C1 PRO X20

Lightweight, USB powered, self sufficient 5~100mm motorized zoom lens camera kit for day/night operation

- Overview
- Lens specifications
- Dimensions
- Control software

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	• WIDE: 1.0m - infinity • TELE: 1.0m - infinity
Field of view (D=6.0mm)	• WIDE: 66.5° • TELE: 3.38°
Relative contrast	• WIDE: >35% • TELE: >63%
Distortion	• WIDE: -9.7% • TELE: 2.1%

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	• Length: 79.9mm • Width: 46mm • Height: 46mm • Front end diameter: 41.8mm

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

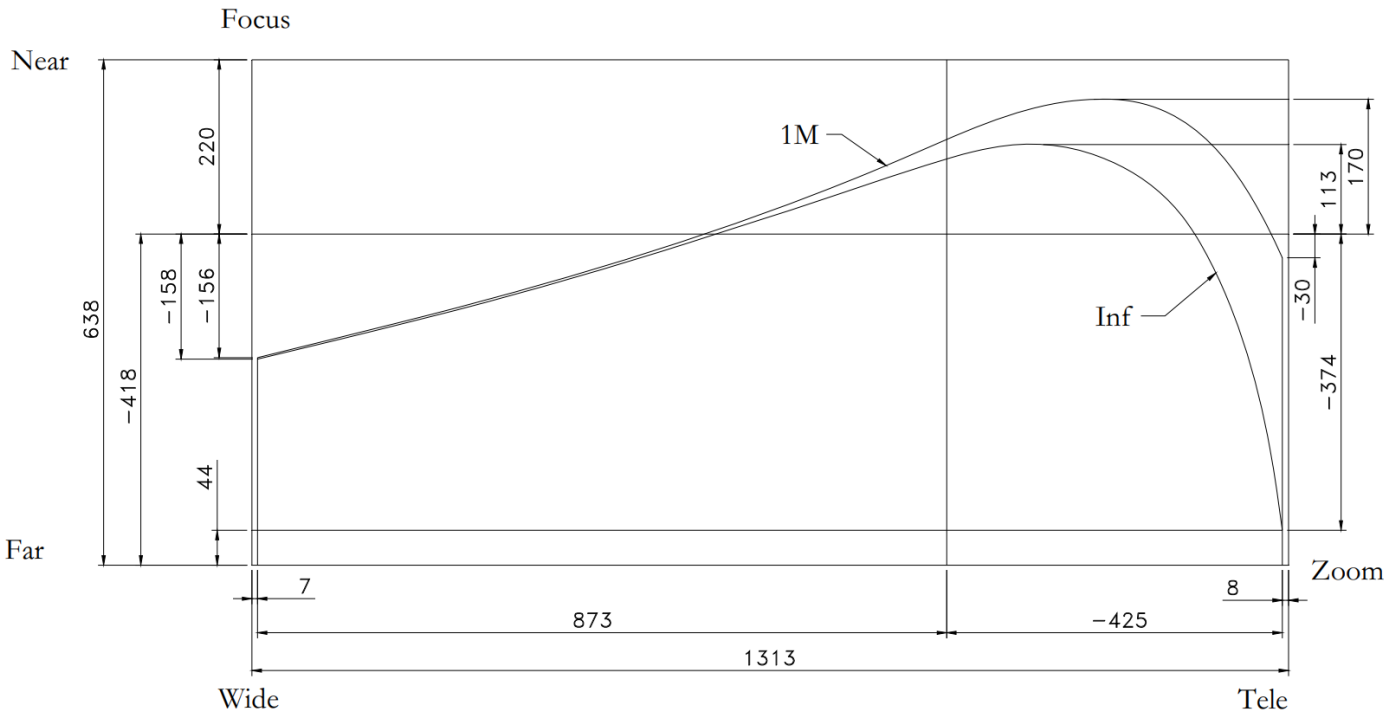
Position alignment sensor PI

Model number	RPI-222 / ROHM

IR switch

Coil resistance	25 ± 5Ω
Operation voltage	4.5V
Current consumption	144~200mA
Switching time	200-500ms
Filters	• Clear glass • 420 ~600nm Tavg >95%

Zoom-Focus curve diagram

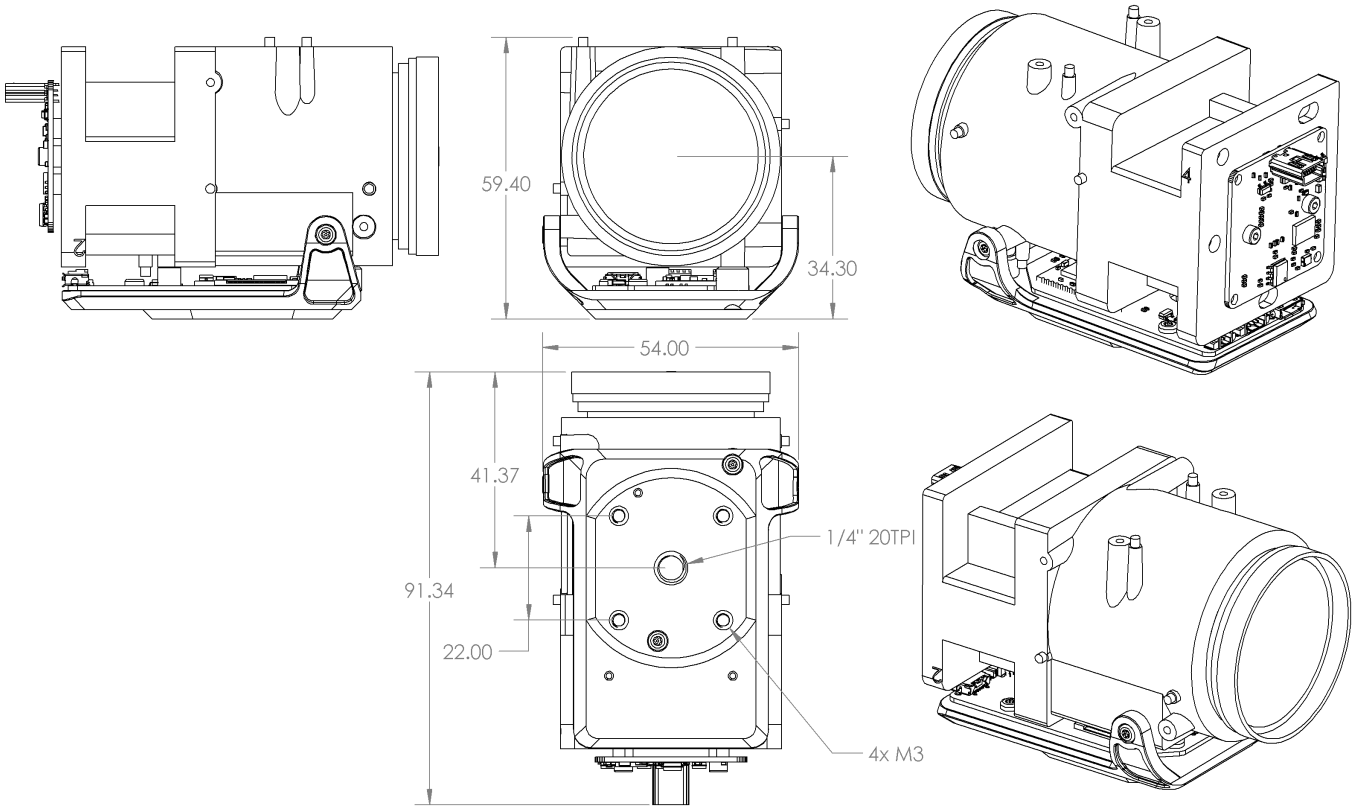

Focus
Near
Far
638
220
158
156
418
44
1M
Inf
113
170
30
374
7
873
425
8
1313
Zoom
Wide
Tele

Dimensions

Camera dimensions

Length	91.4mm
Width	59.4mm
Height	54.0mm

Camera drawing



3D models

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