



# CONSTELLATION STAR-IO

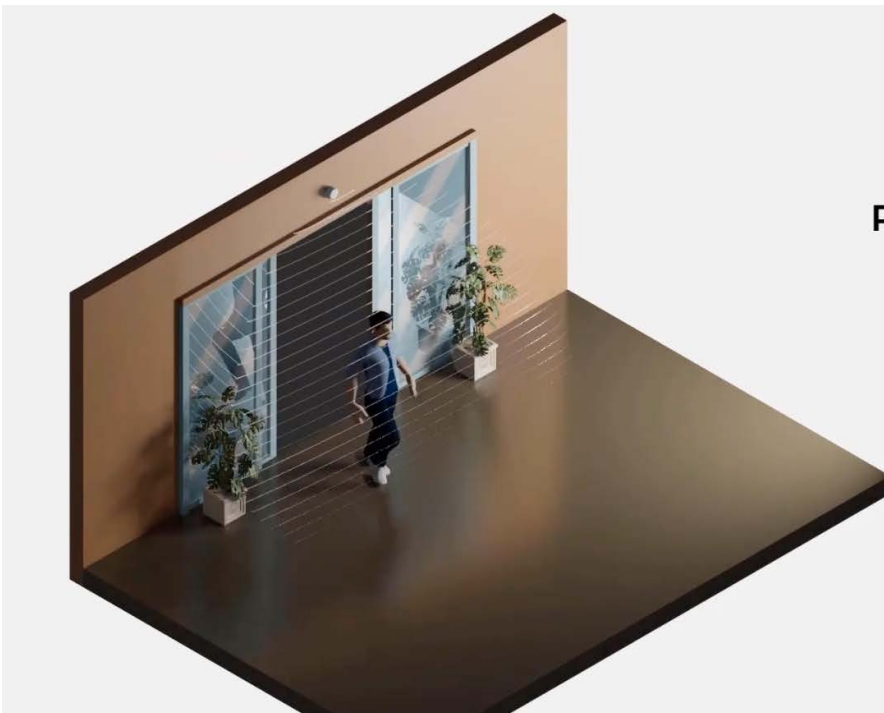
## PRODUCT DATA SHEET

Model: STAR-IO



## STAR - IN & OUT COUNTING

Star-IO helps optimize space utilization by providing a count of individuals moving in and out of the designated areas.



### Real-time People Count

In	Out
12	2

### Total People Count

In	Out
40	22



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### IR-UWB Radar Basics



Constellation Sensors detect macro (**Body Motion**) and micro-vibrations (**Resting Heart Rate & Respiration Rate**) emitted from inside and outside human body.

#### Radar Benefits



**130° FOV**  
**10M (33ft) Max Range**



**FDA 510(k) Cleared**

For vital-sign monitoring using radar technology



**Privacy Protected**

No camera, no image, no sound (GDPR compliant)



**Discrete Installation**

Can be installed behind the wall or ceiling panel (Sense through ceiling/wall)



**Health-risk Free**

40x less power than a home Wi-Fi router (6.5 ~ 8 Ghz)



**Network**

Local intranet / Closed loop system / PoE / Wi-Fi / LTE / LPWAN



**No Impact from Light/Temperature**

Able to operate even in complete darkness or smoke



**Continuous Scanning/Monitoring**

No miss detection of occupancy



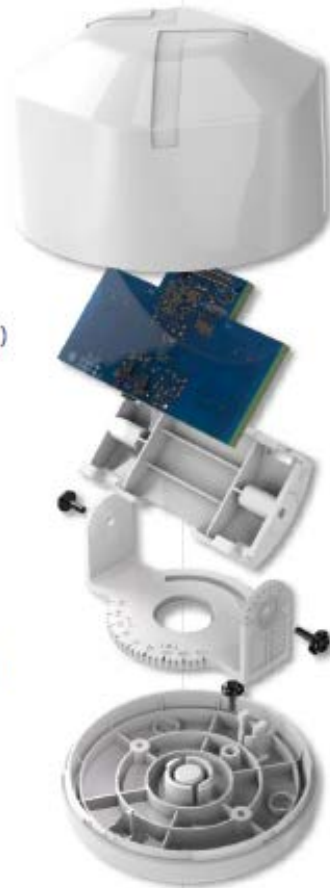
**Power Consumption**

700mW (5V 2.5A+)



**Edge-Computing**

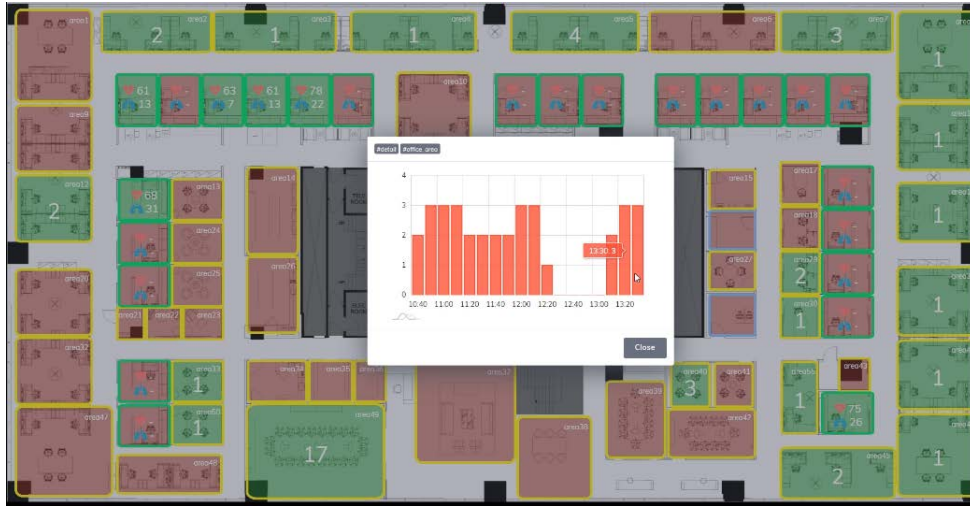
Low cost to operate





## SAMPLE DASHBOARDS

Model: STAR-IO



Real-time people counting status  
in open office space  
"vacant"

Real-time people counting status  
in front of elevators  
"total of 4 people are waiting"

Real-time people counting status  
in open office space  
"occupied by 4 people"





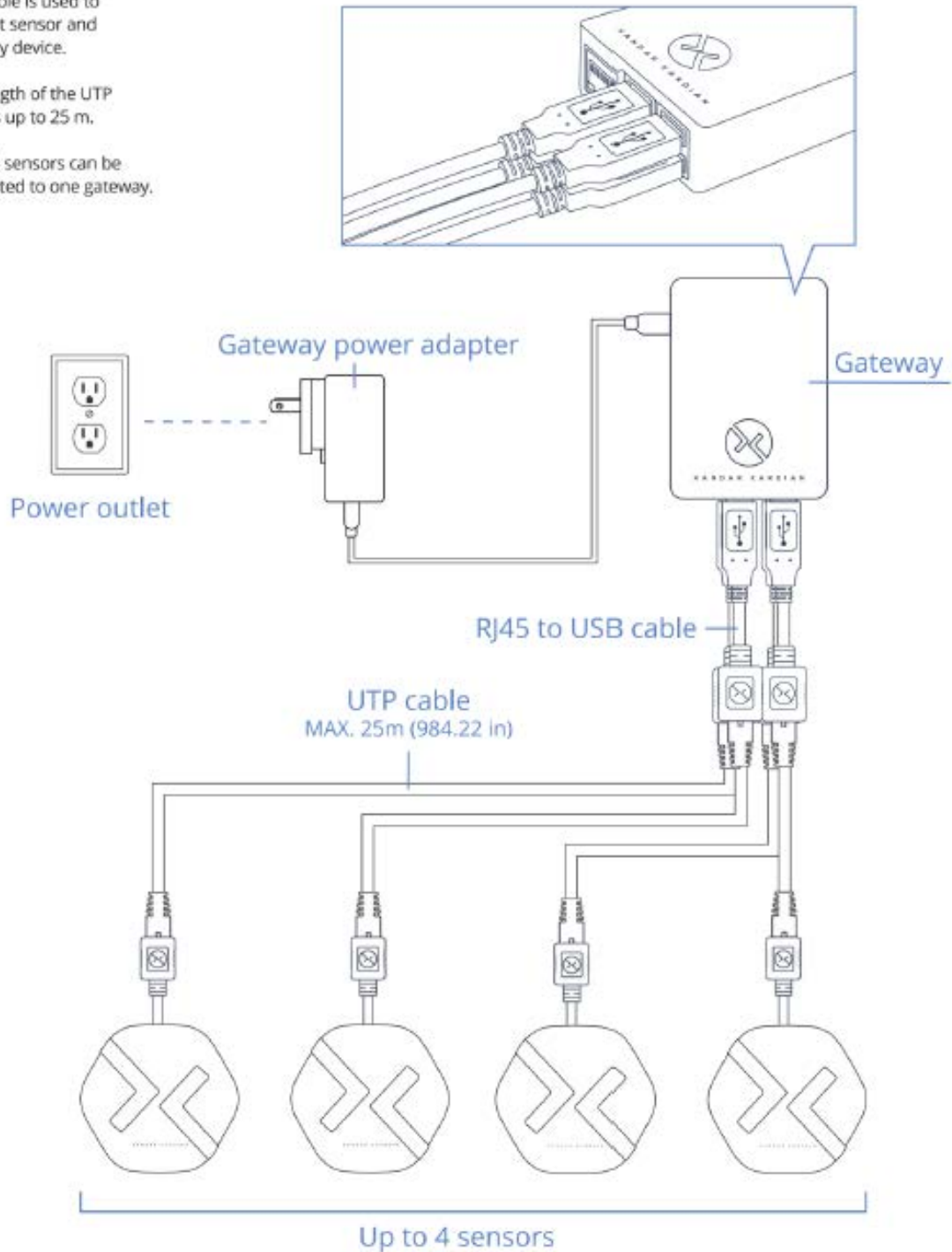
## SAMPLE SYSTEM ARCHITECTURE

Model: STAR-IO

### 4.2: OPTION 1: SENSOR AND GATEWAY

- UTP cable is used to connect sensor and gateway device.
- The length of the UTP cable is up to 25 m.
- Up to 4 sensors can be connected to one gateway.

FIGURE 4.2A: SENSORS WITH GATEWAY



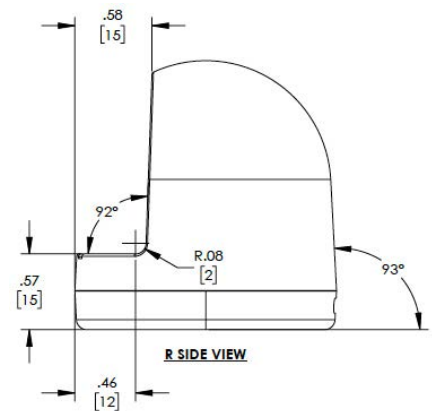
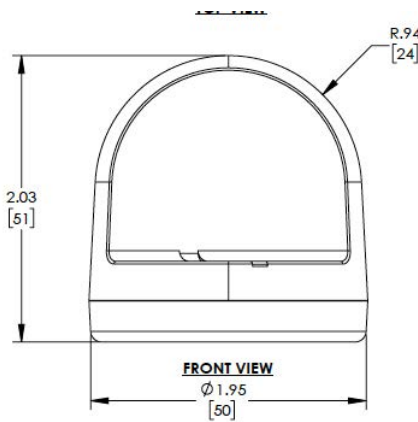
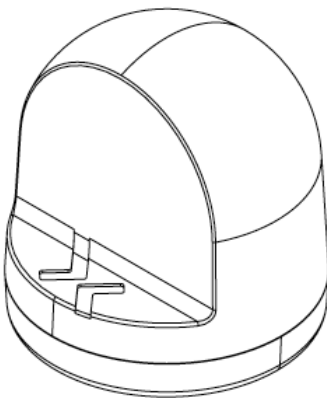
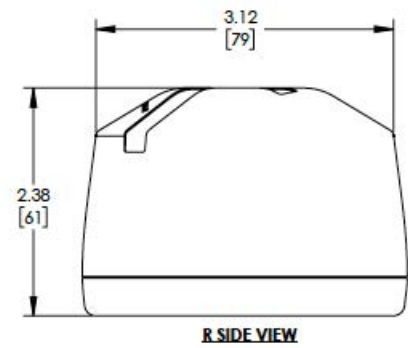
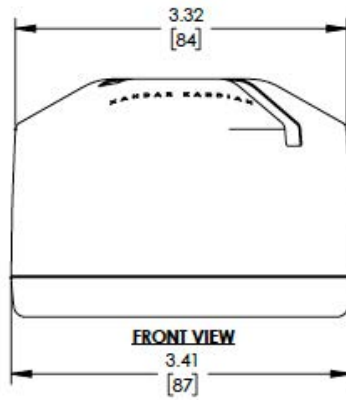




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### CONSTELLATION TECHNICAL SPECIFICATIONS

TEMPERATURE & POWER	
Operating Temperature	-40°F- 85°F
Power Consumption	700mW
Supply Voltage	3.3-5.5V
RADAR	
Frequency	From 6.5 GHz to 8 GHz
	Impulse Radio Ultra-Wideband (IR-UWB) Radar Sensor
	Based on Micro to Macro Movement in Space
Interference Avoidance Technology	Built in Staggered Pulse Repetition Frequency (Staggered PRF) Technology
Penetration	Signals can penetrate wood or thin glass, not concrete or metal
Immunity to the environmental condition	Nearly unaffected by light dust, and humid condition
DIMENSIONS	
Weight	100g Including Case
Dimensions	3 in x 3 x 2.5 in Including Case