

Uniting all senses

Versatile perception platform

- Central processing of image and sensor information
- Synchronisation of several cameras for 360° coverage
- Standardised SDKs for Docker architecture as well as Python, C++, CUDA and ROS
- Latest time-of-flight imager with high extraneous light stability



ToF

ifm – close to you!

Video Processing Unit (VPU)			
Description	**Supported camera heads**	**Platform**	**Order no.**
connection for up to 4 cameras	O3R335	NVIDIA® Jetson Orin NX 8 GB	**OVP930**
connection for up to 6 cameras	O3R222, O3R225, O3R252	NVIDIA® Jetson TX2 NX	**OVP810**

Camera heads					
Operating range [m]	**3D resolution [pixel]**	**2D resolution [pixel]**	**3D angle of opening [°]**	**Dimensions [mm]**	**Order no.**
4	38 K	1 M	60 x 45	90 x 31 x 26	**O3R222**
4	38 K	1 M	105 x 78	90 x 31 x 26	**O3R225**
4	307.2 K (VGA)	1 M	64 x 50	90 x 31 x 26	**O3R252**
6	39 K	4.8 M	105 x 78	90 x 31 x 26	**O3R335**

OVP930 and OVP810 are not technically compatible with each other.

Integrated and upgradeable vision system

The O3R platform is the comprehensive solution for centralised, synchronised processing of image and sensor information in autonomous mobile robots such as automated guided vehicles. The simplified integration and reliable interaction of cameras and sensors enables the robust implementation of relevant functions such as collision avoidance, navigation and positioning.

In addition, analysis and dimensioning of stationary objects can be implemented, and is handled more effectively by means of several cameras. Examples include the measurement of pallets, logs, packages or suitcases.

Powerful and open

The core of the system is a powerful computing unit called Video Processing Unit (VPU). Based on a Yocto-Linux and Docker architecture, open development environments such as Python, C++, CUDA and ROS are supported. The VPU analyses information from up to six camera heads as well as sensor information via the Gigabit Ethernet interface. All relevant "senses" that an AGV needs for safe autonomous navigation are thus available at a central point.

Camera head with imager developed in-house

ifm also offers suitable, high-performance camera heads as part of the platform solution: the 2D/3D cameras have an angle of aperture of either 60 or 105 degrees and are equipped with the latest time-of-flight imager from pmdtechnologies ag. This company of the ifm group of companies develops all sensors for the vision products of the automation specialist and adapts them precisely to the respective requirements.

Thanks to the modulated infrared light, the 2D/3D camera detects objects with maximum reliability even with increased exposure to ambient light.

BEST FRIENDS



Graphic display
Programmable HMI for the control of mobile machines



Multiturn encoders
Precise detection of positions and rotational movement



ecomatController
Powerful 32-bit controllers reliably control AGVs

For further technical details, please visit: ifm.com/fs/OVP930

We reserve the right to make technical alterations without prior notice. · 11.2026
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