

## Description

The M8 Fish Eye Lens gives your OpenMV AE3 the ability to see with nearly a fish-eye field of view. The standard lens has about a 70-degree FOV which is good, but not great for security applications. This lens has about a 120-degree FOV, so your OpenMV AE3 can see much more. The fish-eye barrel distortion can be corrected in software using OpenMV's lens correction algorithms. The lens comes with damping grease; gluing is recommended for vibration environments. Available with or without a 650 nm IR cut filter.



## Target Areas

Wide-area surveillance, panoramic monitoring, robotics, drone navigation, indoor mapping, 360-degree coverage.

## Key Features

- **120-degree FOV** — Approximately 120-degree diagonal FOV (108.1°H x 82.3°V with PAG7936). 0.44x optical zoom. Widest in M8 lineup.
- **Software distortion correction** — -18% TV distortion correctable via OpenMV's lens undistortion algorithms.
- **VGA resolution** — Optimized for VGA-class sensor resolution.
- **M8 x P0.35 mount** — Standard M8 threaded mount for OpenMV AE3 and PAG7936 dual-camera modules.
- **IR cut filter option** — Available with 650 nm IR cut filter or without for night vision use.
- **3D model available** — STEP file available on GrabCAD for mechanical integration.

## Applications

The M8 Fish Eye Lens is great for security applications where you want to see nearly a fish-eye field of view. By using this lens, your OpenMV AE3 can easily detect things to the left and right of what the camera is looking at.

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# 1 Specifications

## 1.1 Optical Specifications

Component	Details
Model	M8-1038-S1
Mount	M8 x P0.35 threaded
F-Number	F2.2
Effective Focal Length	1.38 mm
Mechanical Back Focus	1.73 mm
Total Track Length	9.9 mm
Image Circle	Ø5.3 mm
Image Format	1/4"
Resolution	VGA
Size	Ø12.5 x 7.9 mm
Construction	2G2P + IR (2 glass, 2 plastic elements plus IR filter)
Focus / Iris / Zoom	Manual focus, fixed iris, fixed zoom
IR Coating Filter	650 nm (variant with IR cut filter)
Min. Object Distance	10 cm

## 1.2 Field of View (1/4" format)

Component	Details
Diagonal	142°
Horizontal	129°
Vertical	83°
TV Distortion	-18%
Relative Illumination	>48%
Chief Ray Angle	<28°

*All specifications ±5% tolerance.*

### 1.3 Actual FOV with PAG7936 Sensor

Component	Details
Diagonal	117.3°
Horizontal	108.1°
Vertical	82.3°
Optical Zoom	0.44x

### 1.4 Compatibility

Component	Details
Supported Cameras	OpenMV AE3, dual-camera modules using PAG7936 sensors.
Installation	Includes damping grease. Gluing recommended for vibration environments. M8 lock ring solution in development.

## 2 General Info

Dimension	Value
Length	12 mm
Width	12 mm
Height	8 mm
Weight	0.5 g
Operating Temperature	-20°C to +60°C
Storage Temperature	-20°C to +60°C
Country of Origin	China
HS Code	8473.30.2000
UPC	608275911252, 608275911245
SKU	IR-M8-Fish-Eye-Lens, M8-Fish-Eye-Lens
ECCN	EAR99

### 3 Company Information

Field	Details
Website	<a href="https://openmv.io">https://openmv.io</a>
Documentation	<a href="https://docs.openmv.io">https://docs.openmv.io</a>
Support	<a href="https://forums.openmv.io">https://forums.openmv.io</a>

### 4 Reference Documentation

Reference	Link / Document
Product Page	<a href="https://openmv.io/products/m8-fish-eye-lens">https://openmv.io/products/m8-fish-eye-lens</a>
3D Model (STEP)	<a href="https://grabcad.com/library/m8-fish-eye-lens-1">https://grabcad.com/library/m8-fish-eye-lens-1</a>

### 5 Revision History

Date	Revision	Changes
2026-04-04	Rev 1	Initial public release.