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# **C1 PRO X20**

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LIGHTWEIGHT, USB POWERED, SELF SUFFICIENT 5~100MM  
MOTORIZED ZOOM LENS CAMERA KIT FOR DAY/NIGHT  
OPERATION

## **DATASHEET**



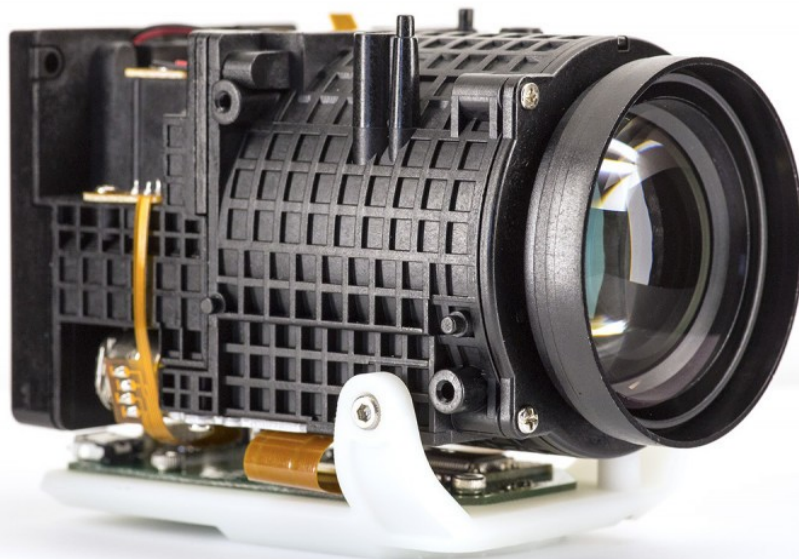
**KUROKESU**

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## Overview

Lightweight, USB powered, self sufficient 5~100mm motorized zoom lens camera kit for day/night operation. Kit is fully assembled and tested before shipping.

- Uses PCBA module used in [C1 PRO camera](#).
- Controller SCF4-L087 (featuring [SCF4-M](#) module)



# Lens specifications

## Optics

Image sensor	1/2.8" Effective image area > 6.4mm
Focal distance	5±5% ~ 100±5%mm
Aperture	f/1.6~f/3.7
Focus range	<ul style="list-style-type: none"> <li>• WIDE: 1.0m - infinity</li> <li>• TELE: 1.0m - infinity</li> </ul>
Field of view (D=6.0mm)	<ul style="list-style-type: none"> <li>• WIDE: 66.5°</li> <li>• TELE: 3.38°</li> </ul>
Relative contrast	<ul style="list-style-type: none"> <li>• WIDE: &gt;35%</li> <li>• TELE: &gt;63%</li> </ul>
Distortion	<ul style="list-style-type: none"> <li>• WIDE: -9.7%</li> <li>• TELE: 2.1%</li> </ul>

## Mechanics

Mechanical back focus	-0.92 (in glass t=0.5 BK7)
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: 79.9mm</li> <li>• Width: 46mm</li> <li>• Height: 46mm</li> <li>• Front end diameter: 41.8mm</li> </ul>

## Motor specifications

Screw pitch	0.4mm
Spiral rotation direction	Right
Rated voltage	4.5-5.0 VDC
Coil resistance	55Ω ± 10%
Phase count	2

Step angle	18° / step
Max start frequency	800 PPS/min @ at 5.0 VDC
Max operating frequency	1200 PPS/min @ 5.0 VDC
Pull torque	2.8 gf-cm min (at 480 PPS @ 5.0 VDC)
Push torque	3.8 gf-cm min (at 480 PPS @ 5.0 VDC)
Operating temperature range	-20°C ~ +70°C

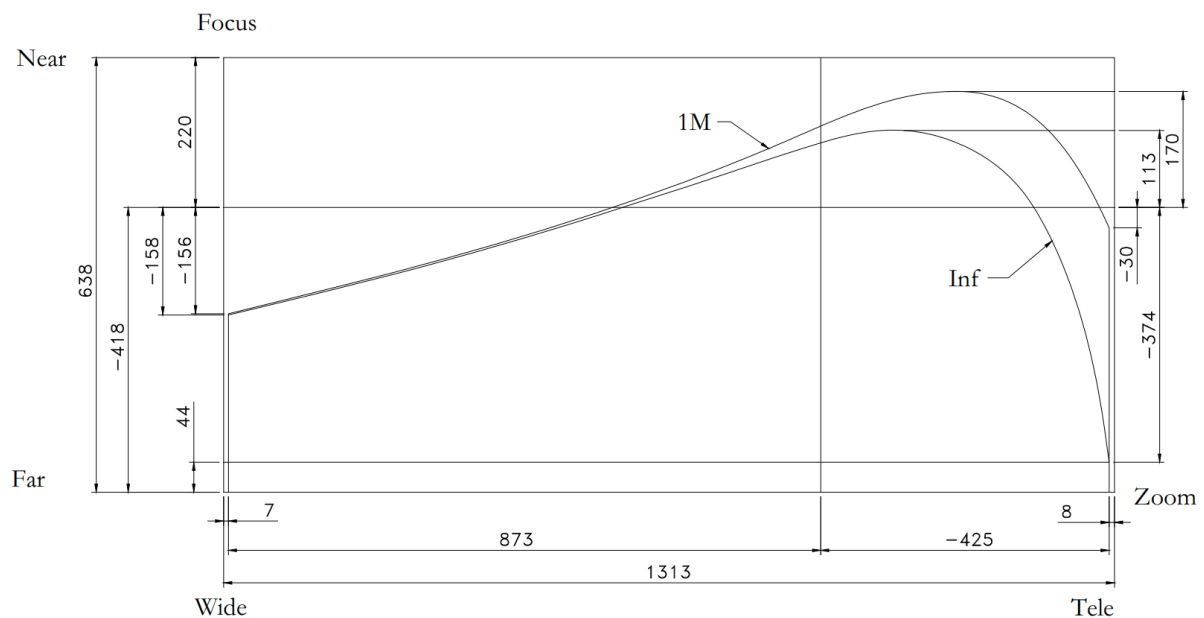
### Position alignment sensor PI

Model number	RPI-222 / ROHM
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### IR switch

Coil resistance	25 ± 5Ω
Operation voltage	4.5V
Current consumption	144~200mA
Switching time	200-500ms
Filters	<ul style="list-style-type: none"> <li>• Clear glass</li> <li>• 420 ~600nm Tav<sub>g</sub> &gt;95%</li> </ul>

### Zoom-Focus curve diagram

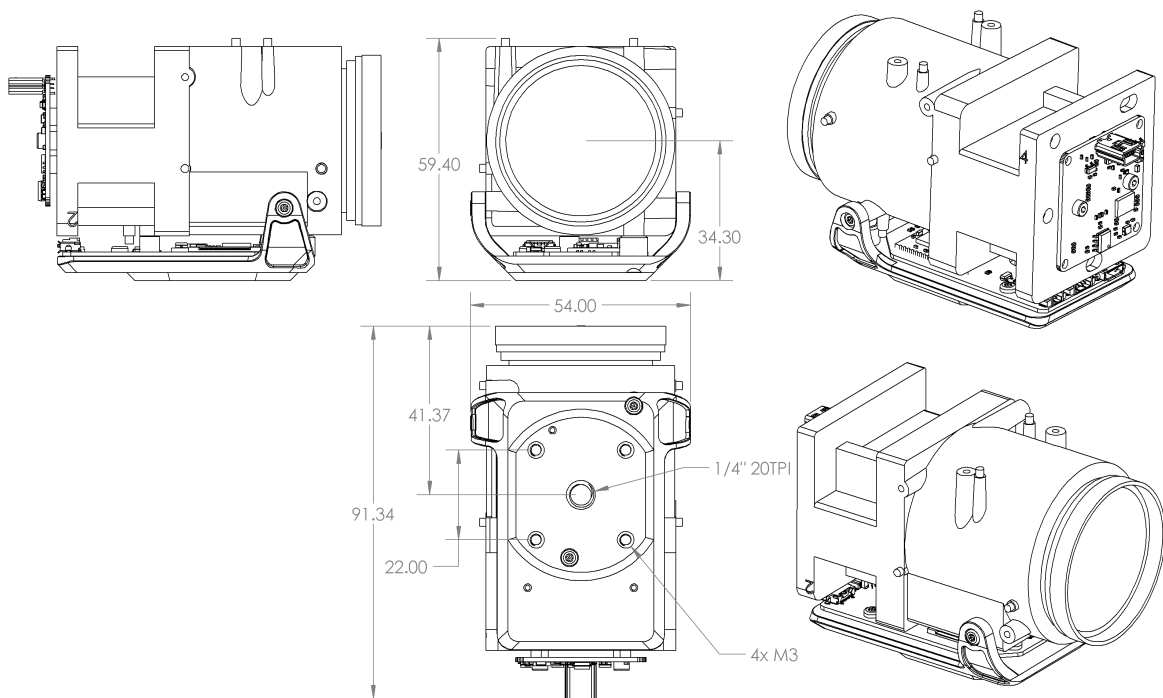


# Dimensions

## Camera dimensions

Length	91.4mm
Width	59.4mm
Height	54.0mm

## Camera drawing



## 3D models

**i** 3D models can be downloaded from [GitHub](#)

## Control software

SCF4-SDK comes with open-sourced command line and GUI sample programs for rapid controller evaluation. A simple control software example is provided for testing and demonstration. Software is given "as is" to help with getting started and testing.

**More details and control explanation in [SCF4 documentation](#).** Source code is maintained on [GitHub](#)

