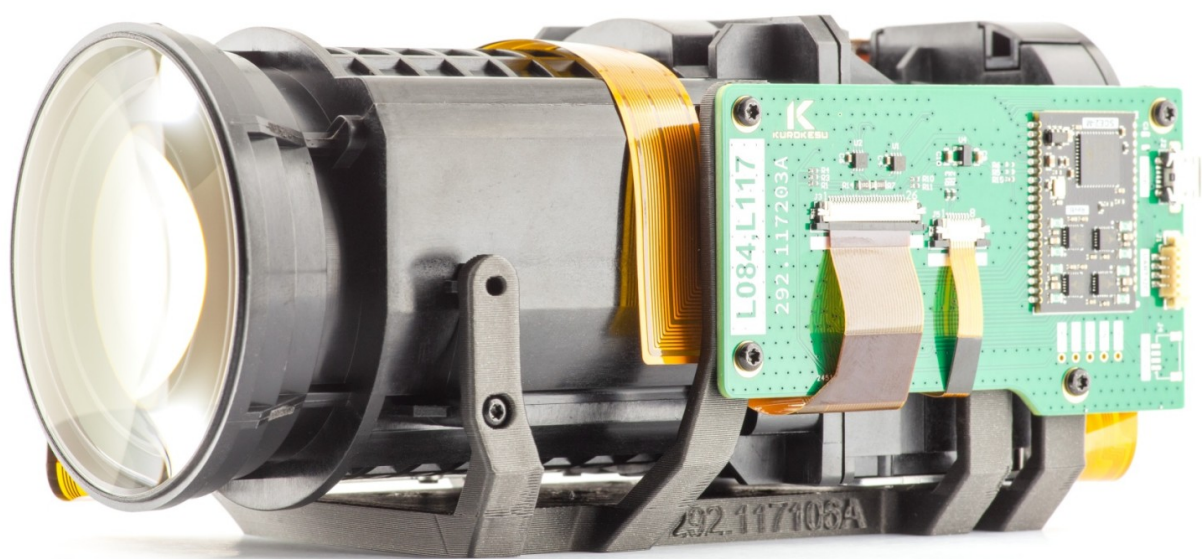


# L117-DEVKIT

## Brief

L117 is 6.5-212mm focal length (32x) motorized zoom lens is designed for 1/1.8" image sensors, has zoom/focus/iris functions, designed for 8M sensors.



## Specifications

### Optics

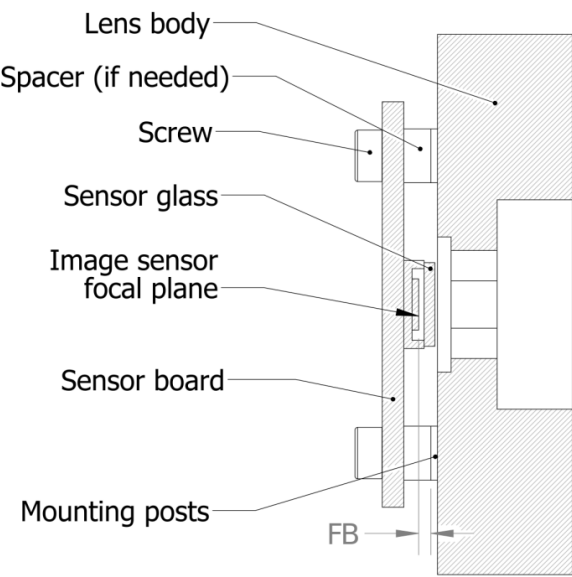
|                          |   |
|--------------------------|---|
| Image sensor             | 1/1.8" Effective image area > 9.3mm   |
| Focal distance           | 6.5 ~ 212mm / ±5%   |
| Aperture                 | f/1.4 ~ f/4.9   |
| Focus range              | <ul style="list-style-type: none"><li>• WIDE: 0.5m - infinity</li><li>• TELE: 2.0m - infinity</li></ul> |
| Field of view (D=8.26mm) | <ul style="list-style-type: none"><li>• WIDE: 70.7°</li><li>• TELE: 2.3°</li></ul>                      |

|                          |   |
|--------------------------|---|
| Distortion               | <ul style="list-style-type: none"> <li>• WIDE: -2.6%</li> <li>• TELE: 1.0%</li> </ul> |
| Recommended image sensor | IMX334  |
| Bare lens weight         | 437g  |

## Mechanics

|  |  |
|--|--|
| Flange back ( <b>FB</b> , see diagram below) | +0.93 (in glass t=0.3 IRCF)  |
| Lens zoom structure                          | The stepper motor is directly connected to the screw   |
| Lens focusing structure                      | The stepper motor is directly connected to the screw   |
| Lens size                                    | <ul style="list-style-type: none"> <li>• Length: 146mm</li> <li>• Width: 73mm</li> <li>• Height: 67mm</li> <li>• Front end diameter: 43mm</li> </ul> |

In order to accommodate different image sensors, the focal distance is set back by flange back (FB) distance. The actual distance for a specific sensor has to be calculated and spacers used. If the image plane is not set correctly, focus irregularities in the projected picture are expected.



### Motor specifications

|                           |         |
|---------------------------|---------|
| Screw pitch               | 0.4mm   |
| Spiral rotation direction | Right   |
| Rated voltage             | 5.0 VDC |

|                             |   |
|-----------------------------|---|
| Coil resistance             | <ul style="list-style-type: none"> <li>• Zoom1: <math>20\Omega \pm 10\%</math> / phase (T=25°C)</li> <li>• Zoom2: <math>20\Omega \pm 10\%</math> / phase (T=25°C)</li> <li>• Focus: <math>55\Omega \pm 10\%</math> / phase (T=25°C)</li> <li>• Iris: <math>35\Omega \pm 10\%</math> / phase (T=25°C)</li> </ul> |
| Phase count                 | 2   |
| Step angle                  | <ul style="list-style-type: none"> <li>• Zoom1, Zoom2, Focus: 18° / step</li> <li>• Iris: 0.6° / step</li> </ul>  |
| Operating temperature range | -30°C ~ +70°C   |

## Position alignment sensor PI

|              |   |
|--------------|---|
| Model number | <ul style="list-style-type: none"> <li>• Zoom1, Zoom2, Focus: RPI-222 ROHM</li> <li>• Iris: GP1S196HCZ0F SHARP</li> </ul> |
|--------------|---|

## Iris

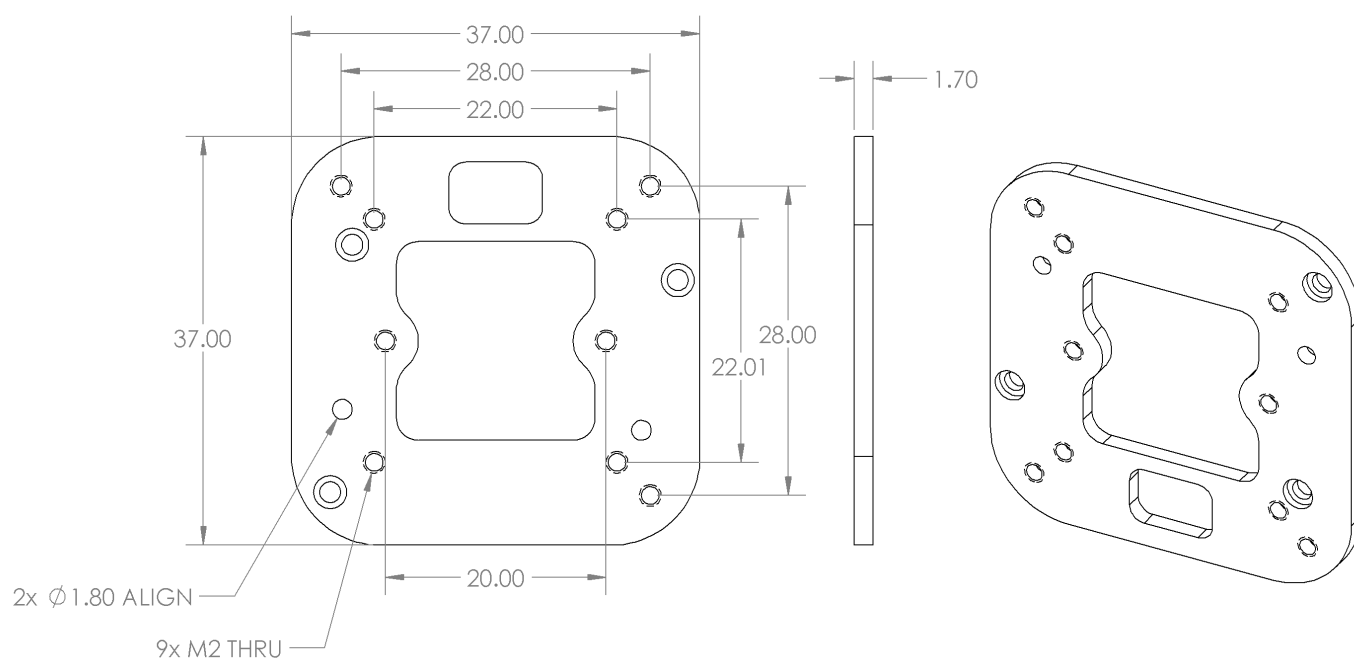
|             |               |
|-------------|---------------|
| Blade count | 10            |
| Drive mode  | Stepper motor |

## IR switch

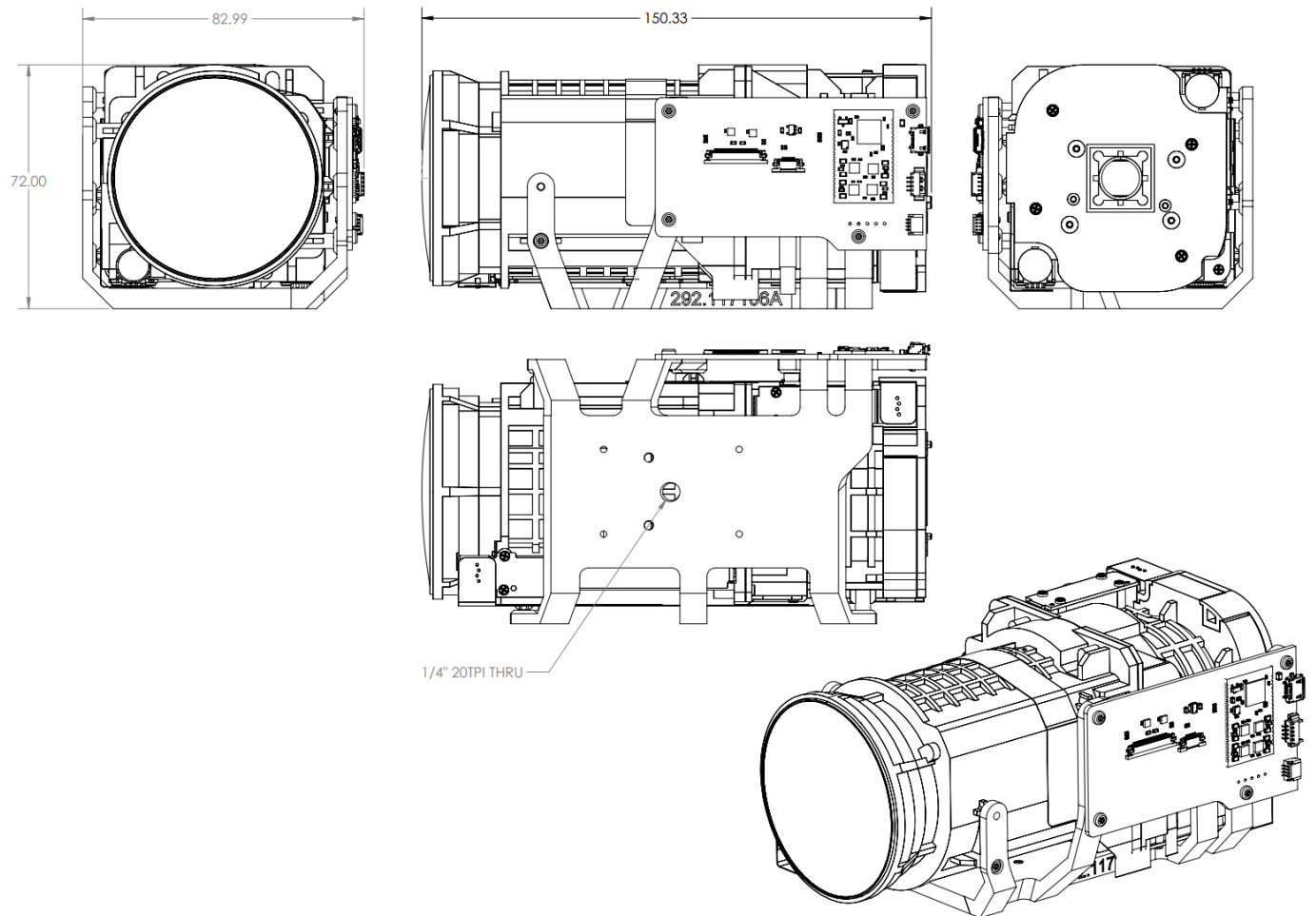
|                     |   |
|---------------------|---|
| Coil resistance     | $22.5 \pm 10\%$ (T=20°C)  |
| Operation voltage   | 4.5 ~ 5.0V  |
| Current consumption | 144 ~ 200mA   |
| Filter thickness    | 0.3mm   |
| Filter count        | 2   |
| Switching time      | 200 ~ 500ms   |
| Filters             | <ul style="list-style-type: none"> <li>• Open air</li> <li>• 380 ~ 650nm (T<sub>AVG</sub> &gt;90%)</li> <li>• BP780 (400~750nm T<sub>AVG</sub> &gt;1%, 780~1100nm T<sub>AVG</sub> &gt;90%)</li> </ul> |

## Camera adapter plates

292.84104B adapter plate was designed for IMX290 and IMX477 based cameras. L084 and L117 lenses can be mated with board level C1\_PRO, C2, and IMX477\_LEGACY camera boards.



## Dimensions



Revision #12

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