

C1 PRO X3

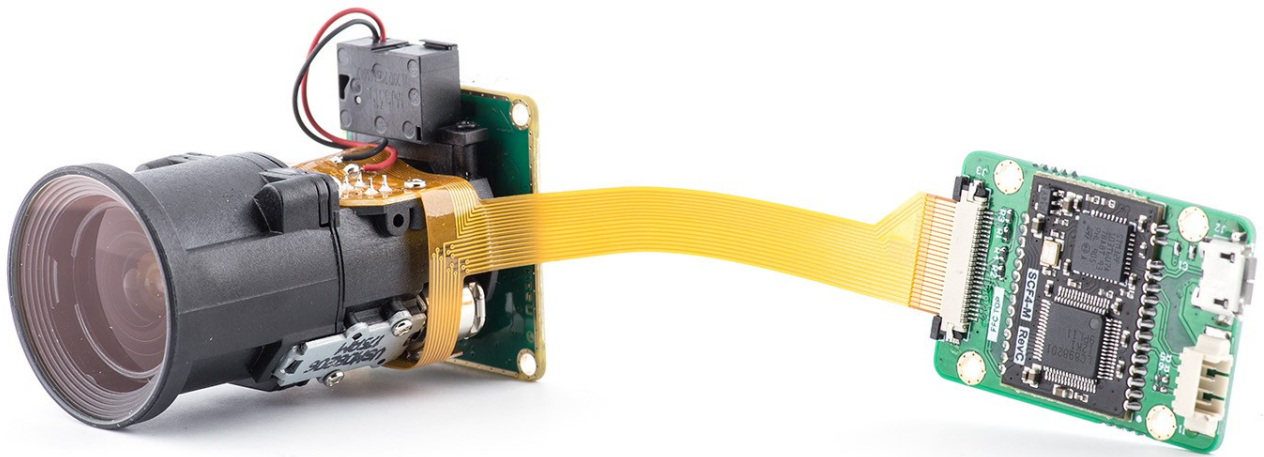
Lightweight and compact USB powered, self sufficient 3.4-10mm motorized zoom lens camera kit for day/night operation

- Overview
- Lens specifications
- Pinout
- Dimensions
- 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">• WIDE: 1.0m - infinity• TELE: 1.0m - infinity |
| Field of view (D=6.6mm) | <ul style="list-style-type: none">• WIDE: 129.2°• TELE: 37.6° |
| Relative contrast | <ul style="list-style-type: none">• WIDE: >-14%• TELE: >-1.7% |
| Distortion | <ul style="list-style-type: none">• WIDE: -9.2%• TELE: 3.2% |

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">• Length: 59.6mm• Width: 33.7m• Height: 38.7mm• Front end diameter: 34.8mm |

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 | -10°C ~ +70°C |

Position alignment sensor PI

| | |
|--------------|----------------|
| Model number | RPI-222 / ROHM |
|--------------|----------------|

IR switch

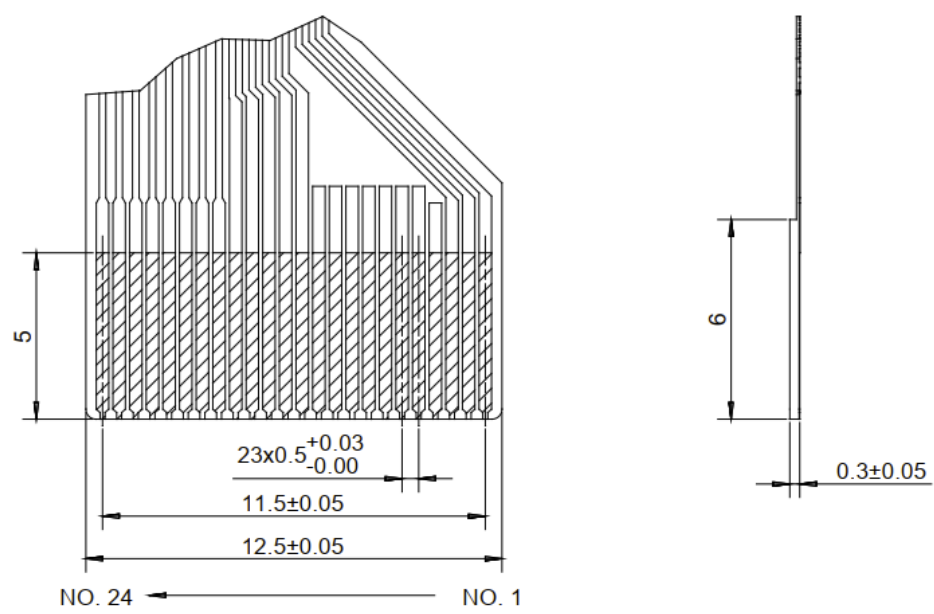
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|---------------------|--|
| Coil resistance | 25 ± 5Ω |
| Operation voltage | 4.5V |
| Current consumption | 144~200mA |
| Switching time | 200-500ms |
| Filters | <ul style="list-style-type: none"> • Clear glass • 420 ~600nm Tavg >95% |

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 | |

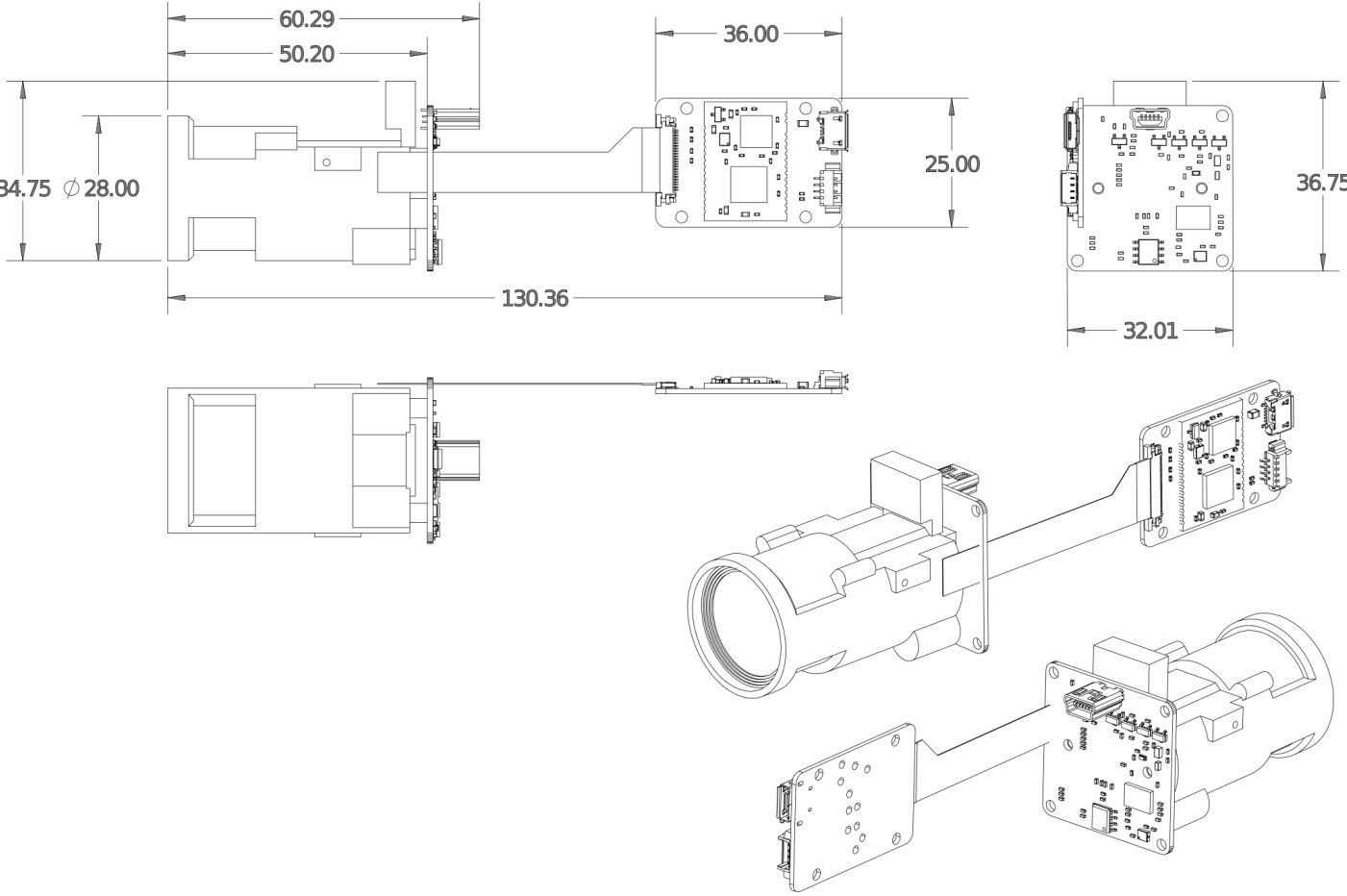
| | |
|----|------------------------|
| 11 | |
| 12 | FOCUS Cathode |
| 13 | FOCUS Emitter |
| 14 | FOCUS Anode, Collector |
| 15 | IR-cut - |
| 16 | IR-cut + |
| 17 | FOCUS A- |
| 18 | FOCUS A+ |
| 19 | FOCUS B- |
| 20 | FOCUS B+ |
| 21 | ZOOM A- |
| 22 | ZOOM A+ |
| 23 | ZOOM B- |
| 24 | ZOOM B+ |

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