Sony AS-DT1 LiDAR Depth Sensor Supports the Future of Physical AI, Robotics, Drones, and Autonomous Systems

Aegis Electronic Group highlights Sony's next-generation compact LiDAR depth sensor for advanced spatial awareness in real-world AI applications.

Carlsbad, CA - Aegis Electronic Group, Inc. is highlighting Sony Image Sensing Solutions' AS-DT1 LiDAR Depth Sensor, an ultra-compact depth sensing solution designed to support the next generation of physical AI, robotics, drones, machine vision, and autonomous systems.

As physical AI transforms industries from industrial automation to autonomous mobile robots and unmanned aerial systems, advanced sensing is becoming essential. Before machines can safely navigate, inspect, land, avoid obstacles, or interact with the real world, they need accurate, real-time spatial awareness.

Sony's AS-DT1 LiDAR Depth Sensor is designed to deliver exactly that. Combining compact industrial design with precise direct Time-of-Flight depth sensing, the AS-DT1 helps autonomous systems operate in complex, fast-changing environments where traditional sensors may struggle.

Compact LiDAR for Embedded and Autonomous Applications

The AS-DT1 measures just **29 mm x 29 mm x 31 mm** and weighs approximately **50 g**, making it suitable for embedded systems where size, weight, and ruggedness matter. Its compact aluminum alloy housing supports demanding environments such as drones, autonomous robots, inspection systems, and space-constrained industrial platforms.

Potential application areas include:

- Autonomous mobile robots and warehouse robotics
- Drone inspection, landing assistance, and collision avoidance
- Industrial automation and machine vision systems
- Robot SLAM, navigation, object detection, and terrain mapping
- Infrastructure inspection, smart city sensing, and sensor fusion systems

High-Precision dToF Depth Sensing

The AS-DT1 is built around **direct Time-of-Flight** technology, which calculates distance by measuring the time it takes for emitted light to reflect off an object and return to the

sensor. Sony's proprietary dToF ranging module uses a **SPAD sensor**, helping enable sensitive and accurate distance measurement even when reflected light is weak.

Sony lists measurement capability up to **10 meters with a margin of +/- 5 cm** and a distance resolution of **0.25 mm**. For longer-range sensing, the AS-DT1 supports measurement up to **40 meters indoors** and **20 meters outdoors** under bright conditions, with a horizontal field of view of **30 degrees or more**.

This makes the AS-DT1 relevant for difficult sensing scenarios, including low-contrast subjects, low-reflectivity objects, mixed materials, floating objects, and environments where multiple objects are positioned closely together.

Designed for Easier Integration

For OEMs, engineers, and system integrators, the AS-DT1 is designed with practical integration in mind. The sensor offers USB-C connectivity with Power over USB functionality and can support daisy-chain connections of up to four modules to expand coverage. It can output point cloud, histogram, and intensity data for application development.

Sony also lists SDK and source-code support for development environments including Linux ARM32, Linux ARM64, Linux x64, Windows 11, OpenCV, and ROS2, making the AS-DT1 adaptable to a wide range of robotics, embedded AI, and automation platforms.

Supporting the Growth of Physical AI

Physical AI depends on machines being able to perceive and understand real-world environments. Cameras provide critical visual intelligence, while LiDAR adds accurate depth and spatial data. Together, these sensing technologies can help autonomous systems become safer, smarter, and more capable.

In drone applications, LiDAR can support 3D mapping, altitude awareness, automatic landing, and obstacle detection. In robotics, LiDAR can support navigation, collision avoidance, object identification, terrain mapping, and SLAM, allowing robots to operate more confidently in complex industrial environments.

Sony's AS-DT1 represents an important step toward smaller, lighter, and more precise depth sensing for physical AI systems in robotics, drones, inspection, logistics, automation, and intelligent infrastructure.

Aegis Electronic Group and Sony Image Sensing Solutions

Aegis Electronic Group supplies advanced imaging and sensing technologies for machine vision, robotics, drones, AI, industrial automation, inspection, medical imaging, intelligent traffic, security, surveillance, and embedded vision applications.

As demand grows for compact, high-performance sensing solutions, Aegis continues to support engineers, OEMs, resellers, and system designers with access to leading-edge cameras, sensors, interfaces, lenses, and integration technologies.

Contact Aegis Electronic Group to learn more about the Sony AS-DT1 LiDAR Depth Sensor and how compact LiDAR sensing can support your next robotics, drone, or AI-powered automation project.

Suggested SEO Page Title

Sony AS-DT1 LiDAR Depth Sensor for Physical AI, Robotics & Drones

Suggested Meta Description

Sony AS-DT1 LiDAR Depth Sensor delivers compact dToF depth sensing for physical AI, robotics, drones, SLAM, collision avoidance, and autonomous systems.

Suggested URL Key

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