

TECHSPEC[®] 35mm, f/5.6 Cr Series Fixed Focal Length Lens



35mm Cr Series Fixed Focal Length Lens



Stock #35-185 3 In Stock

-

1

+

€310^{.00}

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Volume Pricing	
Qty 1+	€310,00 each
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Product Downloads

General

Cr Series

Product Family:

Fixed Focal Length Lens

Type:

Physical & Mechanical Properties

Iris Option:

Fixed	
36.69	Length (mm):
33.8	Maximum Diameter (mm):
33.8	Outer Diameter (mm):
65	Weight (g):
3.32	Maximum Rear Protrusion (mm):
33.80	Diameter (mm):

Optical Properties	
Horizontal Field of View @ Max Sensor Format: 38.5mm - 14.2°	
Field of View at Max Sensor Format: Horizontal: 38.5mm - 14.3° Vertical: 28.8mm - 10.8° Diagonal: 48.1mm - 17.8°	
Horizontal Field of View, 2/3" Sensor: 38.5mm - 14.2°	
Horizontal Field of View, 1/1.8" Sensor: 31.5mm - 11.7°	
Horizontal Field of View, 1/2" Sensor: 28.0mm - 10.4°	
Horizontal Field of View, 1/2.5" Sensor: 25.4mm - 9.4°	
Horizontal Field of View, 1/3" Sensor: 21.0mm - 7.8°	
Horizontal Field of View, 1/4" Sensor: 15.7mm - 5.9°	
11.00	Maximum Image Circle (mm):
0.0168	Numerical Aperture NA, Object Side:
7 (6)	Number of Elements (Groups):
35.00	Focal Length FL (mm):
165 - ∞	Working Distance (mm):
f/5.6	Aperture (f/#):
425 - 675nm BBAR	Coating:
425 - 675nm BBAR	Coating Specification:
21.27	Entrance Pupil Position (mm):
22.42	Object Space Principal Plane (mm):
-20.67	Image Space Principal Plane (mm):
0.17	Maximum Distortion (%):
-21.87	Exit Pupil Position (mm):
VIS	Lens Wavelength Range:

Sensor	
2/3"	Maximum Sensor Format:
2.74	Pixel Size (µm):

Threading & Mounting	
M25.5 x0.50 (Male)	Filter Thread:
M25.5 x0.5 (Male)	Front Thread:

C-Mount	Mount:
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Environmental & Durability Factors

Storage Temperature (°C):

-20 to +60

Type of Ruggedization:

Stabilized (Robust Mechanics for Shock and Vibration)

Regulatory Compliance

Certificate of Conformance:

View

Product Details

- Up to 2/3", C-Mount Lens
- Up to 7.5 MegaPixels, 2.8µm Pixel Size Sensors
- Ruggedized (Cr) Designs (50g Shock) of our C Series Lens
- 3.5mm to 50mm Focal Length
- [Instrumentation \(Ci\) Versions](#) Also Available

TECHSPEC® Compact Ruggedized (Cr) Series Fixed Focal Length Lenses provide Stabilized Ruggedization, protecting the lens from damage while maintaining optical pointing and positioning after shock and vibration. All individual lens elements are glued in place to reduce object shift on the image. In addition, these lenses feature robust mechanics with a simplified focus and stainless steel locking C-Mount clamp. TECHSPEC® Cr Series Fixed Focal Length Lenses are ideal for calibrated imaging systems such as measurement and gauging, 3D stereo vision, robotics and sensing, autonomous vehicles, and object tracking. The object to image mapping is maintained even after heavy shock and vibration; if the center of the object maps onto the center pixel, it will always map to that same center pixel.

These lenses won the [1st place 2018 Inspect Award](#) and the [Silver Level 2018 Innovators Award](#).

Note: To learn more about ruggedization, visit our [Ruggedization Resource Webpage](#).

Edmund Optics has created a family of high performance optical designs (the C Series family) and developed 6 customized optomechanical solutions targeted for specific applications. These lens sub-families utilize the same optics as the C Series lenses providing the same optical performance in a variety of optomechanical solutions to meet your application requirements:

- **C Series:** Features locking cam focus and iris adjustment and is the most adjustable version of these optical designs; they are the typical high quality machine vision lenses. Also available with a [VIS-NIR Broadband Anti-Reflection \(BBAR\) Coating](#).
- **Ci Series:** Simplified mechanics featuring fixed apertures with compact housing. [Industrial Ruggedization](#) for reduced size, cost, and locked focus.
- **Cr Series:** All optics glued in place and a locking C-clamp focus ring. [Stabilized Ruggedization](#) for reduced pixel shift and improved focus stability.
- **Cx Series:** Modular, flexible mechanics allows lenses to be taken apart for easy integration of accessories such as liquid lenses, apertures, and more.
- **Liquid Lens Cx Series:** Designed with an integrated liquid lens for quick autofocus.
- **Cw Series:** Waterproof, designed to meet IEC [Ingress Protection](#) Code IPX7 and IPX9K.

Technical Information

This plot shows the relationship between Image Height (mm) on the y-axis and Distortion (%) on the x-axis for a 35-185, 35mm lens. The y-axis ranges from 0.55 to 5.50 mm, and the x-axis ranges from -0.21 to 0.21%. Three curves are plotted for different wavelengths: 656.27nm (red), 587.56nm (green), and 486.13nm (blue). The curves show that distortion increases with image height and is slightly higher for shorter wavelengths. The plot is titled "Image Height vs. Distortion: 35-185, 35mm".

Image Height (mm)	Distortion (%) - 656.27nm	Distortion (%) - 587.56nm	Distortion (%) - 486.13nm
0.55	-0.01	-0.01	-0.01
1.10	-0.02	-0.02	-0.02
1.65	-0.03	-0.03	-0.03
2.20	-0.04	-0.04	-0.04
2.75	-0.05	-0.05	-0.05
3.30	-0.06	-0.06	-0.06
3.85	-0.07	-0.07	-0.07
4.40	-0.08	-0.08	-0.08
4.95	-0.09	-0.09	-0.09
5.50	-0.10	-0.10	-0.10

#35-185, 35mm, f/5.6 Cr Series Fixed Focal Length Lens, Distortion Plot

This plot shows the relationship between Relative Illumination (%) on the y-axis and Image Field Height (mm) on the x-axis for a 35-185, 35mm lens. The y-axis ranges from 0 to 100%, and the x-axis ranges from 0.55 to 5.50 mm. A single red curve represents the f/5.60 f-number. The plot is titled "Relative Illumination Plot: 35-185, 35mm".

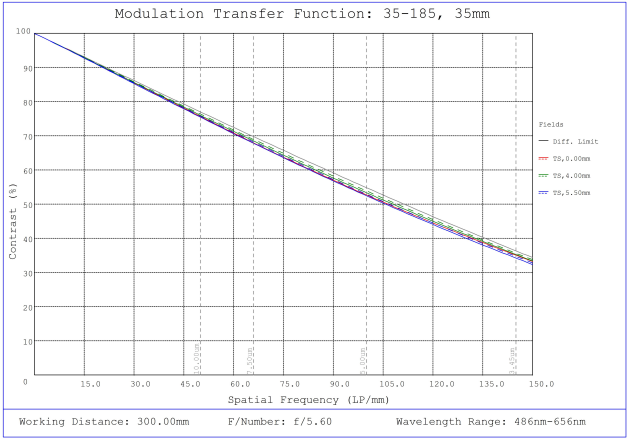
Image Field Height (mm)	Relative Illumination (%) - f/5.60
0.55	100
1.10	100
1.65	100
2.20	100
2.75	100
3.30	100
3.85	100
4.40	100
4.95	100
5.50	100

#35-185, 35mm, f/5.6 Cr Series Fixed Focal Length Lens, Relative Illumination Plot

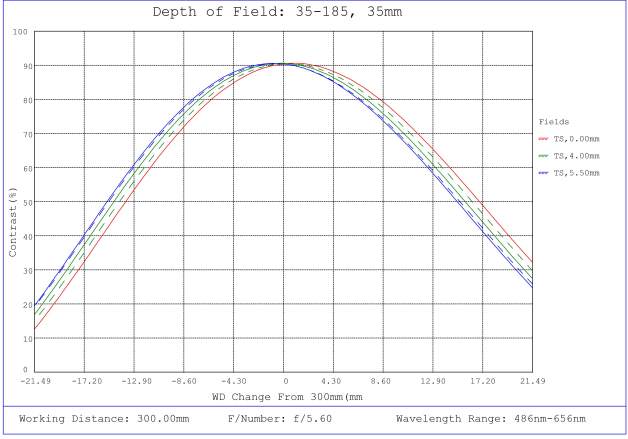
This plot shows the relationship between Working Distance (mm) on the x-axis and Horizontal Field of View (mm) on the y-axis for a 35-185, 35mm lens. The x-axis ranges from 165 to 1415 mm, and the y-axis ranges from 0 to 330 mm. Five lines are plotted for different sensor sizes: 2/3" (red), 1/1.8" (green), 1/2" (blue), 1/2.5" (purple), and 1/3" (cyan). The plot is titled "Working Distance vs. Field of View: 35-185, 35mm".

Working Distance (mm)	Horizontal Field of View (mm) - 2/3"	Horizontal Field of View (mm) - 1/1.8"	Horizontal Field of View (mm) - 1/2"	Horizontal Field of View (mm) - 1/2.5"	Horizontal Field of View (mm) - 1/3"
165	35	35	35	35	35
290	60	60	60	60	60
415	85	85	85	85	85
540	110	110	110	110	110
665	135	135	135	135	135
790	160	160	160	160	160
915	185	185	185	185	185
1040	210	210	210	210	210
1165	235	235	235	235	235
1290	260	260	260	260	260
1415	285	285	285	285	285

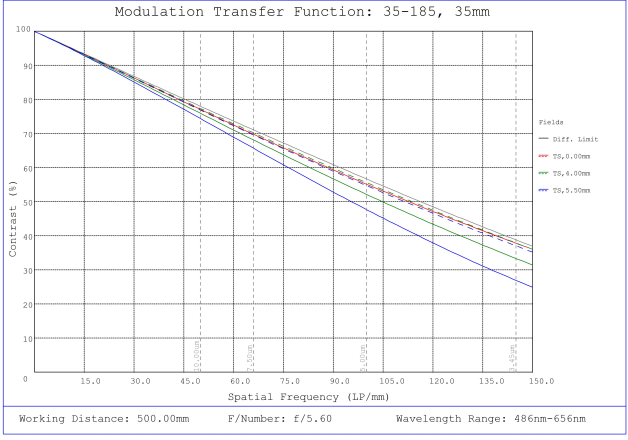
#35-185, 35mm, f/5.6 Cr Series Fixed Focal Length Lens, Working Distance versus Field of View Plot



#35-185, 35mm, f/5.6 Cr Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 300mm Working Distance, f5.6



#35-185, 35mm, f/5.6 Cr Series Fixed Focal Length Lens, Depth of Field Plot, 300mm Working Distance, f5.6



#35-185, 35mm, f/5.6 Cr Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 500mm Working Distance, f5.6



#35-185, 35mm, f/5.6 Cr Series Fixed Focal Length Lens, Depth of Field Plot, 500mm Working Distance, f5.6

Compatible Cameras