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Identification Components
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Technology Fact Sheet

3D MLI Sensor™

The IEE 3D Modulated Light Intensity (MLI) sensor is a vision application that collects real-time distance images of objects by means of infrared reflection.

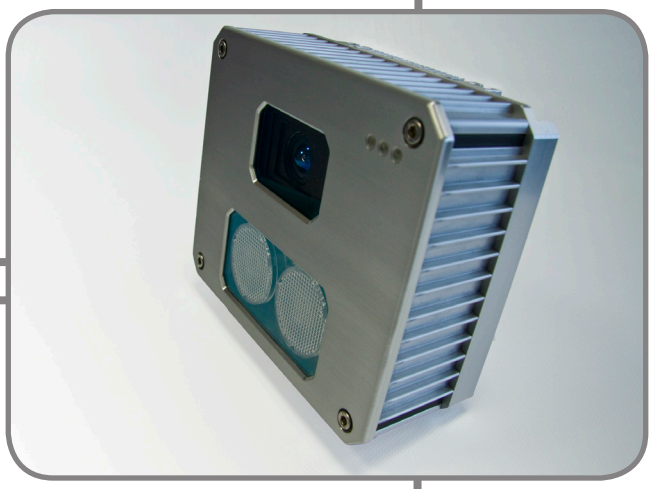
Key Features

The sensor does not require two cameras or specific processing to generate 3D imaging

- The 3D technology offers reliable data output even in challenging light or temperature conditions
- Data is processed by an embedded algorithm
- The sensor has a self-diagnosis system and performs semi-automatic calibration

Measurement Principles

- An active, non-scanning light source emits amplitude modulated near infrared light (NIR)
- The sensor measures the phase difference between the emitted and reflected light



Hardware Characteristics

Silicon process	CMOS with CCD
Pixel resolution	61 x 56
Field of view	130° x 100° or 90° x 60°
Imager lens	Optimized to the requirements of 3D sensing
Housing dimensions (W x D x H)	180 mm x 150 mm x 108 mm
Illumination type	LED with optimized diffuser
Frame rate	Up to 10 Hz depending on application
Ambient light	0 to full sunlight
Non ambiguity	7.5 m @ 20 MHz modulation
Distance accuracy	+/- 2 cm @ 1.5 m @ 20 MHz modulation frequency
Operating temperature	-20°C to +50°C full operation, storage up to 110°C
Supply voltage	24 V DC +/- 15 %

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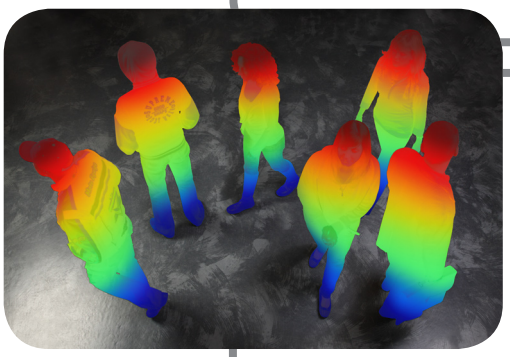
Software Characteristics

Network Protocols	Standard	Advanced
Ethernet addressing	Fixed IP address	Fixed & dynamic IP address via DHCP
Web interface	HTTP web server	HTTPS web server
Command line interface	n/a	SSH
Time synchronization	SNTP	SNTP
Networked device management	n/a	SNMP
Standardized networked control interface	n/a	XML-RPC on HTTP
Point-to-point communication interface	RS232 (ded. ASCII command lang.)	RS232 (ded. ASCII command language)
Device configuration	Web interface/RS232	Web interface/RS232/XML-RPC/SSH
Firmware updates	Dedicated Windows-SW via Ethernet	Dedicated Windows-SW via Ethernet
Data Logging	**Standard**	**Advanced**
Access to current status	Web interface/RS232/XML-RPC/SSH	Web interface/RS232/XML-RPC/SSH
Access to 48h status history (counters and events)	n/a	Web interface/RS232/XML-RPC/SSH



Applications

The innovative 3D MLI Sensor™ offers a variety of applications for increased security, automation and marketing intelligence:

- People counting, single person detection and child detection for commercial and public infrastructure such as airports and banks
- Luggage classification for airports and public transportation
- Patient surveillance for medical environments
- Pedestrian detection at traffic lights to optimize signal change
- Parcel and object detection for industrial automation
- Vehicle occupant classification for smart airbag technology

About Us

IEE is an innovative developer of specialized sensing systems. Our sensing technologies are dedicated to the following markets: Transport & Automation, Public & Commercial Infrastructure, Consumer Electronics, Automation & Logistics and Medical & Healthcare.

IEE was founded in 1989 and is headquartered in Luxembourg. We operate in Europe, the US and Asia, and employ 1,200 people worldwide. 20 % of our workforce is engaged in Research & Development.

For more information, please visit www.iee.lu.

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