

Revolutionizing Conveyor

emsProductFocus24-ALTOSConveyor

Revolutionizing Conveyor Monitoring – See, Decide, Act Automatically

Traditional conveyor monitoring relies on cameras or manual checks – slow, weather-dependent, and prone to missing subtle issues like belt drift, overloads, or people too close. Downtime, damage, and safety risks pile up fast.



The Problems:

- **Blind spots in real time:** Can't reliably detect high/no load, belt tracking issues, vibration, or human proximity.
- **Slow response:** By the time a problem is spotted, damage or shutdowns are already happening.
- **Inefficient fixes:** Reactive maintenance costs more and disrupts production.
- **Limited integration:** Hard to tie alerts into existing systems or trigger immediate actions.

EMS + Opsys LiDAR & FlashEye Analytics – The Smart Upgrade Opsys LiDAR sensors scan lightning-fast (1000x per second across the full FOV), delivering high SNR and exceptional detection – even for low-reflectivity targets at long range. Paired with **FlashEye Analytics** onboard, the system “sees” the real-world moment by moment and makes autonomous decisions against predefined rules – no constant human oversight needed.

Introducing AltosConveyor – Automated Conveyor Intelligence AltosConveyor uses Opsys LiDAR + FlashEye to monitor belts continuously and react instantly for reliability, efficiency, and cost savings through preventative action.

What It Monitors & Detects:

- **High Load:** Spots overloads before damage or spillage occurs.
- **No Load:** Flags empty belts to optimize energy and prevent unnecessary wear.
- **Conveyor Tracking:** Detects belt drift or misalignment early – stops tears or derailments.
- **Human Proximity Detection:** Safety-critical – alerts or stops if people get too close to moving parts.
- **Vibration Analysis:** Catches unusual vibrations that signal bearing wear, misalignment, or other issues.

How It Works (Fast, Autonomous & Integrated):

- **Lightning-fast LiDAR scanning:** Builds detailed point clouds in real time – sees everything clearly, day/night, dust, or low light.
- **FlashEye Analytics onboard:** Analyses data instantly – compares against normal “median” behaviour and decides actions moment by moment.
- **Preventative reactions:** Flags problems early → triggers alerts, shutdowns, or adjustments before issues escalate.
- **Output options:**
 - MQTT or ONVIF-M to Milestone, SCADA, or other systems.
 - Local Conveyor Analyzer Pack: Packs data, provides termination point + display for on-site viewing.
- **Alarms & Actions via CAP (Conveyor Analyzer Pack):**
 - 4-color visual alerts (e.g., green = normal, yellow = warning, red = critical).
 - 3 siren outputs through horn speakers for audible warnings.
 - Optional conveyor shutdown relay – stops belt safely if needed.



Why This Saves Money & Boosts Operations:

- **Greater reliability:** Catches issues before they cause breakdowns or safety incidents.
- **Improved efficiency:** Optimizes load, reduces idle time, extends belt/component life.
- **Preventative savings:** Early detection = less downtime, fewer repairs, lower emergency costs.
- **Hands-free 24/7:** Autonomous decisions + integration mean less manual monitoring.
- **Tough & adaptable:** Opsys LiDAR excels in harsh mining environments – high POD, long range, weather-proof.

Stop reacting to conveyor problems – start preventing them with intelligent, real-time LiDAR monitoring that sees further, decides faster, and acts smarter.

Ready to bring AltosConveyor to your belts and slash unplanned downtime?

Contact EMS today to learn more about Opsys LiDAR, FlashEye Analytics, and AltosConveyor – and transform your material handling into proactive, efficient, and safer operations.

See everything. Decide instantly. Save big. 🇮🇹 🇸🇪

ALTOS - Opsys' Industrial LiDAR Sensor

Altos Industrial LiDAR Sensor is a point-to-point LiDAR without any moving parts based on fully addressable 2D VCSELs and a single chip SPAD detector. Opsys' patented Beamforming Technology allows only 1cm pixels to point scanning without any degradation across the entire field of view (FOV). The FOV and range resolution of the sensor are defined by the optics only. This modular approach makes the system very scalable and cost efficient. It can be supplied with different FTS and angular resolutions to match each use case.

Technical Data	ALTOS 200	ALTOS 400	ALTOS 700
Technology	40 psm solid state, 2D VCSEL without moving parts		
Wavelength	905nm or 1550nm		
Laser classification	Class II (Eye Safe) Eye Data EN 60825-1		
Field of view (FOV) (°)	10° x 0.5°	40° x 1°	40° x 1°
Range (top world) (m) collection and measurement range	200m	400m	700m
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Maximum resolution (mm)	20mm	40mm	70mm
Minimum range	0.5m		
Range measurement precision	±10 cm (0.5m - 200m)	±10 cm (0.5m - 400m)	±10 cm (0.5m - 700m)
Range measurement precision	±10 cm	±10 cm	±10 cm
Angular resolution (horizontal) (°)	0.5°	0.25°	0.25°
Number of measurable points	0	0	0
Frame rate	up to 1000		
Points per second (pps) measured	30,000 pps/cm²		
Operational Conditions	Temperature: -40°C to +85°C Power consumption: Typ. 5W to max. 10W Operating temperature: -40°C to +85°C Storage temperature: -40°C to +85°C Humidity protection: IP67		
Interface	USB (optional) Ethernet: 1000Base-T Modbus (optional) Modbus (optional)		
Output	Power (Watt) 10 W (1000Watt) (optional)		
AltosConveyor is a modular system that can be scaled to fit your needs. It is designed to be installed in a variety of environments and can be used for a wide range of applications.			

No moving parts
 Fast scanning
 High-resolution

Infinitely scalable
 Compact
 Low power consumption

Extremely reliable
 Cost-saving
 Semiconductor-based

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