

# Sensors Unlimited: SOLO 50



## High-performance short-wave infrared (SWIR)-optimized lens

The SOLO 50 is a high performance 50mm focal length lens designed for imaging in the 0.7  $\mu\text{m}$  to 1.7  $\mu\text{m}$  spectral range.

### BENEFITS

- > 90% throughput from 0.9 to 1.7  $\mu\text{m}$
- Very high speed f/1.4 aperture for low-light level scenarios
- Optics designed specifically for high-resolution SWIR imagers
- Locking manual focus
- High performance and economical
- Export classification: EAR99 – no license required

The SOLO 50 is a 50 mm focal length lens designed specifically for imaging in the 0.7 to 1.7 spectral range. With a fixed aperture of f/1.4, it maximizes light transmission, making it highly suitable for demanding imaging tasks. This lens ensures sharp, distortion-free images, crucial for precise visual analysis. Its robust, environmentally sealed construction and manual locking focus guarantee reliable performance even in challenging conditions, making it a dependable choice for critical imaging applications.

The SOLO 50 accessory kit includes a SOLO 50 mm lens and an M42 interface adapter measuring 0.950 inches long with an M42 X 1 threading. Both the lens and adapter are exclusively compatible with Sensors Unlimited Inc. (SU) J and C series cameras.

### Applications

- Low-light level imaging
- 24-hour day and night surveillance
- Imaging lasers
- Unmanned aerial vehicles (UAVs)
- Driver vision enhancement
- Human recognition at 250-meter range (25  $\mu\text{m}$  pixel pitch)
- Machine vision

# Sensors Unlimited: SOLO 50

## Optical specifications

<b>Focal length</b>	50 mm $\pm$ 2 mm
<b>Speed</b>	f/1.4
<b>Transmission</b>	> 90% from 0.95 to 1.65 $\mu$ m >70% from 0.80 to 0.95 $\mu$ m
<b>Minimum focal distance</b>	500 mm
<b>Maximum focal distance</b>	Infinity
<b>Mount</b>	M42 x 1 metric thread
<b>Field coverage (minimum)</b>	16.0 mm horizontal 12.8 mm vertical
<b>Field of view<sup>1</sup></b>	18.2 x 14.6 degrees
<b>Weight</b>	~ 300 g
<b>Operating temperature</b>	-40°C to +70°C

<sup>1</sup>For 16.0 x 12.8 mm focal plane array (640 x 512 pixels on 25 micron pitch).



**Contact**  
Raytheon  
Advanced Products & Solutions  
Sensors Unlimited Inc.  
330 Carter Road  
Princeton, New Jersey  
08540 USA  
(609) 333-8000  
[sensorsinc.com](http://sensorsinc.com)

Specifications subject to change without notice.



[www.RTX.com](http://www.RTX.com)