Technical Specification Sheet - M12 Fisheye Lens for reCamera 2002

1. Product Identification and Overview

Product Name:

M12 Fisheye Lens for reCamera 2002 - 5MP, 160°

SKU：100095034

General Description：

This is a high-resolution, 5-megapixel (5MP) wide-angle lens featuring a 1.8mm focal length. Engineered for precision imaging, the lens incorporates IR correction (Day/Night confocal) to ensure focus stability across both visible and infrared spectrums. It is optimized for applications requiring a broad field of view, such as security surveillance, robotics, and wide-angle machine vision.

Component Visual：

The unit is a compact, black-finished lens assembly with a rugged aluminum alloy barrel and standard M12 thread. It is identified by its prominent convex front glass element, designed for ultra-wide light collection.



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2. Optical Specifications

The following table details the core optical performance parameters for the 100095034.

Optical Performance Parameters

Parameter	Specification
Focal Length	1.8mm
Aperture (D/f')	F1:1.8
Resolution	5MP
Image Circle	Φ6.7mm (1/2.7")
Optical Distortion	53% @1/2.7"
Relative Illumination	83%
Chief Ray Angle (CRA)	14°
Pixel Size	2μm
Lens Structure	6G (6 Glass elements)
IR Correction	Yes (Day/Night Confocal)
Back Focal Length (BFL)	5.471mm
Effective Focal Length (EFL)	4.75mm

MTF Requirements

- Through Focus MTF: The peak of all fields must remain within ±0.02mm to maintain optimal focus across the entire sensor area.

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3. Field of View (FOV) Matrix

Field angles are dependent on the sensor format utilized. Data for 1/3" sensors is derived from the primary design specifications of the 1/2.7" image circle.

Sensor Format	Diagonal (D)	Horizontal (H)	Vertical (V)
1/2.5" Sensor	185°	161°	99°
1/2.7" Sensor	166°	143°	85°

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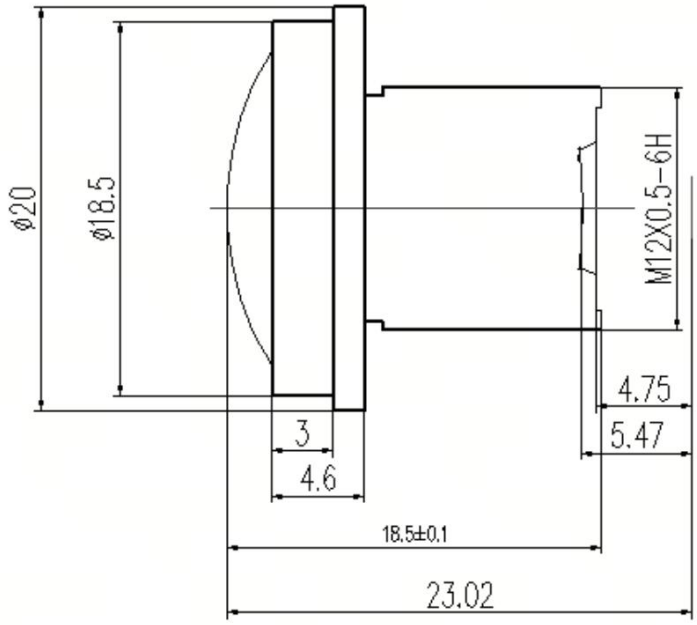
4. Mechanical and Physical Specifications

Mechanical Properties

- Mount: M12 × 0.5
- Weight: 7g
- Minimum Object Distance (M.O.D.): 0.2m
- Dimensions: Φ20mm × 18.5mm
- Structure Length (SL): 18.5mm
- Total Track Length (TTL): 23.02mm
- Mechanical Material: Aluminum Alloy A6061

Manufacturing Tolerances

- Size Tolerances: Φ±0.1mm, L±0.3mm
- Angle Tolerance:



±2

Filter Recommendations

- Circular Filter: φ9.98mm
- Square Filter: 7mm x 7mm

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5. Operation and Environmental Limits

Operation Modes

- Zoom: Fixed
- Focus: Manual
- Iris: Fixed

Temperature Ranges

- Operating Temperature: -20℃ to +85℃
- Storage Temperature: -20℃ to +85℃

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6. Regulatory Compliance

Fully compliant with RoHS (HSF) standards for hazardous substance restriction.