



AI for person detection and collision avoidance

Fully integrated 2D/3D camera that is suitable for mobile use

- Reliable person and obstacle detection, optimised for off-highway applications
- Integrated person and object detection, based on ifm deep learning
- 2D/3D sensor fusion and plausibility check to avoid false alarms
- Robust functionality even in bright sunlight or twilight

ifm – close to you!



Deep learning at the highest level – made by ifm

With mobile machines that are difficult to manoeuvre, reliable person detection is essential. The first AI-supported 2D/3D camera with PMD technology worldwide, designed specifically for mobile machines, combines excellent person detection with proven PMD 3D technology for obstacle detection. By fusing 2D and 3D sensors with a powerful AI processor, this solution delivers unrivalled detection performance. It functions as a fully embedded system.

AI-supported person detection for real-time safety

The intelligent camera reliably distinguishes between persons and other obstacles, giving the driver graduated warning signals in the event of danger. Warnings are only generated if there is a risk of a potentially dangerous collision with persons or obstacles. Unnecessary alarms are avoided so as not to needlessly distract the driver.

The integrated obstacle detection works completely autonomously, without any additional hardware. The system monitors itself for tampering or malfunctioning, such as soiling of the front pane or voltage drops. Besides, a live video stream is transmitted via Fast Ethernet, optionally in H.264, H.265 or MJPEG format.

Perfect for robust operating conditions

Designed to withstand the rigours of mobile machine applications, the camera is built to last. With its die-cast aluminium housing, hardened front pane, IP67/IP69K protection rating and excellent vibration and shock resistance, it guarantees maximum reliability, even in extreme conditions.

Customisable – your individual logic, integrated in the camera

The O3M AI camera allows users to run their own logic and complex mathematical functions directly on the camera, with the results being transferred to the machine controller via the available interfaces. What is more, customised overlays can be created and displayed in the video stream on an event-driven basis. Adjustments can be made easily using the drag-and-drop interface of the Vision Assistant parameter setting software.

Description	Order no.
O3M AI 2D/3D camera with AI person detection	O3M372
IR illumination unit	O3M970

Technical data		
Person detection		up to 25 m, ifm deep learning integrated, can be updated
Interface		1x CAN (CANopen, SAE J1939) 1x Fast Ethernet (UDP, RTP, RTSP, H.264, H.265, MJPEG)
Analogue and digital inputs/outputs		optional IO module ZZ1102
Maximum latency	[ms]	60
Protection rating		IP67, IP69K
Approval		E1, type approval according to the UN ECE R10 regulation is being sought
2D camera		
Resolution	[Pixel]	1280 x 960 (1.3 MP)
FOV horizontal x vertical	[°]	143 x 112
Sensor type		CMOS (HDR)
3D camera		
FOV horizontal x vertical	[°]	97 x 44
Sensor type		PMD time-of-flight

BEST FRIENDS

We reserve the right to make technical alterations without prior notice. · 04.2025
ifm electronic gmbh · Friedrichstr. 1 · 45128 Essen



Graphic display
Programmable with CANopen and Ethernet



Pushbutton module
With rotary knob, buttons and joystick function



ecomatController
Powerful PLC with Safety support



For further technical details, please visit:
ifm.com/fs/O3M372