

TECHSPEC[®] 12mm, f/4.0 UCr Series Fixed Focal Length Lens



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A\$451^{.20}

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General

UCr Series	Series:
Ruggedized High Performance Lens with Compact Form Factor	Imaging Lens Type:

Physical & Mechanical Properties

Fixed	Iris Option:
38.00	Length (mm):

22.00	Maximum Diameter (mm):
22.00	Outer Diameter (mm):
38.00	Maximum Length (mm):

Optical Properties

34.0°	Horizontal Field of View @ Max Sensor Format:
Horizontal: 34° Vertical: 25.6° Diagonal: 42.2°	Field of View at Max Sensor Format:
34.0°	Horizontal Field of View, 1/1.8" Sensor:
30.3°	Horizontal Field of View, 1/2" Sensor:
27.5°	Horizontal Field of View, 1/2.5" Sensor:
22.8°	Horizontal Field of View, 1/3" Sensor:
17.1°	Horizontal Field of View, 1/4" Sensor:
9.00	Maximum Image Circle (mm):
0.0128	Numerical Aperture NA, Object Side:
7 (6)	Number of Elements (Groups):
380 - 700	Wavelength Range (nm):
12.00	Focal Length FL (mm):
100 - ∞	Working Distance (mm):
f/4.0	Aperture (f/#):
λ/4 MgF ₂	Coating:
λ/4 MgF ₂	Coating Specification:
16.05	Entrance Pupil Position (mm):
23.04	Object Space Principal Plane (mm):
-1.82	Image Space Principal Plane (mm):
-3.03	Maximum Distortion (%):
-18.56	Exit Pupil Position (mm):
VIS	Lens Wavelength Range:
VIS	Wavelength:

Sensor

1/2.5"	Optimized Sensor Format:
1/1.8"	Maximum Sensor Format:

Threading & Mounting

M22 x0.75 (Female)	Filter Thread:
M22 x0.75 (Female)	Front Thread:
S-Mount (M12 x0.5)	Mount:

Environmental & Durability Factors

-20 to +60 For questions regarding operating temperature please contact our support team	Storage Temperature (°C):
Stabilized (Robust Mechanics for Shock and	Type of Ruggedization:

Regulatory Compliance

Certificate of Conformance:

[View](#)

Product Details

- [Ruggedized Designs](#) of our [UC Series Lens](#)
- 1/1.8", S-Mount Lens with 50g Shock Resistance
- Up to 12 MegaPixels, 1.85µm Pixel Size Sensors

TECHSPEC® UCr Series Fixed Focal Length Lenses utilize the same optics as the [TECHSPEC® UC Series Lenses](#) while providing stabilized ruggedization to protect the lens from damage while maintaining optical pointing and positioning after shock and vibration. All individual lens elements are glued in place to reduce pixel shift on the sensor, ensuring the object-to-image mapping is maintained after heavy shock and vibration. These lenses provide high performance at an affordable cost in a compact form without sacrificing quality or feel. TECHSPEC® UCr Series Fixed Focal Length Lenses are designed for pixels that are ≤1.85µm, these lenses provide high levels of resolution (>200 lp/mm) across the sensor and are compatible with all standard S-Mount cameras.

Edmund Optics has created a family of high-performance ultra-compact optical designs (the UC Series family) and developed 3 customized optomechanical solutions targeted for specific applications. These lens sub-families utilize the same optics as the UC Series lenses providing the same optical performance in a variety of optomechanical solutions to meet your application requirements:

[UC Series](#): Features locking cam focus and iris adjustment in an ultra-compact design and is the most adjustable version of these optical designs; they are the typical high-quality machine vision lenses.

[UCi Series](#): Simplified mechanics featuring fixed apertures with compact housing. [Industrial Ruggedization](#) for reduced size, cost, and locked focus.

[UCr Series](#): All optics glued in place and a locking C-clamp focus ring. [Stabilized Ruggedization](#) for reduced pixel shift and improved focus stability.

[UCw Series](#): Waterproof, designed to meet IEC [Ingress Protection](#) Code IPX7 to withstand exposure to water up to 1 meter depth for 30 minutes.