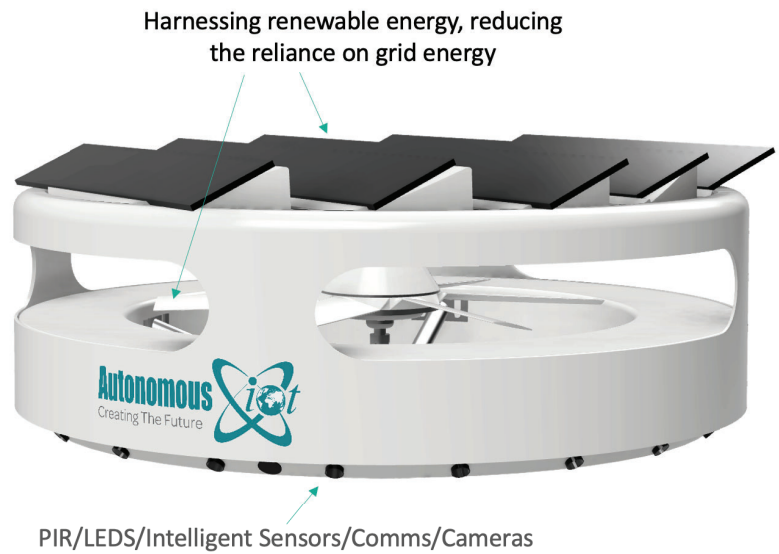


Official Partner:



An integrated technology platform providing **security, lighting, communication and sensing systems.**

- Integrated
- Multi-function
- Aesthetic
- Power assisted by solar and wind
- Emergency battery backup power
- Reduces customers' carbon footprint



1. Product Overview

The Autonomous IoT products are intelligent technology platforms harnessing renewable energy to reduce the reliance on power supplied from the grid. Our solution has a unique patented enclosure design to maximise air flow and can house multiple IOT devices.

A remotely accessible and configurable smart controller is employed to monitor and control system functions.

To reduce energy usage, motion detection can be used whereby the lights will only be on full power when required.

The product can be retrofitted to existing lighting poles or used in a green-field situation with a new pole.

Custom designed solar panels, alongside an integrated wind turbine, help recharge the battery daily, reducing energy grid usage - resulting in an energy efficient solution with power use savings.

2. General Specification (AiOt-S)

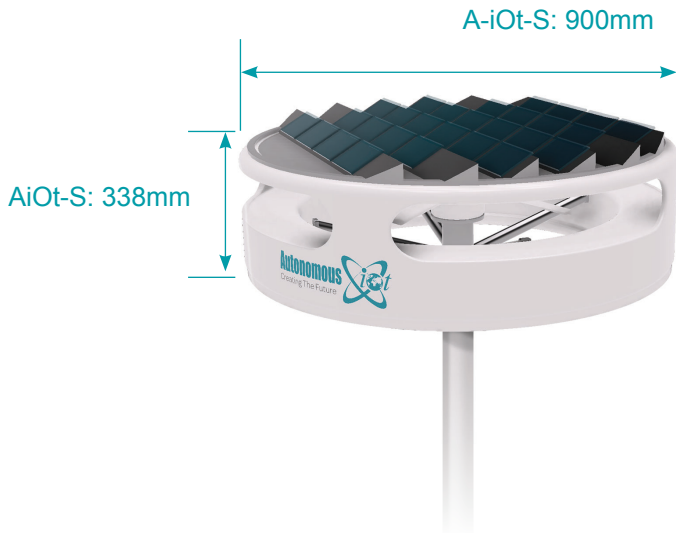
Technical Data

Dimensions (diameter/height)	S: 900 / 338mm
Operating Temperature	-10 to 55 °C
Weight	S: 27.5Kg
Generator type	12v 300watt direct drive, ironless stator permanent magnet generator
DC controller	Smart Hybrid wind / solar regulator
Power	300w (rated at 10m/s steady) Solar - S: 56W (peak) V: 96W (peak)
Device type	Grid connected depending on load
Remote Dashboard	AiOt Cloud Based Platform
Battery	840Wh Lead Crystal 12v 70Ah/LiFePO4 12v 70Ah
Pole height	6 or 8m S: Luminaire 15 LED array configuration
Lighting Luminance lum	S: 5,700 lumen
en Colour temperature	4,500K
PIR Detection	
(motion detection)	10m / 110deg Horizontal / 93deg Vertical
Optional enhancement's	Wi-Fi / 4G Router / LoRaWAN Gateway IP Camera c/w on board storage (SD Card) Video Analytics
Certification	Solar PV Battery Grid-Tie Environmental sensors EN55032, EN55035, EN5015, EN61547, EN301.489-1, EN301489-17, EN 301489-52 IP65, IK08

KEY

S: AiOt-S





3. Mode

- **AiOt-S : Standard**

Core system:

Cost saving, energy efficient, carbon reducing Intelligent Lighting with hybrid wind and solar reusable lead crystal battery backed energy.

System enhancements:

- Communication, with wireless, SIM and 5G
- Surveillance, with rapid deployment with HD CCTV
- Emergency Alert, an Early Warning Communication System
- Analytics, sensor monitoring with intelligent sensors & reporting

4. Main Component Specification

Smart Lighting

- **S:** Luminaire 15 LED array configuration
- **S:** 5,700 lumen
- 4500K light temperature
- Operating temperature -25 °C to 55 °C
- Expected lifetime of 35,040 hours

Wind Turbine

- **Generator** Permanent magnet, ironless stator, direct drive
- **Rotor** 6 blades, reinforced polyamide PAG
- **Controller** 12VDC Programable PWM
- **Noise** <28 db(A) at 25m @ 8m/s (very low)
- **Power** 300W rated power 10 m/s, steady

Solar

- **Solar Cell** n-type, monocrystalline Si, >22%Eff
- **Controller** Smart MPPT Solar Charge Controller
- **Power** S: 56W (peak)

360° CCTV

- **Image Sensor** 1/2.8 Progressive Scan CMOS
- **Min illumination** Color: 0.005 Lux @(F1.2, AGC ON)
B/W: 0.0001 Lux @(F1.2, AGC ON)
- **Lens** 2.8mm @ F2.0, horizontal FOV 104°, vertical FOV 56.8°
- **WDR** 120 dB
- **Video Compression** Mainstream H.265/H.264
- **Behaviour Analysis** Line crossing detection, intrusion detection, unattended baggage detection, object removal detection
- **On-board storage** Built-in micro SD/SDHC/SDXC slot, up to 128 GB
- Audio 1 input (line in), 1 output (line out), mono
- Alarm 1 input, 1 output (up to 24 VAC, 1A or 110 VAC,500mA)
- 1 RJ45 10M/100M Ethernet port
- 12 VDC ± 20%, 0.25 A, max. 3 W PoE: (802.3af, 36V-57V), 0.2A to 0.1A, Max: 3.5W

Battery options

(A) High Performance Lead Crystal 6-CNFJ-70

- **Rated Voltage** 12
- **Capacity in C/10:** 70Ah
- **Charging Cycle** 14.7v / Float 13.6v (25 °C)
- **Floating lifetime:** 7-12 years
- **Operating temperature** -40° to + 65° C
- **Weight/KG** 22.50
- **Dimensions** 259 X 169 X 210mm
- **Total Height** 215mm
- **Battery Life** 7-12 years

(B) (Lithium) LiFePO4

- **Nomnal Voltage** 12.8V
- **Capacity:** 70+/- 0.2Ah (At 0.2C discharge rate)
- **Discharge:** *Working Current:* ≤100A
Cut-off voltage: About 10V
- **Charge: Voltage:** 14.4+/- 0.2V
Max charging current: ≤70A
Charge mode: CC/CV using lithium charger
Charging cut-off current: Approx 700mA
- **Operating temperature:** *Charge:* 0°C to +45° C
Discharge: -20°C to +60°C
- **Storage temperature:** -20°C to +60°C
- **Discharging inner resistance:** ≤40mΩ
- **Protection function:** Overcharge & Overcharge discharge
- **Battery Life** 7-12 years
- **Material, weight and size:** ABS, 8.6+/- 0.5Kg, [259mm(L), 169mm(W), 210mm(H)]+/-2mm

Official Partner:



5. Cloud Based Management Portal - Data Monitoring & Reporting

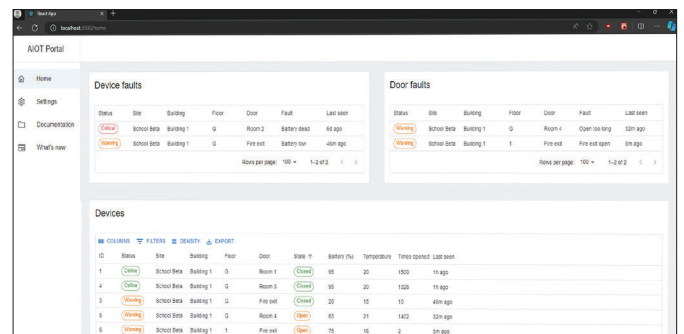
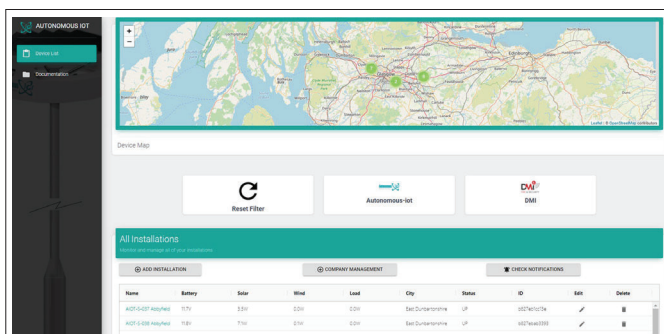


State-of-the art communications



- Energy Generated
- Off-Grid time
- CO₂ and Cost Savings
- Alerts

Sample screens



- System status, monitoring and control

- Sensor Data

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