

Sony Spresense 5MP Camera Board

PRODUCT ID: 4417

The latest addition to Spresense's hardware ecosystem is the Spresense Camera Board that connects directly to the main board's camera interface.

The Spresense camera board has the Sony ISX012 image sensor mounted with a lens. The Sony ISX012 has an effective pixel count of 5.11M pixels and an onboard encoder that can acquire pictures in JPEG, RAW, Y/C or RGB format.

More on the Sony ISX012 image sensor:

- Sensor type: 1/4 type CMOS image sensor
- Effective pixel: 5.11M pixels
- Recording pixel: 5.04M pixels
- ISO sensitivity: ISO 40~800
- Scene selection: 12 preset
- Exposure control mode: Auto, Shutter priority, ISO sensitivity priority, Long time AE
- Photometry: Multi pattern, Center weight, Average, Spot
- Exposure compensation: ± 2 EV, 1/3 EV steps

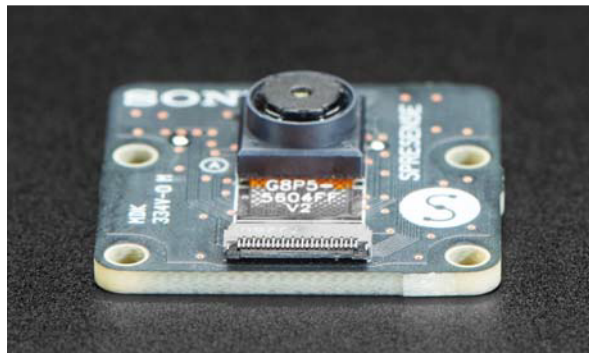
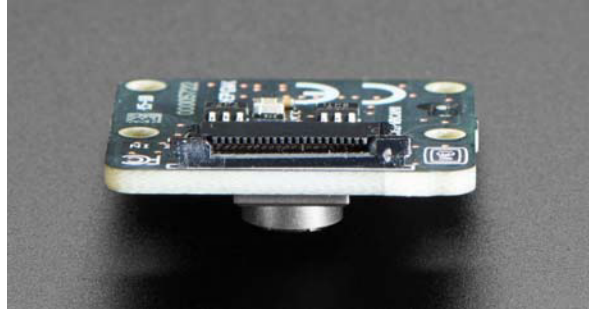
- Shutter speed range: 1 / 8 s (long AE mode) to 1 / 42000 s
- White balance: Auto, Daylight, Cloud, Fluorescent, Lamp
- Focus control: Auto, Single AF, Continuous AF, Manual control
- Output still picture format: JPEG(4:2:2), Y/Cb/Cr, YUV, RGB, RAW, JPEG+YUV(thumbnail)
- Still data rate: 5M pixel 15 frame/s JPEG output
- Movie data rate: SVGA 30 frame/s YCbCr output
- HD movie support: 1080p(1920×1030 30 frame/s), 720p(1208×720 60 frame/s)
JPEG output, JPEG+YCbCr output

Note: This is just the camera board. You'll need the main board as well.

TECHNICAL DETAILS

Specifications:

- [GitHub Repository](#)
- [Spresense hardware and software guides and documentation](#)
- [FAQ](#)
- Model name: CXD5602PWBCAM1
- Size: 24mm x 25mm
- Number of effective pixels: 2608 (H) x 1960 (V) = approx. 5.11 M pixels
- Operation voltage: DC 3.7V
- I/O voltage: DC 1.8V
- Camera interface: CMOS 8 bit parallel
- Output format: Y/C, RGB, RAW and JPEG
- Control interface: I2C
- Built-in filter: IR cut filter
- FOV: $78^\circ \pm 3^\circ$
- Depth of field: 77.5 cm $\sim \infty$
- F value: $2.0 \pm 5\%$
- Focus: Fixed focus
- Operating conditions: Temperature: 10 – 40°C, Humidity: 30% – 80% (no condensation)
- Storage conditions: Temperature: -20 – 60°C, Humidity: 10% – 80%



<https://www.adafruit.com/product/441712-4-19>