Energous e-Sense (Preproduction samples)

The e-Sense tag completes the first fully integrated wireless-power IoT stack (transmitters, tags, and cloud). This tag brings a scalable asset intelligence, zero-maintenance operation, and sustainable infrastructure.

The Energous E-Sense ushers in a paradigm shift in Ambient IoT, this compact (4 × 5 cm), battery-free, waterproof wireless sensor is tailor-made for real-time location and temperature monitoring in retail, logistics, cold-chain, and supply-chain environments. Powered by energy harvested from Energous' over-the-air PowerBridge transmitters, the e-Sense tag delivers persistent intelligence at scale—without batteries, maintenance, or wired infrastructure

Additionally, the platform provides comprehensive asset management for Energous IoT sensors, including the eSense line. Users can register sensors, track inventory, monitor real-time and historical data, and even locate assets using a cloud-based positioning algorithm.

An intuitive user interface simplifies system setup, allowing businesses to deploy a fully functional ecosystem in minutes. With this platform, organizations can reduce operational complexity, accelerate time-to-value, and gain deeper visibility into their connected assets—all from a single, scalable cloud environment.

Full-Stack IoT Ecosystem

The e-Sense tag completes Energous' end-to-end wireless power platform. When used alongside PowerBridge transmitters and the AWS IoT-Core–backed e-Compass cloud platform, businesses gain:

- Uninterrupted asset visibility – continuous energy autonomy enables relentless reporting of environmental and locational data.
- Operational simplicity – eliminates battery swaps and wiring; tags are reusable, rugged, and waterproof in high-volume environments
- Data-driven decisions – e-Compass supports zoning, analytics, historical reporting, and regulatory compliance across enterprise-scale deployments.



Product Highlights

> Zero-maintenance, true sustainability
- The tag draws power over the air, eschewing batteries and slashing operational overhead

> Enterprise-grade design
- Rugged form, IP waterproofing, and reuse engineering make it ideal for demanding logistics, retail, and cold-chain applications

> Seamless compatibility
- Optimized exclusively for PowerBridge transmitters, the platform delivers total integration, simplified deployment, and cost efficiency compared to battery-powered alternatives

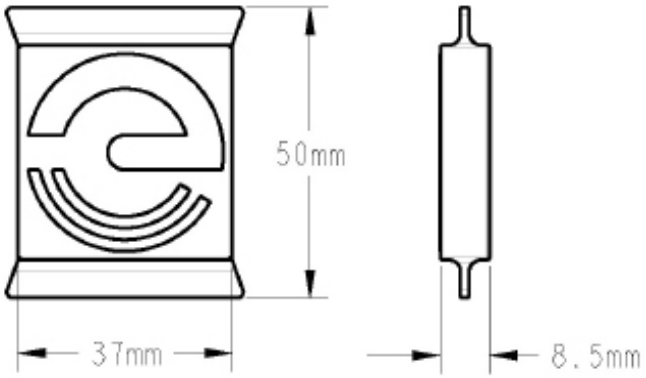
> Comprehensive IoT Sensor Management
- Optimized for Energous eSense sensors and compatible IoT devices
- Enables:
  - Sensor registration & ownership tracking
  - Real-time & historical data monitoring
  - Cloud-based location detection algorithm

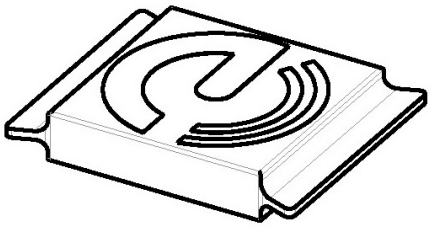
> Fast Deployment with Intuitive UX
- User-friendly interface enables ecosystem setup in just minutes
- Designed for quick onboarding, configuration, and scaling—no deep technical expertise required

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WIRELESS POWER SOLUTIONS

Energous e-Sense

Tech Data for Preproduction Samples





Preproduction Samples

Battery Free, Reliable, Durable, Reusable, Waterproof, Impact Resistant, and Patented

Feature	Specification
Power Requirement	≥ -12dBM received RF Input (≥0.065mW)
Startup Sensitivity	-14dBm (0.040 mW)
Operating Voltage	Turn on 3.2V, cutoff 2.2V, Max 4.0V
Operating Range	-40°C (-40°F) to +85°C (185°F)
Temp Sensor	±1.0°C accuracy from -40°C to 85°C
Sample Rate	24Hz internal sampling
BLE Version	Bluetooth Low Energy 5.3
BLE Security	WES-128 encryption
BLE Interval	30 Seconds (Configurable)
Power Consumption	transmit: 0.850 mW idle/sleep: 0.014mW
Data Retention	No internal buffer: 15s viewable on app
OTA Updates	Not Supported (Pre-programmed)
Mounting	Mounting Tape or Hook & Loop
Frequency	918 Mhz
Range	15’ (4.6 meters)

Energous Tag Interface



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