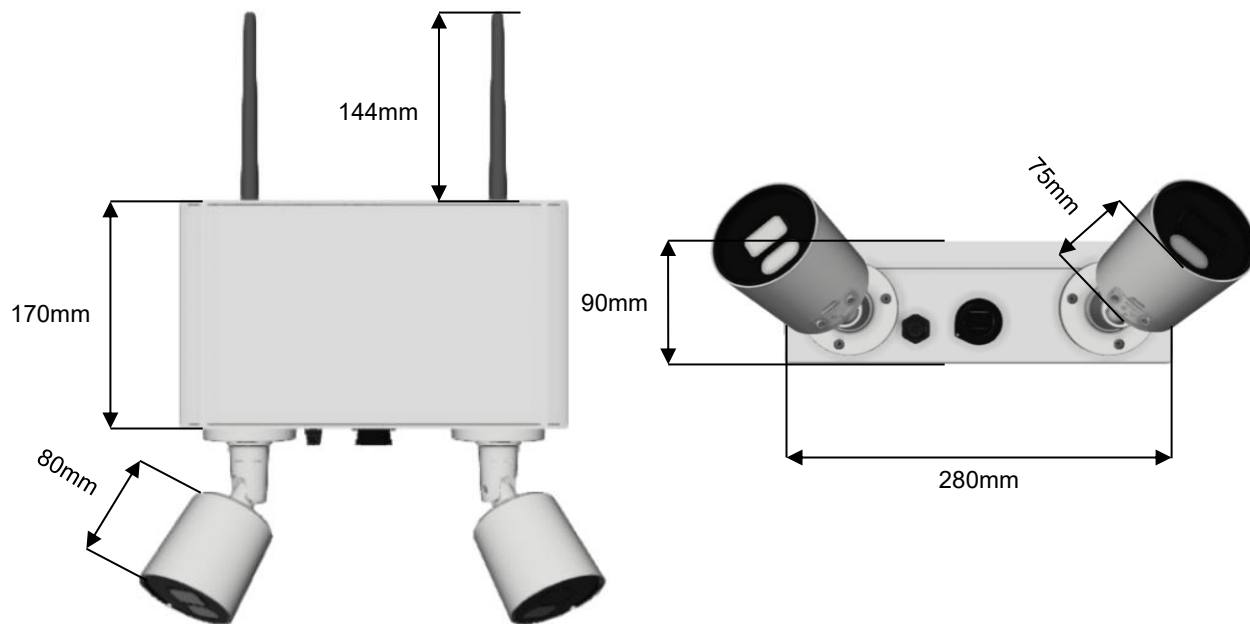
- PIN 1: Optocoupler 2
- PIN 2: Optocoupler 1
- PIN 3: Relay 2
- PIN 4: Relay 1
- PIN 5: DC12V Output
- PIN 6: GND
- PIN 7: GND
- PIN 8: DC12V Input

DIMENSIONS



Note: Installation requires 4x 4.5mm or 4mm diameter screws.

DIMENSIONS



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ACCESSORIES

Smart Battery

For street light posts having no power supply during day time or other installations without 24-hour continuous power supply



| | |
|---------------------------------|--|
| Chemical System | LiFePO4 (lithium iron phosphate) |
| Typical Capacity | 18.0Ah/230.4Wh (21h for the single version; 18h for the dual version) |
| Nominal Voltage (Output) | DC12.8V |
| External Charge Voltage (Input) | AC230V |
| Charging time | 3.5 to 4h |
| Life Cycle | 2000 charging/discharging cycles |
| Dimensions | 517mm(L)x86.2mm(W)x86.2mm(H) |
| Weight | Approx. 4250g |
| Housing Material | Aluminium |
| Ingress Protection | IP68 |
| Color | Silver gray/Black |
| Operating Conditions | -20°C to 60°C, less than 90% RH |



Pole Mount

To fix the camera sensor on a street light post or other pole

| | |
|------------------------------|---|
| Adjustable Diameter | From 67 mm to 127 mm |
| Dimensions | 174mm(L)x144mm(W)x37mm(H) for the single version; 272mm(L)x162mm(W)x43mm(H) for the dual version |
| Weight (without hose clamps) | Approx. 580g for the single version; Approx. 965g for the dual version |
| Material | Stainless steel |
| Color | White |

Voltage Converter

For the situations where the power supply is coming from the AC230V



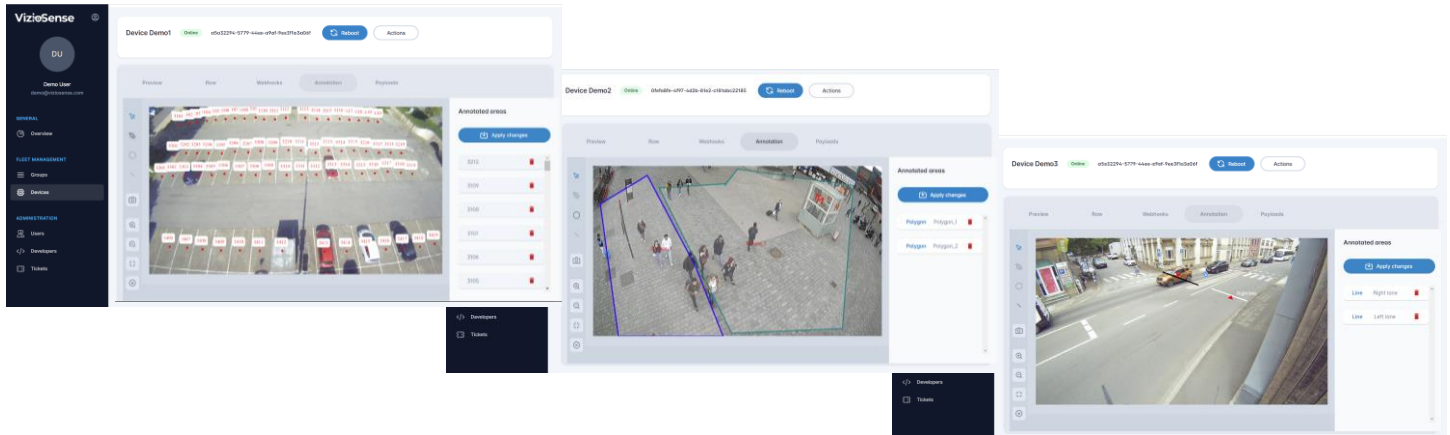
| | |
|----------------------|--------------------------|
| Max. Power | 24W |
| Output Voltage | DC12V |
| Input Voltage | AC100-250V 50/60HZ |
| Dimensions | 165mm(L)x30mm(W)x20mm(H) |
| Weight | Approx. 200g |
| Ingress Protection | IP67 |
| Operating Conditions | -20°C to 50°C |

Non contractual images

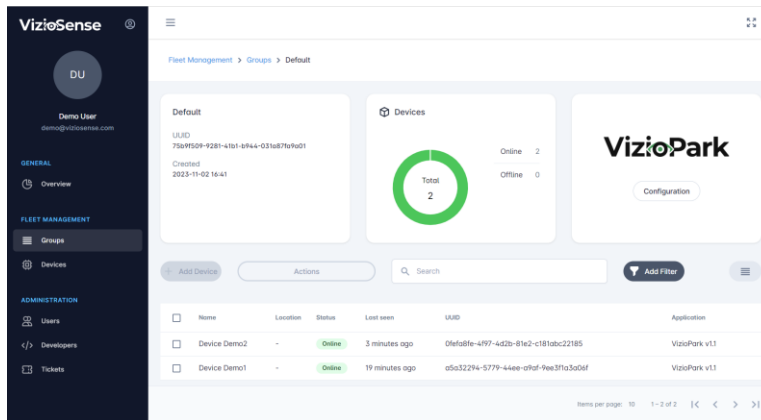
INTEGRATOR PLATFORM

The Integrator Platform provides integrators and installation companies the ability to preview, manage and configure devices. An API is available for seamless integration and data transmission.

Site Configuration

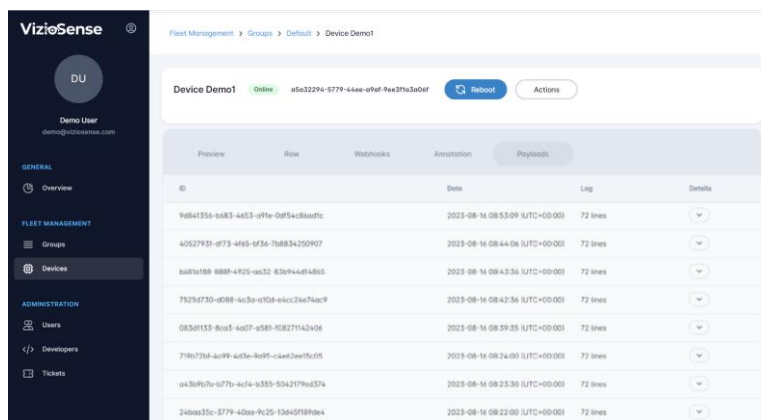


Fleet Management



- ✓ Keep Alive messages
- ✓ Firmware Update Over The Air
- ✓ User Rights management

Remote Maintenance



- ✓ Payload history
- ✓ Remote device reboot

APPLICATIONS AND USE CASES

VizioPark

Real-time parking occupancy and stats



Downtown



Park-and-Ride



Shopping Malls



Motorway Rest Areas



Marked Spaces



EV Charging Spots



Delivery / Drop-off zone



PRM Spaces

VizioCount

Real-time counting for people, cars, bicycles, and assets



Queue Management



Urban Planning



Mobility Study



Smart Lighting



Municipalities



Smart Buildings



Retail



Public Transportation

VizioCrowd

Real-time counting for people in dense environments



Railway Stations & Airports



Museums



Stadiums



Concerts & Festivals



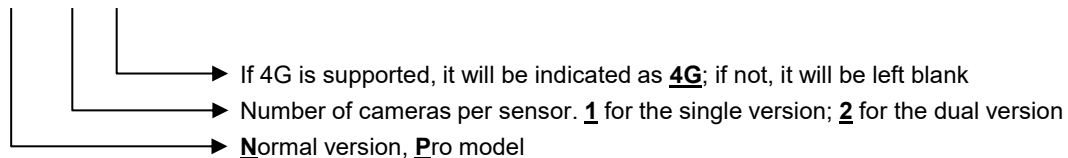
Shopping Malls



Major Intersections

MODEL NAMING CONVENTION

NP-1-4G



| Model | Single | Dual | LTE/4G | PoE+/Ethernet |
|---------|--------|------|--------|---------------|
| NP-1 | ✓ | | X | ✓ |
| NP-2 | | ✓ | X | ✓ |
| NP-1-4G | ✓ | | ✓ | ✓ |
| NP-2-4G | ✓ | ✓ | ✓ | ✓ |

Contact us

If you have any questions, please email us at:
contact@vizioSense.com