

# C1 PRO X3

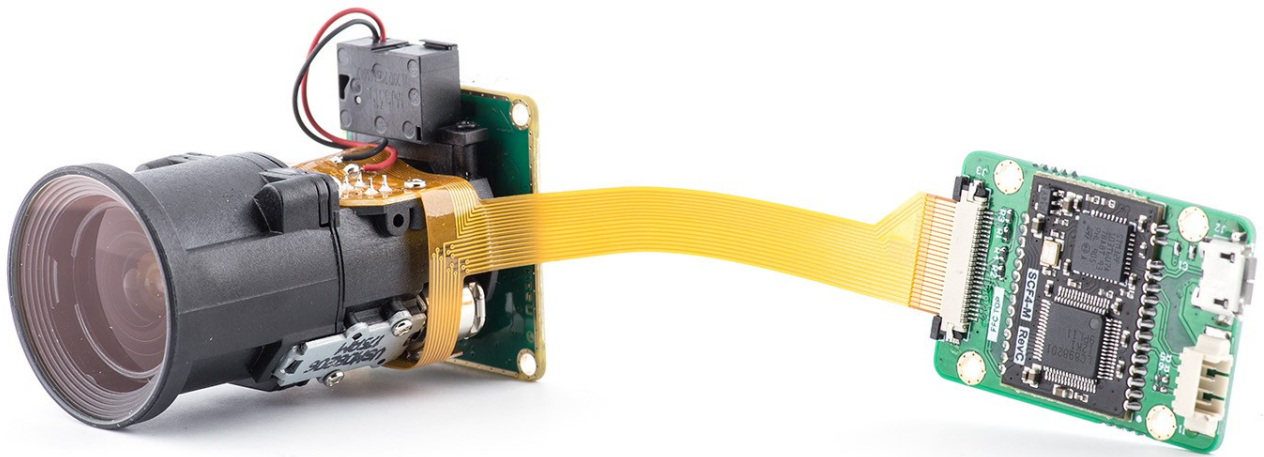
Lightweight and compact USB powered, self sufficient 3.4-10mm motorized zoom lens camera kit for day/night operation

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- Control software

# Overview

Lightweight and compact USB powered, self sufficient 3.4~10mm motorized zoom lens camera kit for day/night operation.

- Board level camera C1 PRO camera with USB MINI connector
- Controller SCF4-L050 (featuring SCF4-M module)



# Lens specifications

## Optics

Image sensor	1/2.7" Effective image area > 6.8mm
Focal distance	3.4±5% ~ 10±5%mm
Aperture	f/1.7~f/3.0
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=6.6mm)	<ul style="list-style-type: none"><li>• WIDE: 129.2°</li><li>• TELE: 37.6°</li></ul>
Relative contrast	<ul style="list-style-type: none"><li>• WIDE: &gt;-14%</li><li>• TELE: &gt;-1.7%</li></ul>
Distortion	<ul style="list-style-type: none"><li>• WIDE: -9.2%</li><li>• TELE: 3.2%</li></ul>

## Mechanics

Mechanical back focus	-0.35 (in glass t=0.4 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: 59.6mm</li><li>• Width: 33.7m</li><li>• Height: 38.7mm</li><li>• Front end diameter: 34.8mm</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	-10°C ~ +70°C

Position alignment sensor PI

Model number	RPI-222 / ROHM
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IR switch

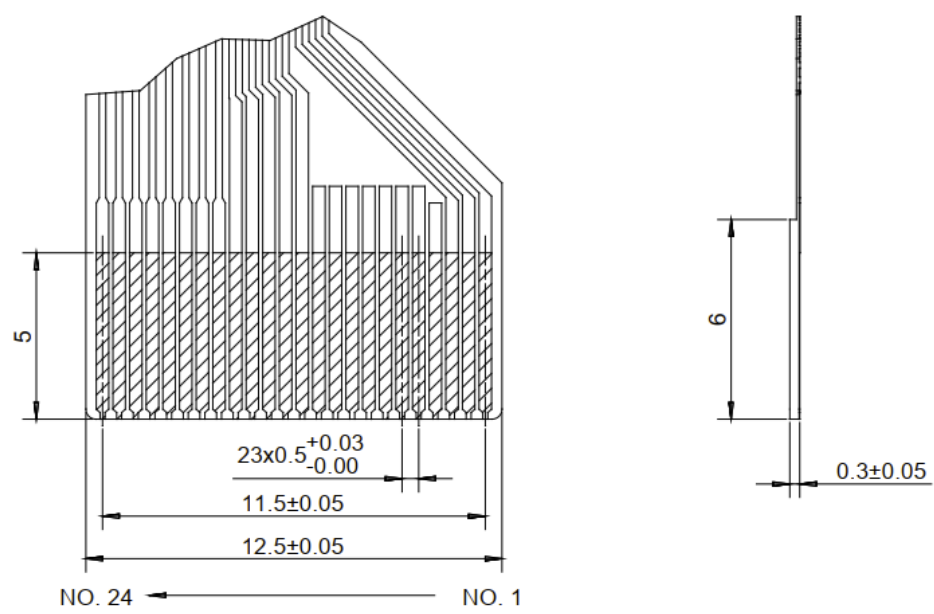
Coil resistance	25 ± 5Ω
Operation voltage	4.5V
Current consumption	144~200mA
Switching time	200-500ms
Filters	<ul style="list-style-type: none"><li>• Clear glass</li><li>• 420 ~600nm Tavg &gt;95%</li></ul>

Zoom-Focus curve diagram

# Pinout

## Pinout

Lens signals routed by 24 pin 0.5mm pitch FFC cable. Contacts facing top. Recommended connector Wurth Electronics 687124183622



Nr	Function
1	ZOOM Anode, Collector
2	ZOOM Cathode
3	ZOOM Emitter
4	
5	
6	
7	
8	
9	
10	

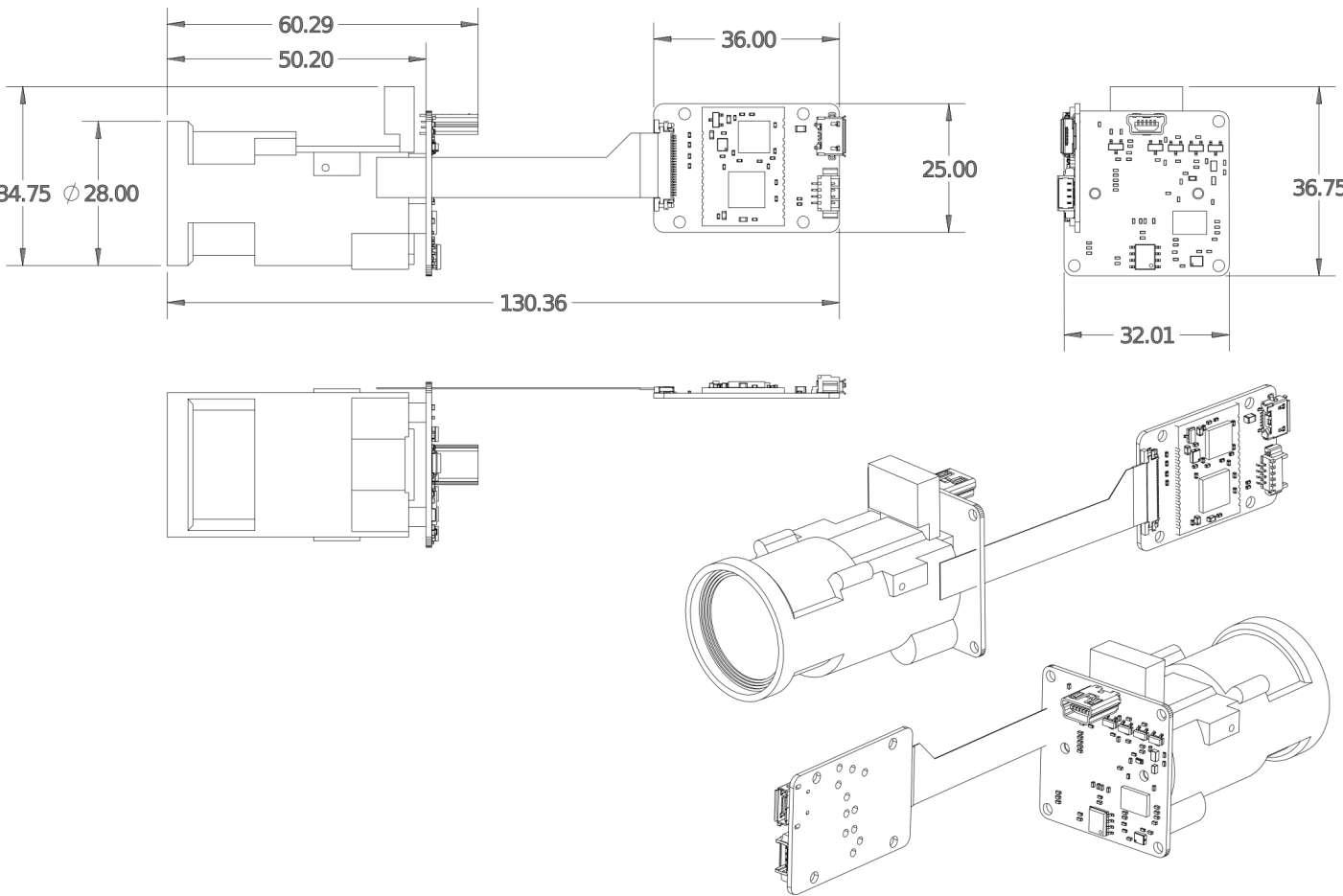
11	
12	FOCUS Cathode
13	FOCUS Emitter
14	FOCUS Anode, Collector
15	IR-cut -
16	IR-cut +
17	FOCUS A-
18	FOCUS A+
19	FOCUS B-
20	FOCUS B+
21	ZOOM A-
22	ZOOM A+
23	ZOOM B-
24	ZOOM B+

# Dimensions

## Lens dimensions

Length	50.2mm
Width	28mm
Height	34.75mm

## 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