

# TECHSPEC® f/1.9, 6mm Focal Length Green Series M12 Lens



6mm Focal Length

Stock #87-231 **20+ In Stock**

1 **£70<sup>.00</sup>**

**ADD TO CART**

Volume Pricing	
Qty 1-49	£70.00 each
Qty 50+	£56.00 each
Need More?	<a href="#">Request Quote</a>

Prices shown are exclusive of VAT/local taxes

Product Downloads	
STEP:step	PDF Drawing:pdf
IGES:igs	Zemax
eDrawing:eprt	
EO Spec Sheet	

## General

<b>Product Family:</b> Green Series	<b>Type:</b> M12 Imaging Lens
<b>IR Cut Filter:</b> No	<b>Imaging Lens Type:</b> Standard Lens

## Physical & Mechanical Properties

<b>Iris Option:</b> Fixed	<b>Length (mm):</b> 11.70
<b>Maximum Diameter (mm):</b> 14	<b>Outer Diameter (mm):</b> 14
<b>Weight (g):</b> 3	

## Optical Properties

<b>Horizontal Field of View @ Max Sensor Format:</b> 129.8mm - 46.2°	<b>Field of View at Max Sensor Format:</b> Horizontal: 129.8mm - 46° Vertical: 95.2mm - 34.6° Diagonal: 168.5mm - 57.7°
<b>Horizontal Field of View, 1/3" Sensor:</b> 129.8mm - 46.2°	<b>Horizontal Field of View, 1/4" Sensor:</b> 95.1mm - 34.7°
<b>Resolution:</b> 80 lp/mm @ 20% Contrast	<b>Maximum Image Circle (mm):</b> 6.00
<b>Numerical Aperture NA, Object Side:</b> 0.0100	<b>Number of Elements (Groups):</b> 5(5)
<b>Wavelength Range (nm):</b> 400 - 700	<b>Focal Length FL (mm):</b> 6.00
<b>Working Distance (mm):</b> 150 - ∞	<b>Aperture (f/#):</b> f/1.9

<b>Distortion (%)</b> : -8.27 @ Full Field	<b>Back Focal Length BFL (mm)</b> : 4.0 - 3.9
<b>Coating Specification</b> : $\lambda/4$ MgF <sub>2</sub> @ 580nm	<b>Entrance Pupil Position (mm)</b> : 3.99
<b>Object Space Principal Plane (mm)</b> : 6.38	<b>Image Space Principal Plane (mm)</b> : -1.43
<b>Maximum Distortion (%)</b> : -8.27	<b>Exit Pupil Position (mm)</b> : -5.43
<b>Lens Wavelength Range</b> : VIS	

## Sensor

<b>Maximum Sensor Format</b> : 1/3"	<b>Pixel Size (<math>\mu\text{m}</math>)</b> : 8.30
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## Threading & Mounting

<b>Filter Thread</b> : N/A	<b>Mounting Threads</b> : M12 x 0.5
<b>Mount</b> : S-Mount (M12 x 0.5)	

## Regulatory Compliance

<b>RoHS 2015</b> : <a href="#">Compliant</a>	<b>Certificate of Conformance</b> : <a href="#">View</a>
<b>REACH 241</b> : <a href="#">Compliant</a>	

## Product Details

- Up to 1/2", S-Mount Lens
- Up to 0.4 MegaPixels, 8.3 $\mu\text{m}$  Pixel Size Sensors
- Board Camera Lens Optimized for Close WD and Finite Conjugate
- 6mm to 25mm Focal Lengths

TECHSPEC® Green Series M12 Lenses designed for use in compact and board level cameras provide excellent image quality in a small, versatile package. Optimized to cover 1/3" and 1/2" sensor formats and weighing only a few grams, these machine vision lenses meet the most demanding space and weight restrictions. Each lens is threaded for M12 x 0.5, except the 25.0mm focal length option ([#54-855](#)). TECHSPEC® Green Series M12 Lenses are ideal for wide angle and close focus applications, large area inspect for the automotive, forensic, pharmaceutical, and food industries. Prescription data is available by submitting a [Request for Prescription Form](#).

**Note:** Compatible [TECHSPEC M12 Imaging Lens Accessories](#) available.

Edmund Optics has created multiple product families of our TECHSPEC® M12 S-Mount Lenses, which are designed to provide high resolution. These high performance lenses feature precision glass designs in a metal housing and have optimized specifications between each product family to meet your application needs.

- **Blue Series M12 Lenses**: High resolution finite conjugate designs optimized for machine vision working distances.
- **Rugged Blue Series M12 Lenses**: [Stabilized ruggedization](#) versions of our Blue Series M12 Lenses, utilizing the same optics.
- Green Series M12 Lenses: Finite conjugate designs optimized for machine vision working distances.
- **Red Series M12 Lenses**: Infinite conjugate designs optimized for high resolution performance out to infinity.
- **HEO Series M12 Lenses**: Harsh Environment Optics (HEO) sealed versions of our Red Series M12 Lenses.
- **Liquid Lens M12 Lenses**: Integrated liquid lens for fast electronic focus.

## Technical Information

*#87-231, f/1.9, 6mm Focal Length Green Series M12 Lens, Distortion Plot*

*#87-231, f/1.9, 6mm Focal Length Green Series M12 Lens, Relative Illumination Plot*

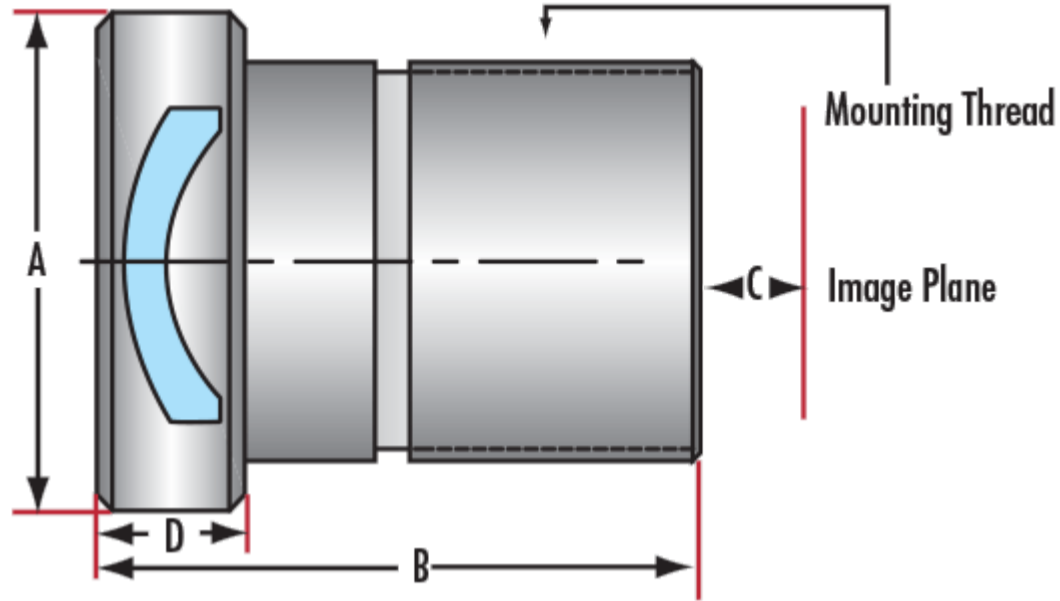
*#87-231, f/1.9, 6mm Focal Length Green Series M12 Lens, Working Distance versus Field of View Plot*

*#87-231, f/1.9, 6mm Focal Length Green Series M12 Lens, Modulated Transfer Function (MTF) Plot, 150mm Working Distance, f1.9*

*#87-231, f/1.9, 6mm Focal Length Green Series M12 Lens, Depth of Field Plot, 150mm Working Distance, f1.9*

*#87-231, f/1.9, 6mm Focal Length Green Series M12 Lens, Modulated Transfer Function (MTF) Plot, 250mm Working Distance, f1.9*

Focal Length	A	B	C**	D	Mounting Thread
6.00	14.0	11.70	4.0 - 3.9	3.5	M12 x 0.5
8.00	14.0	20.40	8.9 - 8.7	6.0	M12 x 0.5
12.00	16.0	19.50	7.1 - 6.75	6.0	M12 x 0.5
25.00	18.0	24.40	12.6 - 11.9	9.0	M16 x 0.5



\*\*Minor adjustment required to match WD limits.

## Accessories

**Note:** Compatible accessories for individual stock numbers may vary. If unsure about which accessories work with your products, please contact us [here](#).

	Title	Compare	Stock Number	Price	Buy
<b>MORE+</b>	C-Mount to M12 Lens Adapter		#53-675	£26.20 <a href="#">Request Quote</a>	20+ In Stock <input type="text" value="1"/>
<b>MORE+</b>	C-Mount to M12 Lens Adapter w/Oring		#59-241	£37.40 <a href="#">Request Quote</a>	3 In Stock <input type="text" value="1"/>
<b>MORE+</b>	M12 Lock Nut		#64-102	£13.20 <a href="#">Request Quote</a>	20+ In Stock <input type="text" value="1"/>
<b>MORE+</b>	M12 Lens Holder for Camera Boards		#66-382	£10.00 <a href="#">Request Quote</a>	20+ In Stock <input type="text" value="1"/>
<b>MORE+</b>	M12 Lock Nut, 10 Pack		#16-788	£92.80 <a href="#">Request Quote</a>	20+ In Stock <input type="text" value="1"/>

## Related Products



#57-909 - 6.4mm FL, Red Series M12 Lens  
£80.00



#63-759 - f/2.5, Visible, 8.0mm HEO Series M12 Lens  
£128.00

## Frequently Purchased Together



#32-006 - 12.0mm Dia. x 18.0mm FL  
Uncoated, Plano-Convex Lens  
**£27.20**

Qty 



#43-452 - 50mm Square, 0° AOI,  
Hot Mirror  
**£50.80**

Qty 



#46-650 - 19 x 19mm, 4-6λ Mirror  
**£17.00**

Qty 



#46-716 - 16 x 23mm UV Enhanced  
Aluminum, λ/4 Mirror  
**£53.60**

Qty 

## Resources

### Media Type

- Application Note
- Video
- Published Article
- FAQ
- Glossary
- Technical Tool

 APPLICATION NOTE

### Anti-Reflection (AR) Coatings

 APPLICATION NOTE

### An Introduction to Optical Coatings

 VIDEO

### Wavelength and f#

 APPLICATION NOTE

### Understanding Focal Length and Field of View

 APPLICATION NOTE

### Introduction to Modulation Transfer Function

WEBINARS

### Choosing the Right Machine Vision Lens

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