

# L120-DEVKIT

## Brief

L120 is 6.7-190mm focal length (28x) motorized zoom lens is designed for 1/1.8" image sensors, has zoom/focus/iris functions, designed for 5M sensors.

## Specifications

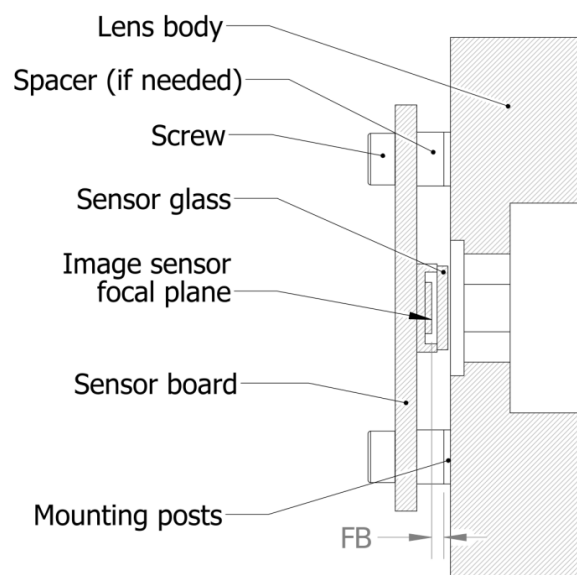
### Optics

|                          |   |
|--------------------------|---|
| Image sensor             | 1/1.8" Effective image area > 9.3mm   |
| Focal distance           | 6.7 ~ 190mm / $\pm 5\%$   |
| Aperture                 | f/1.6 ~ f/4.7   |
| Focus range              | <ul style="list-style-type: none"><li>• WIDE: 0.1m - infinity</li><li>• TELE: 1.0m - infinity</li></ul> |
| Field of view (D=8.26mm) | <ul style="list-style-type: none"><li>• WIDE: 65.5°</li><li>• TELE: 2.4°</li></ul>                      |
| Distortion               | <ul style="list-style-type: none"><li>• WIDE: -1.08%</li><li>• TELE: 0.35%</li></ul>                    |
| Recommended image sensor | IMX385  |

### Mechanics

|  |  |
|--|--|
| Flange back ( <b>FB</b> , see diagram below) | -1.0mm (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: 119mm</li> <li>• Width: 50mm</li> <li>• Height: 50mm</li> <li>• Front end diameter: 43mm</li> </ul> |
| Weight                                       | 194g (+controller 7.6g)  |

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

## Position alignment sensor PI

|              |                    |
|--------------|--------------------|
| Model number | GP1S093HCZ0F SHARP |
|--------------|--------------------|

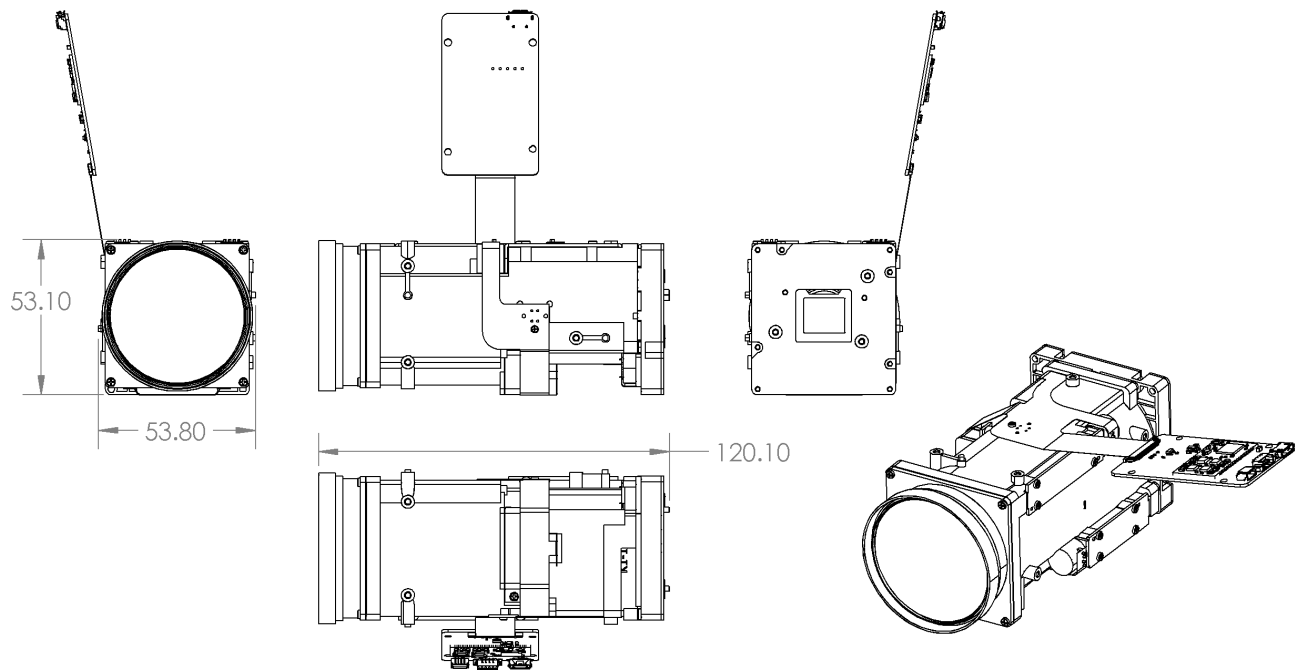
## Iris

|                         |                                       |
|-------------------------|---------------------------------------|
| Driving resistance      | $120\Omega \pm 10\%$ (T=20°C, 65% RH) |
| Braking resistance      | $120\Omega \pm 10\%$ (T=20°C, 65% RH) |
| Close to open operation | 3.5 ~ 5.0V                            |
| Open to close operation | 0 ~ 0.8V                              |

## 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  |
| 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></ul> |

## Dimensions



More detailed documentation coming soon!

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