PATENTED EMBROIDERED SENSOR ARCHITECTURE

The sensing layer, engineered to your spec.

Applied Sensor Co embroiders pressure sensors directly into fabric: sensing pads, signal traces, and interconnects in one unified construction. You define the geometry, the firmware behavior, and the data path. We build the sensor to match, on standard industrial embroidery equipment with existing material supply chains.

US Patent 12,612,720

Multilayer embroidered sensor architecture, protected and shipping today.

Direct measurement

Pressure reports the physical presence of resident weight. It is not an inference from video, audio, or radar.

Made in Woodinville, WA

Designed and manufactured in the USA. Bench units ship in 1 to 3 business days.

Built on our open platform

Cellular, Wi-Fi, Thread, Z-Wave, Zigbee, Bluetooth, Ethernet, or another protocol. MQTT, REST, WebSocket, or custom protocols to your cloud.

BUILT TO BE MODIFIED

Every dimension of the platform is a design parameter.

This is not a fixed SKU you have to design around. Size, shape, sensing profile, firmware behavior, and commercial packaging all flex to your product. Adjusting the platform to the partner is the business model.

Size and shape

Sensing area cut to your product, from crib to king, single mats to full-bed arrays. Custom geometries run through the same embroidery process as stock units.

Sensing profile

Pad geometry, density, sensitivity, and dynamic range are all configurable, from simple on/off presence to full-bed pressure mapping.

Custom firmware

Alert logic, sampling rates, thresholds, and reporting formats tuned to your monitoring stack, with a managed update path after deployment.

Transport and protocol

Wi-Fi 2.4 GHz and Bluetooth 5 LE ship today. Other transport and connectivity options are scoped per OEM build.

Construction

100% fabric or hybrid polymer-fabric builds available, based on your thickness, durability, and cost requirements. Compatible with standard textile manufacturing lines.

Commercial model

White-label, component supply, reference design, or co-development. Your brand, your packaging, your customer relationship.

Speaks your language.

The through line is the patented sensing platform, not a proprietary stack. Off the shelf, every unit publishes over Wi-Fi and MQTT, running an ESPHome OS. If your platform runs something else, that is where the scoping conversation starts.

MQTT · REST API · ESPHome · ESP32 · Wi-Fi 2.4 GHz · Bluetooth 5 LE · Cellular · Custom scoped to your stack

REFERENCE HARDWARE

Start on stock units. Lock your spec from there.

Both reference products are on your bench in days. Validate the sensing quality against your platform first, then scope the custom build with real data in hand.

SlumberTek

UNDER-MATTRESS BED PRESENCE SENSOR

Install-once bed presence. The reference platform for bed-exit alerting and overnight pattern data.

Architecture	ESP32 · Wi-Fi 2.4 GHz · USB-C power
Coverage	Fits up to 31 in × 16.5 in · under 1 lb
Variants	Gloss Black LDPE · Low-Reflectivity DWR Fabric
Integration	MQTT · REST API · ESPHome · Wi-Fi 2.4 GHz
Retail reference	MSRP $139.99 · OEM pricing scales with volume

TrampleTek Blue

PRESSURE-SENSING SMART MAT

A durable smart mat for floors, doorways, and thresholds. Footfall, entry, and in-room activity events.

Architecture	ESP32 · Wi-Fi 2.4 GHz + Bluetooth 5 LE · USB-C
Coverage	Standard mat approx. 22.5 in × 16 in
Variants	Black · Charcoal Grey · optional BLE Wall Socket
Integration	MQTT · REST API · ESPHome · Wi-Fi 2.4 GHz
Retail reference	MSRP $99.99 · OEM pricing scales with volume

Direct measurement

Pressure reports resident weight on the surface. Integrators tell us inference-based bed-exit features trail the event by 10 to 15 minutes.

Pattern data you can use

Second-by-second presence events plus night-over-night history enable pattern detection, getting ahead of common wellness-related issues.

Fewer false alarms

Physical contact does not cry wolf. Cleaner signal in means fewer nuisance alerts out, and staff who trust the system.

FROM BENCH TO SPEC LOCK

STEP 1
Scoping call. Use case, geometry, protocol, data path, volumes.

STEP 2
Bench units ship from Woodinville in 1 to 3 business days.

STEP 3
Validate against your stack over MQTT or REST. We support directly.

STEP 4
Spec lock: size, sensing profile, firmware, and commercial terms.

30-Day Buy-Back
Test it on your bench, risk-free.

1-Year Limited Warranty
On every unit we ship.

US Patent 12,612,720
A protected platform you can build on.

Put a unit on your bench.

Tell us your platform, your protocol, and the spec you wish existed. We will have hardware moving to your team this week.

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asc.com
DESIGNED & MANUFACTURED IN WOODINVILLE, WA

ASC sensors support staff awareness and platform telemetry. They are not a medical device and do not collect medical information. US Patent 12,612,720.