Dedicated boards

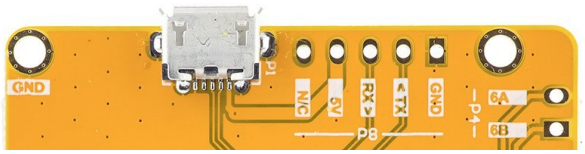
Kurokesu SCF4 multi-axis stepper motor controller System On Module (SOM) targets applications where time to market, reliability and small footprint is important. Main control MCU is ST Cortex STM32F103 powerful enough either to run standard or run dedicated standalone firmware. The motor front end is based on ON Semiconductor new and highly specialized driver LC898201.

Besides SCF4-M module, some basic boards are offered

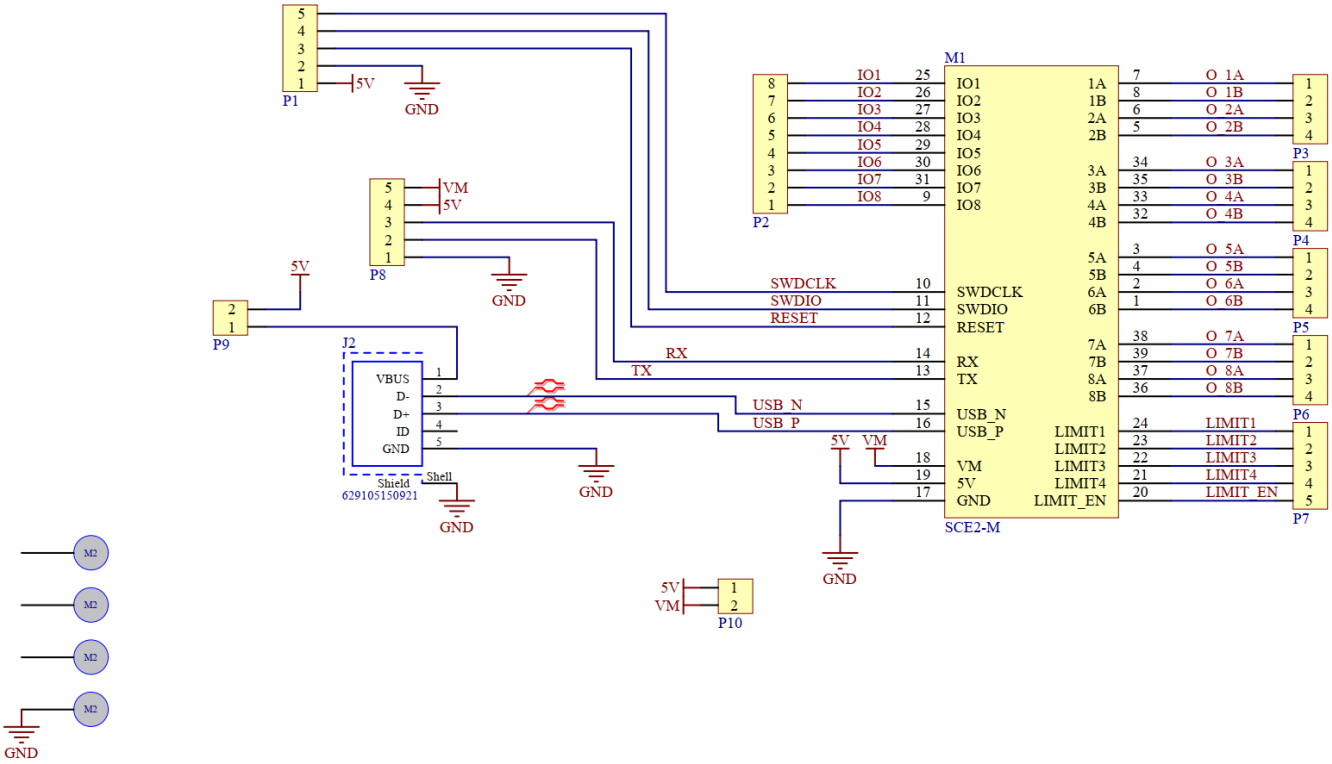
SCF4-BREAKOUT breakout demo board

SCF4 BREAKOUT board allows quick evaluation, testing and prototyping.

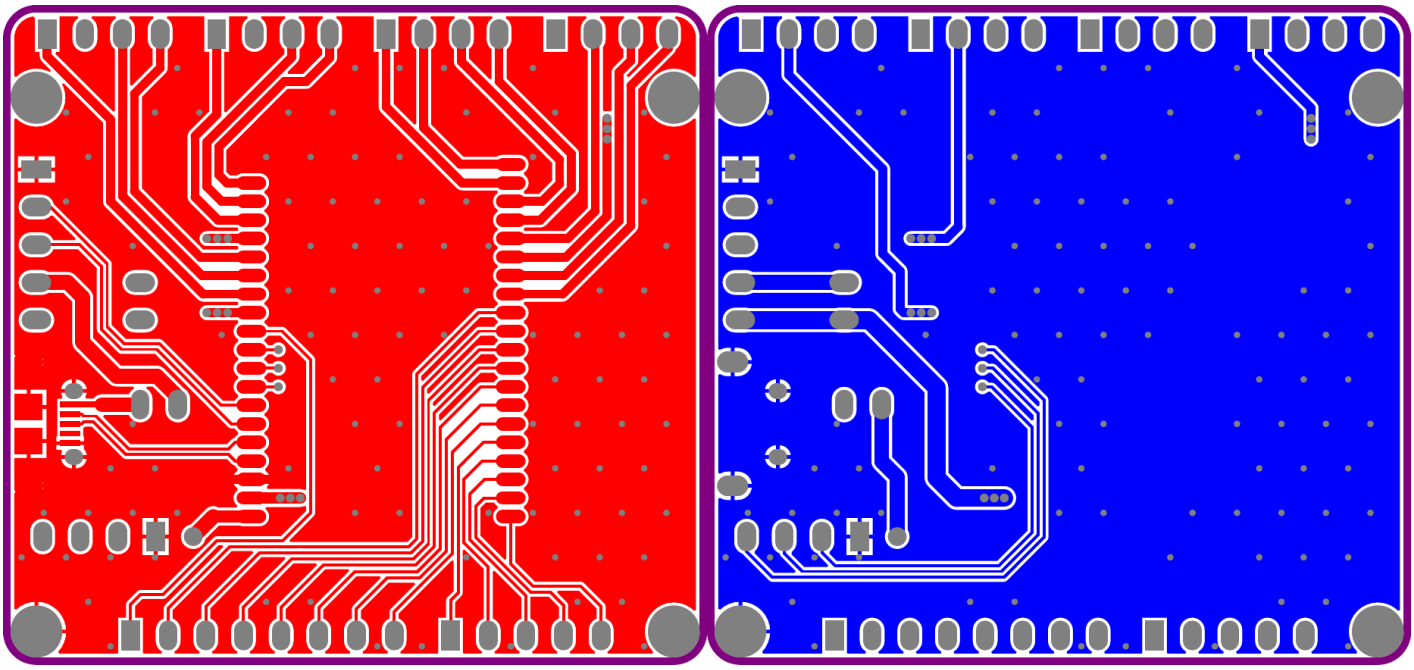
General view



Schematics



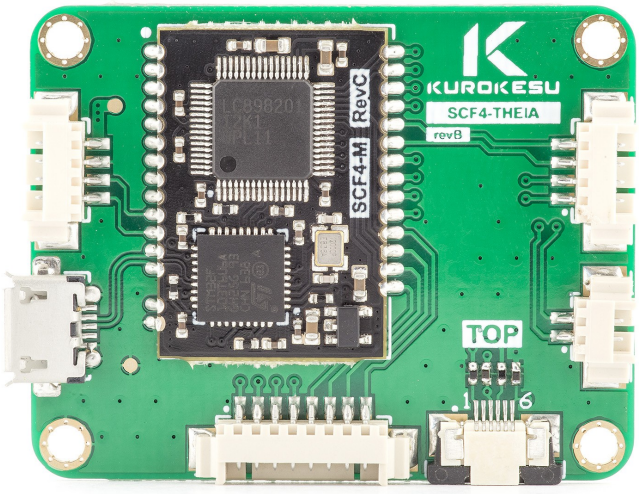
PCB Layers



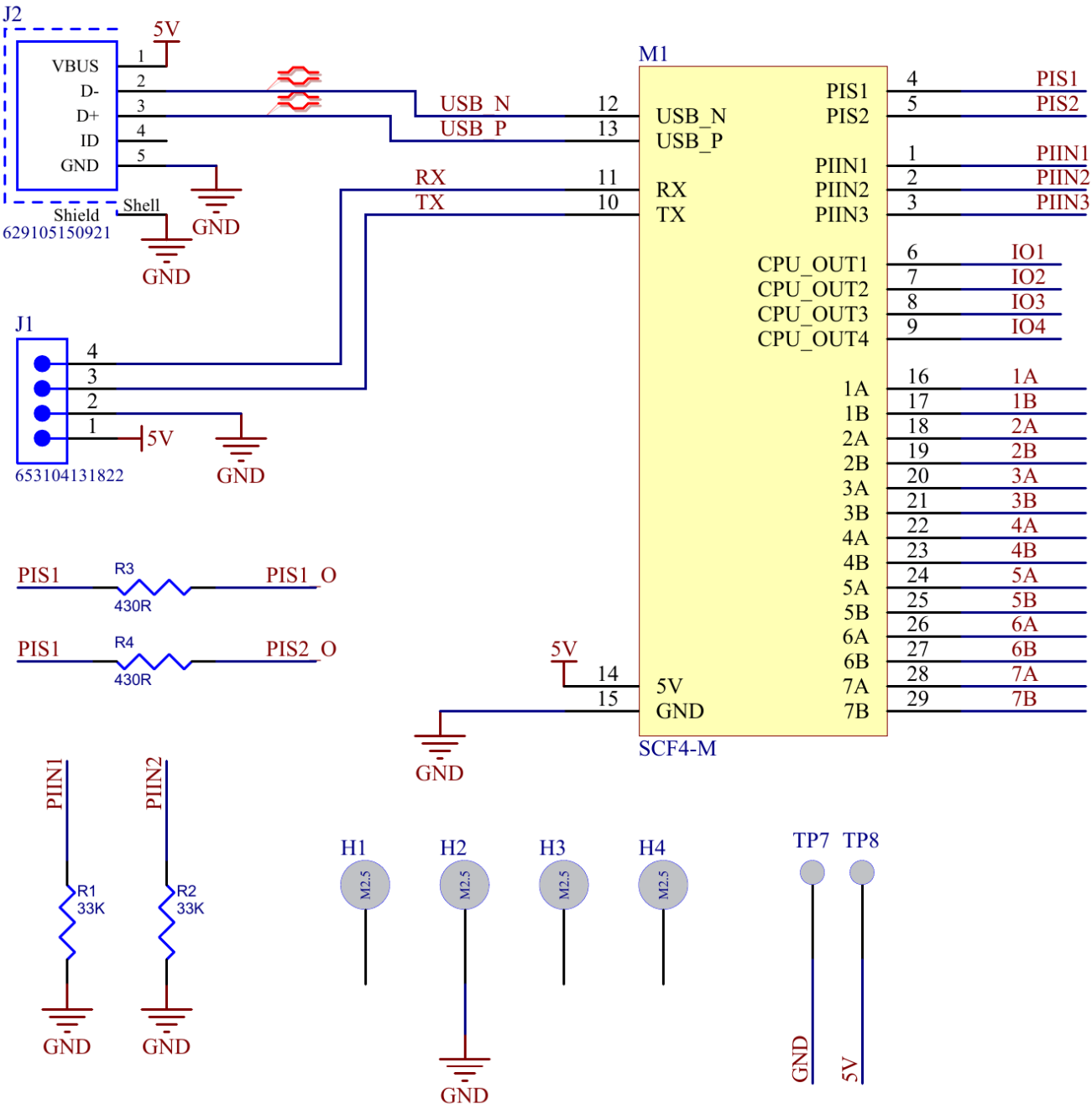
SCF4-THEIA lens controller board

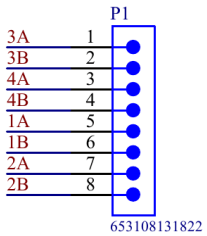
SCF4-THEIA board is designed for THEIA motorized zoom lenses: TL410P R6 and TL1250P R6

General view

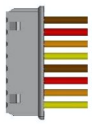


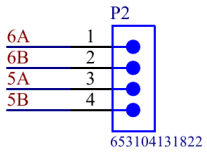
Schematics


J2
5V
VBUS
D-
D+
ID
GND
Shell
Shield
629105150921
GND
GND
USB_N
USB_P
RX
TX
M1
USB_N
USB_P
RX
TX
5V
GND
SCF4-M
PIS1
PIS2
PIIN1
PIIN2
PIIN3
CPU_OUT1
CPU_OUT2
CPU_OUT3
CPU_OUT4
1A
1B
2A
2B
3A
3B
4A
4B
5A
5B
6A
6B
7A
7B
IO1
IO2
IO3
IO4
J1
653104131822
R3
430R
R4
430R
PIS1_O
PIS2_O
R1
33K
R2
33K
H1
H2
H3
H4
M2.5
TP7
TP8



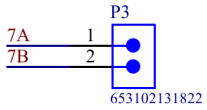
Pin	Color	Function	Motor
1	Brown	A+	Focus
2	Red	A-	Focus
3	Gray	B+	Focus
4	Yellow	B-	Focus
5	Brown	A+	Zoom
6	Red	A-	Zoom
7	Gray	B+	Zoom
8	Yellow	B-	Zoom





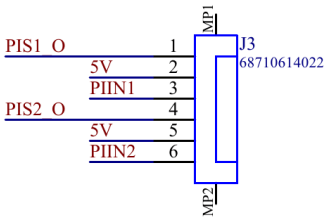
Pin	Color	Function
1	Brown	B+
2	Red	B-
3	Yellow	A+
4	Orange	A-





Mode	Pin 1	Pin 2
Day (IR filter)	L	H
Night (clear filter)	H	L
Wire color	Red	Black



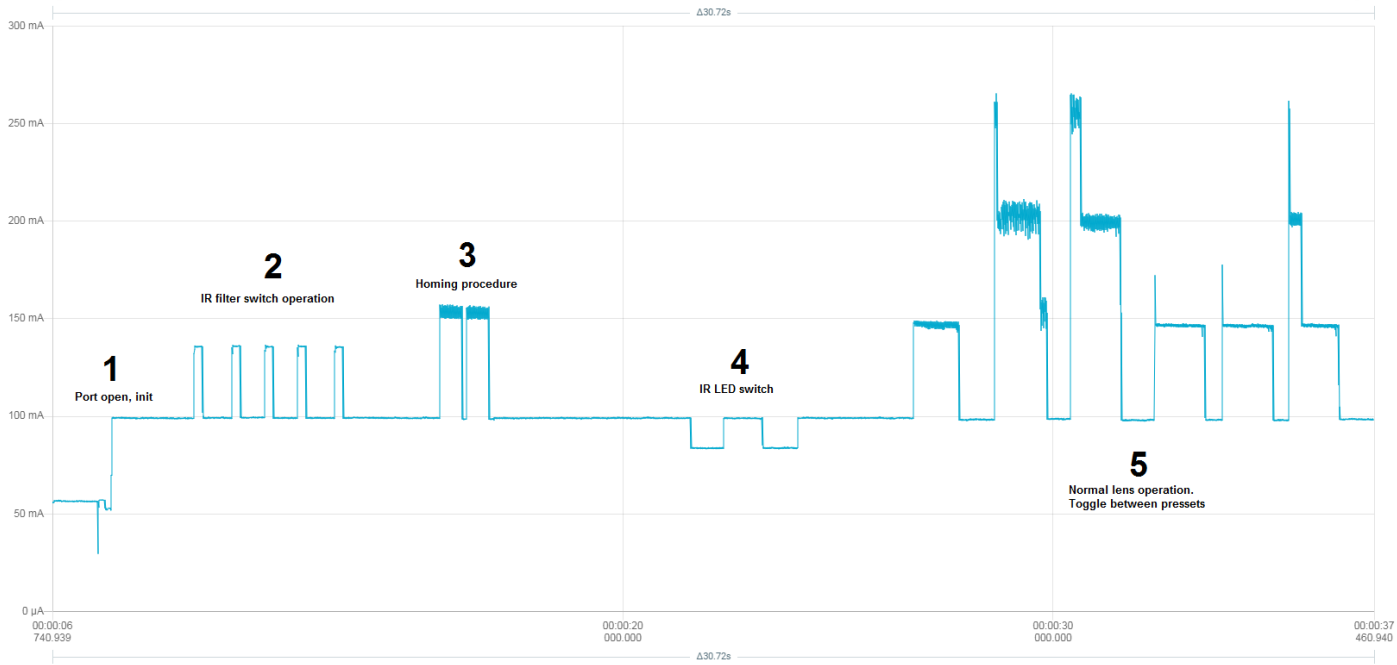


Pin*	Function	Motor
1	Cathode	Zoom
2	Anode/Collector	Zoom
3	Emitter	Zoom
4	Cathode	Focus
5	Anode/Collector	Focus
6	Emitter	Focus

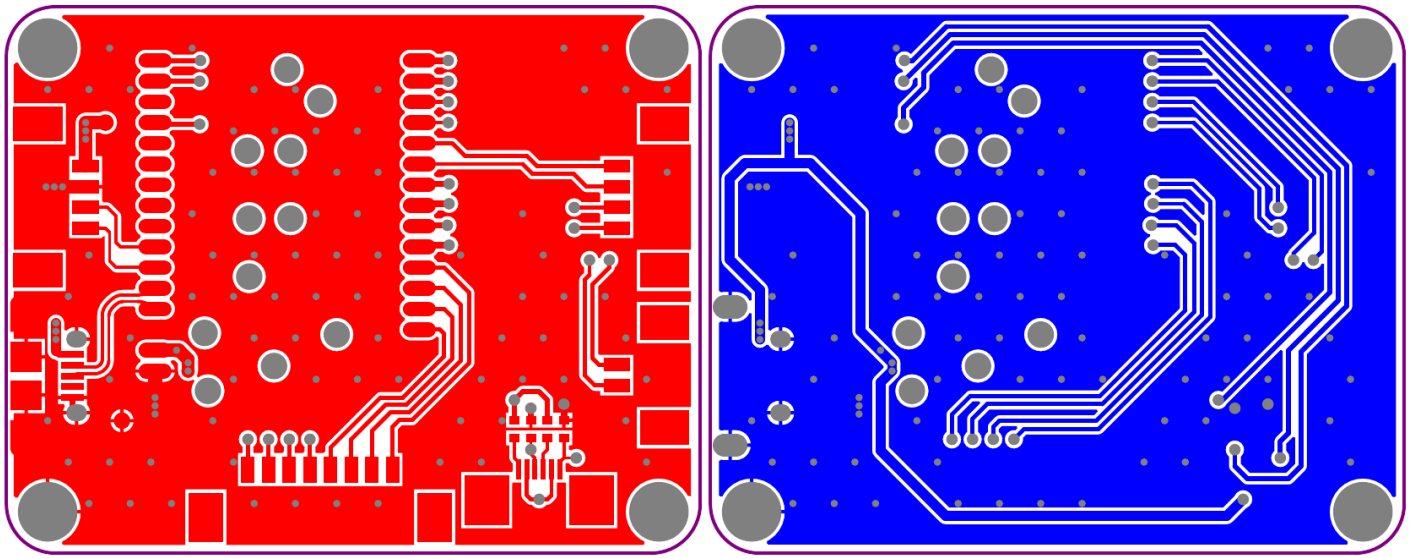


*cable side pin designation matches Molex 52746-0697 connector

Typical power profile



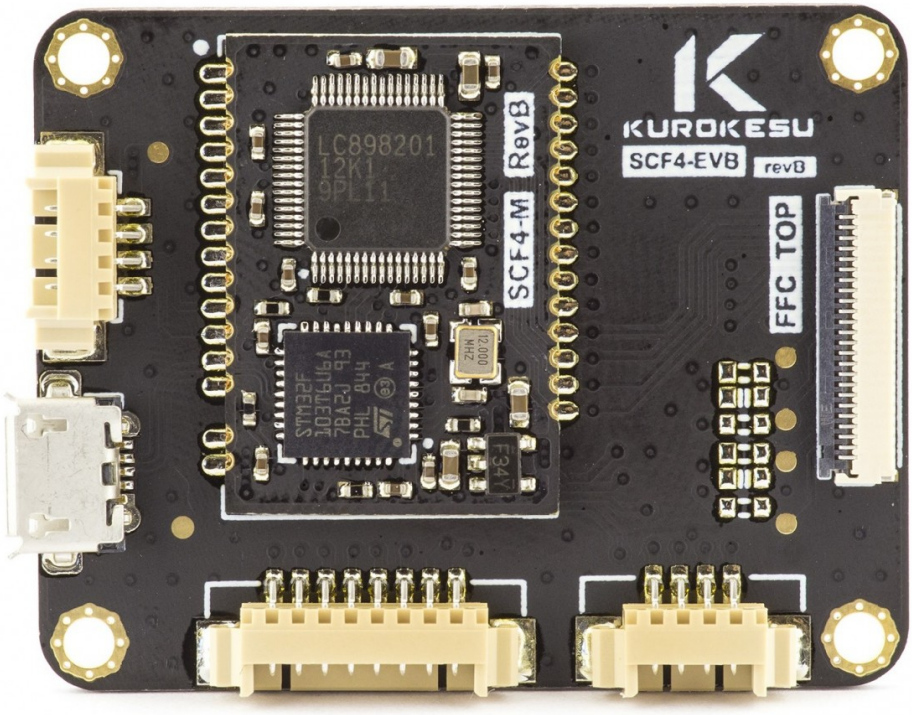
PCB layers



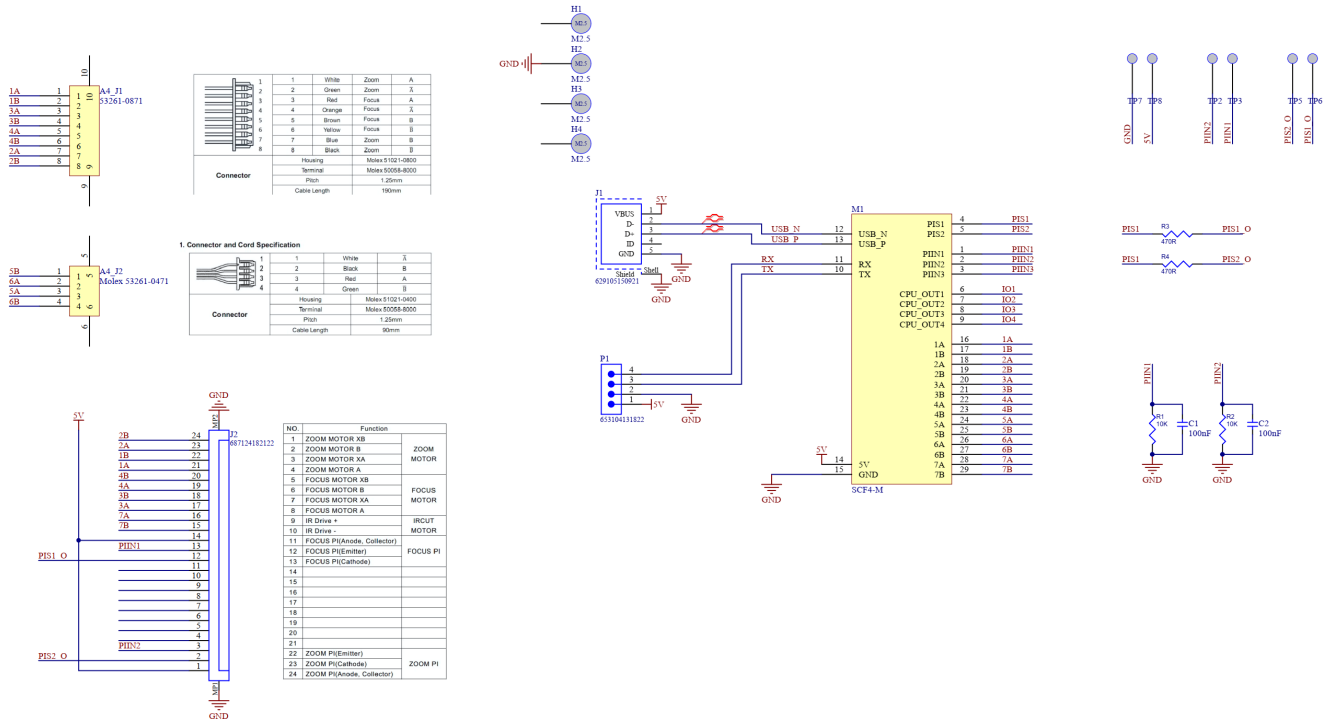
SCF4-EVB D14 motorized zoom lens controller board

Stepper motor controller evaluation board **SCF4-EVB** is designed to demonstrate **SCF4-M** module capabilities. It can drive two different types of Focus/Zoom/P-Iris lenses. Can be used as a complete product, easily redesigned to drive other lens or fit specific needs.

General view



Schematics



Features

- Small footprint 42 x 33 x 4.6 mm [1.65 x 1.3 x 0.18 in]
- Supports two kinds of lenses
- 3x stepper motor controller with up to 1/1024 micro stepping support for each motor (1/64 set by default)
- 1x H-bridge for coil control (day/night filter switch)
- 2x limit switch processing for precise lens homing/referencing (3x supported by module)
- Direct Full-speed micro USB 2.0
- Optional USART connectivity / GPIO

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