ViGiSense

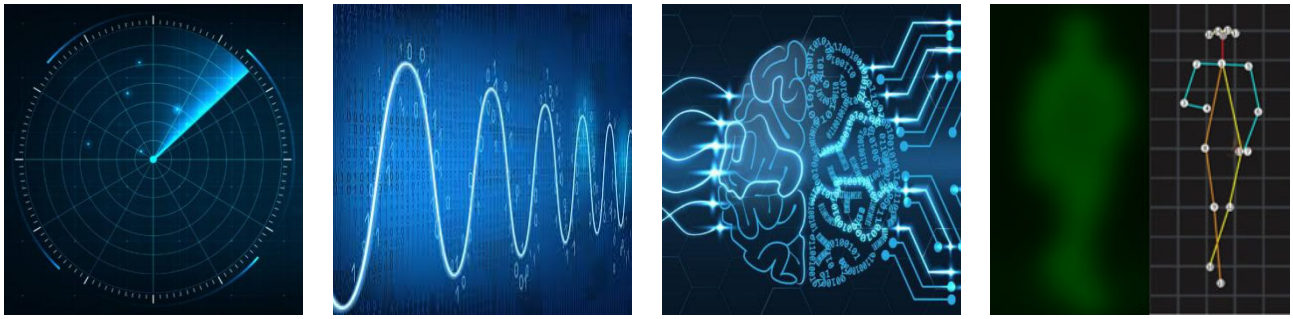
A.I. Wellbeing & Safety Monitoring Technology

ViGiSense is the latest Wellbeing and Safety Monitoring Technology powered by A.I. ViGiSense incorporates Machine Learning & A.I., Advanced Solid State LiDAR technology and Digital Signal Processing technologies.

ViGiSense is designed to fulfill safety monitoring without infringing privacy. That means ViGiSense understands what you are doing by utilizing the radar signals, with proprietary A.I. algorithms and Machine Learning analysis.

This makes ViGiSense is particularly suitable to be used in places with absolute privacy requirements, such as bathrooms, toilets, hospitals, elderly centers, and even for ordinary homes.

Thanks to the advancement in radar, DSP, A.I. and Machine Learning technologies, the non-infringing sensing technology is able to capture human gestures. The patent-pending platform not only offer real time monitoring and help to detect people falling, but can also be used as a well-being monitoring platform in order to ease aging population problems for the society, and enhancing healthy aging. This in turns reduces long term financial burdens for the government.



The 4-Pillars of ViGiSense

Furthermore, the technology does not require any wearables and is a passive sensor deployment, this can easily be adopted in public safety domain and smart city applications, such as A.I. traffic light automation systems, public toilets monitoring for druggies and violences, etc.

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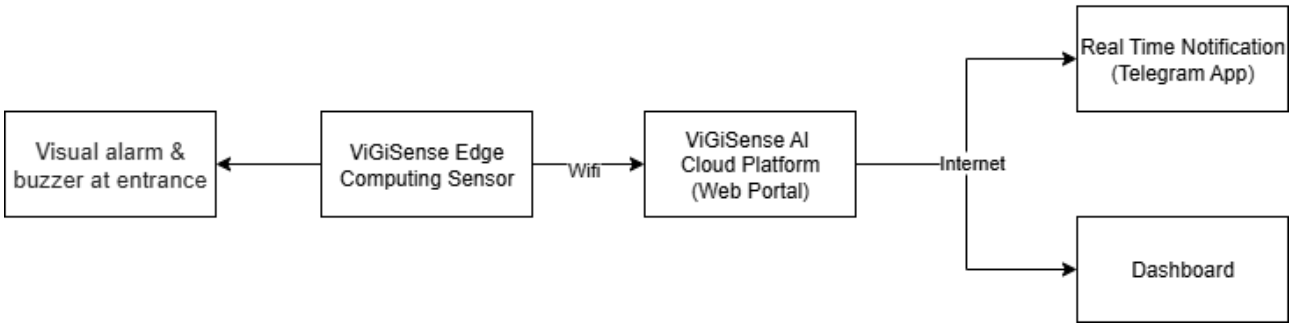
Topology - Simplification for Deployment



ViGiSense Wellbeing Platform is a full functioning AI Platform that is able to analyse human behavior. This enables 7/24 all aspect monitoring with safety alert.

The simpler form, ViGiSense-Elite version, is designed to run selected human behavior models at edge. This simplifies deployment, reduces onsite hardware, and reduce maintenance needs. Deployment is easy and simple. Mount the sensor, turn on the power and it works!

Case Study - Fall Prevention System @ Elderly Center in HK

In one of the references for ViGiSense-Elite, the following human behavior models are selected to run in the ViGiSense Edge Computing Sensor. That means the ViGiSense Computing Sensor is able to recognise these selected actions.

When specific action(s) are detected, the nurse will receive an App notification, telling them that the elderly is trying to get off the bed. This may lead to accidents and the nurse is able to go help them out at once.

Keeping the Elderly Safe and Reduce Nurse Workload

Fall Detection - A Selection of Models

To accommodate to different needs and scenarios, just pick different models to run in the ViGiSense Edge Computing Sensor. Depends on the needs, the following models is able to fulfill fall detection in places such as toilets and bathrooms.

More than fall detection, this sensor is able to detect occupancy, motionless, long-stay. Even better, you are able to include the action you want to monitor inside the privacy zone.

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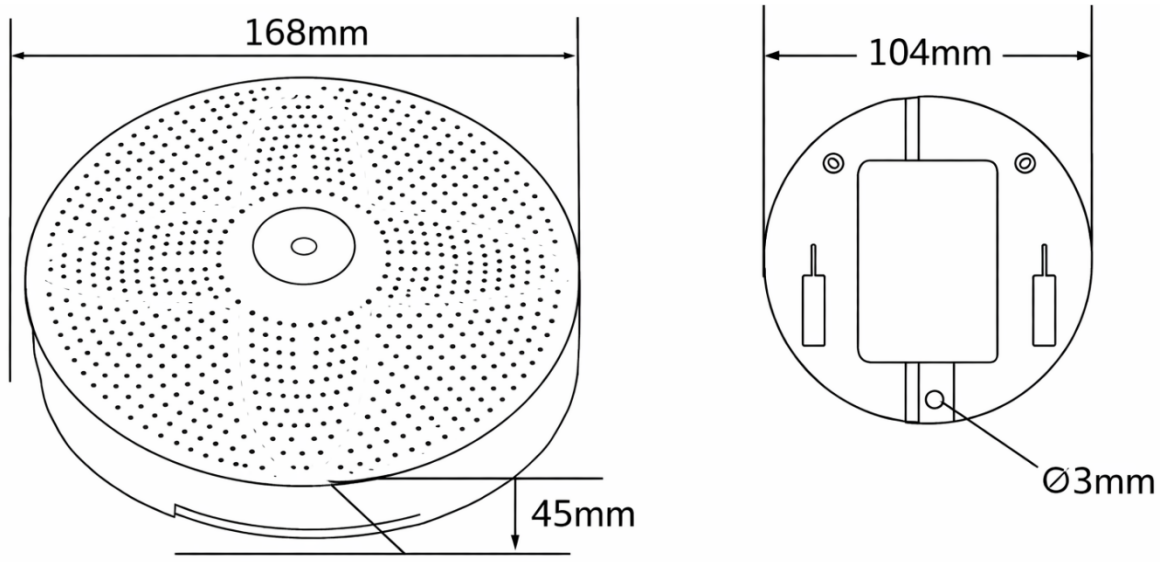
Specification - ViGiSense-Elite Edge Computing Sensor

Parameter	Specification
Deminsion	Φ168mm x 45mm (standard housing)
Measuring Technology	solid state radar using TOF
VCSEL frequency	940nm (visible light spectrum)
Field of View	60° x 45° 120° x 70° (wide version)
Monitoring area	4.0 x 2.9 m^2 @ 3.5m 8.0 x 4.5 m^2 @ 3.5m (wide version)
Maximum Distance	5 m
Minimum Distance	0.1 m
Maximum Frame Rate	20
Power	12V DC
Uplink	Wifi / 4G / LoRaWan (HKCA1078)
Protection	IP30 (higher protection rating option available)
Operating Condition	0 to 50 ℃, 0-99% RH (non-condensing)
Storage Condition	-15 to 60 ℃

Dimension, Installation for Different Housing

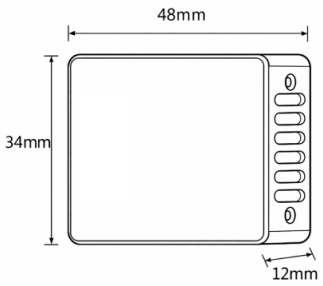
The ViGiSense Edge Computing Sensor for the Elite Version is designed to be light weight, and easy mounting with the holes provided. Shown below is the dimension for reference.

Standard Housing	Purpose	Standard all-in-one housing
	Protection	Edge Computing Box: IP30
	Architecture	All in one design

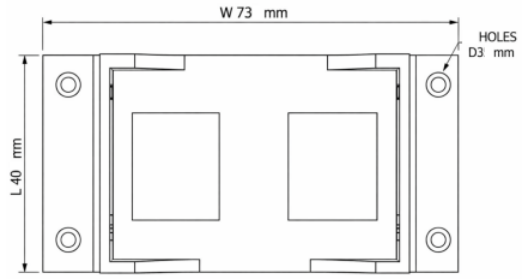


Stylish Housing

Purpose	general area such as living room, elderly room, hospital ward, etc
Protection	Edge Computing Box: IP30; Sensor head: IP54
Architecture	Standalone sensor head and edge computing box

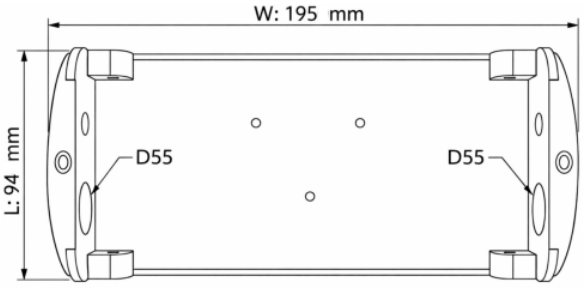


IP54 sensor head



ceiling mount bracket (purchase separately)

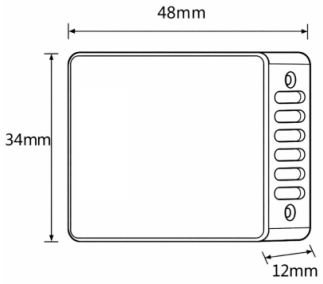
IP30 edge computing box



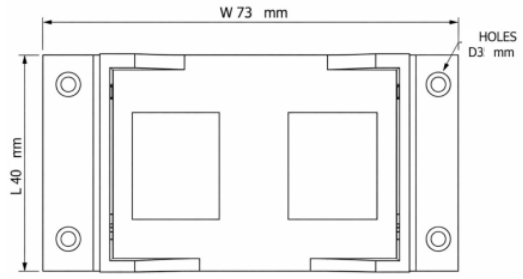
Wall-mount kit (included)

Hi-Protect Housing

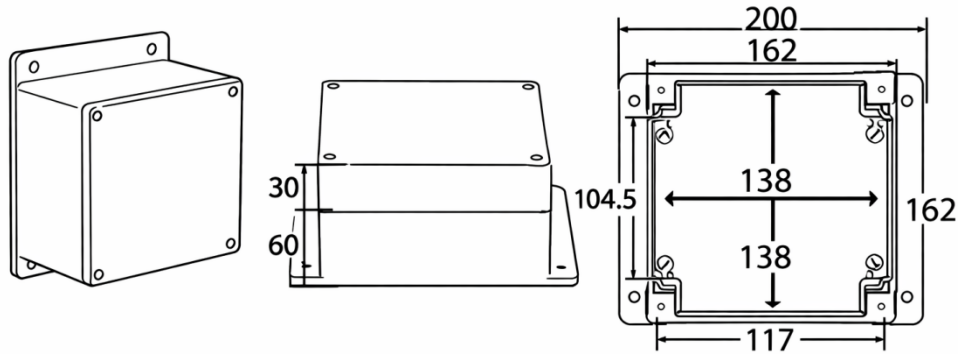
Purpose	Toilet, bathroom, and location with high humidity
Protection	Edge Computing Box: IP65; Sensor head: IP54
Architecture	Standalone sensor head and edge computing box



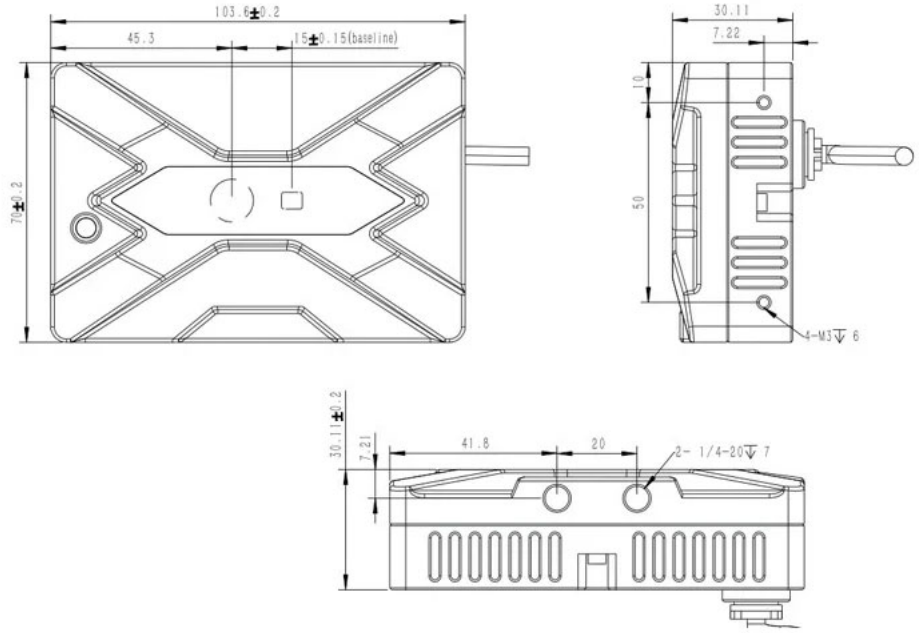
IP54 sensor head



ceiling mount bracket (purchase separately)



IP65 edge computing box

Wide Version Sensor	

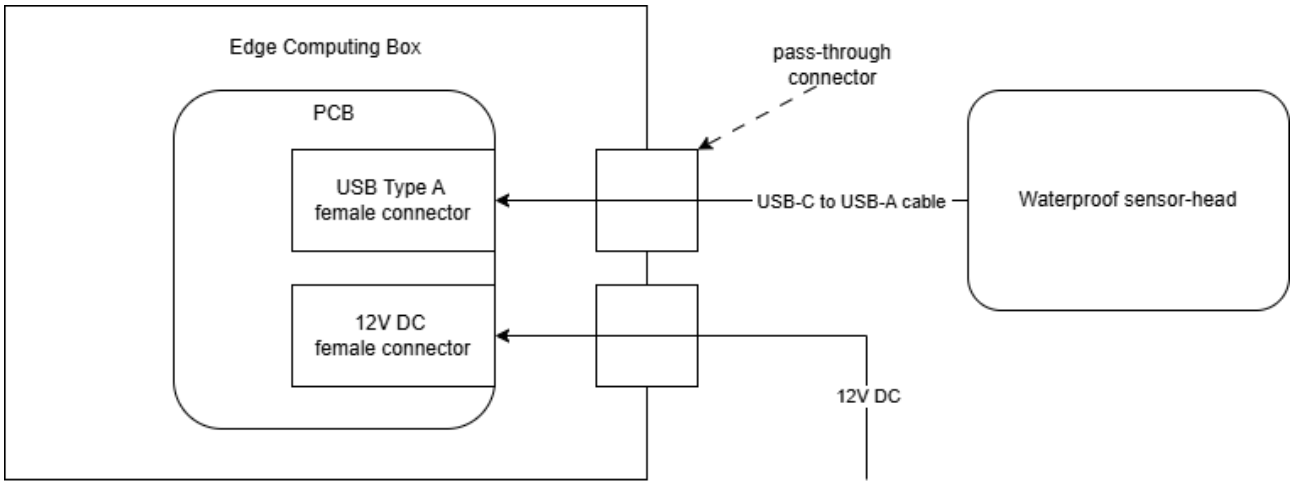
With even extreme conditions, such as in confined spaces, heat working environment, we are able to tailor-make IP68 housing with ventilation system to make sure the system function as expected.

Please read the precautions before installation:

- Installation can be done only by the professional construction personnel or authorized engineering representative
- Please use the professionally qualified installation tools to guarantee the safety of the construction personnel
- Installation position must be far away from the fire source, strong electric field, magnetic field etc., otherwise damage will be resulted
- ChinoINT reserves the interpretation of installation

Following the above drawing for screw holes for mall-mount and ceiling-mount. The sensor head and the Standard Housing shall be installed at the center of the desired monitoring area.

Here is the connection diagram for Stylish-Housing and Hi-Protect Housing.



Ordering Info (Note: add -w to Part Number for Wide Version)

Part Number	Communication	Monitoring Feature	Housing
VGEL12WF03	Wifi	Bedside detection & Fall Prevention	Standard
VGEL124F03	4G		
VGEL12LF03	LoRaWan		
VGEL12HF03	LoRaWan (HKCA1078)		
VGEL13WF03	Wifi	Bedside detection & Fall Prevention	Stylish
VGEL134F03	4G		
VGEL13LF03	LoRaWan		
VGEL13HF03	LoRaWan (HKCA1078)		
VGEL23WFD4	Wifi	Fall Detection + Occupancy + long-stay + motionless monitoring	Stylish
VGEL234FD4	4G		
VGEL23LFD4	LoRaWan		
VGEL23HFD4	LoRaWan (HKCA1078)		
VGEL24WFD4	Wifi	Fall Detection + Occupancy + long-stay + motionless monitoring	Hi-Protect
VGEL244FD4	4G		
VGEL24LFD4	LoRaWan		
VGEL24HFD4	LoRaWan (HKCA1078)		

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Warning

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Product Warranty and Customer Support

ChinoINT warrants all products free from defects in material and workmanship for a period of one year from the date of shipping. During the warranty period, we will, at our position, either repair or replace any product that proves to be defective. To report any defect, please inquiry sales@chinoint.com

Unauthorized opening and improper repairs on the device may result in substantial damage to equipment or endanger the user. The product described in this documentation may be operated only by personnel qualified. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products. Always disconnect the power plug before you open the device.

Please have the model, serial number and a detailed problem description available when you call. If the problem concerns a particular reading, please have all meter readings available.

This warranty does not apply to defects resulting from unauthorized modification, misuse. If you install or exchange system expansion and damage your device, the warranty becomes void.

Product Warranty and Customer Support

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.