C3

INDUSTRIAL USB CAMERAS WITH CS AND M12 LENS MOUNTS

DATASHEET

KUROKESU

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Overview

Kurokesu industrial USB cameras with 4K Sony IMX415 sensor and internal MPEG/YUYV codec is suitable for a wide range of target applications and use cases. Stable and reliable web cameras operate on most modern operating systems (Windows, OSX, Linux, Android) designed to solve vision problems.

Application Examples

Conferencing and collaboration setups - Combine multiple **C3-462C** cameras in a single system — one for headshots, one for full-room view, and another pointing at a desk for handwritten notes or objects.

Remote monitoring and operation - **C3-462C** with IRCUT filter is a reliable default for recording or streaming in daylight - ideal for robotics, remote-controlled devices, or unattended site monitoring.

Embedded vision systems - **462C-CSI-M12** integrates directly into compact platforms like Raspberry Pi or Jetson, suitable for edge computing or AI-based vision processing.

Industrial inspection - Use **C3-462M-NIR1** with deep NIR illumination (850–1000 nm) to reveal defects in plastic, glass, or layered materials that are invisible in visible light.

ALPR/ANPR and vehicle profiling - Deploy multi-camera systems using a mix of C3 models - e.g., **C3-462M-NIR1** for license plate recognition, **C3-462C** for full-vehicle view, and optionally a third for capturing the driver.

Biometry and face recognition - Use **C3-462M** or **C3-462M-NIR1** under controlled IR lighting for identity verification, liveness detection, or gaze tracking.

Scientific and biomedical imaging - **C3-462M-NF** is well-suited for lab setups requiring high sensitivity across a broad spectrum - useful for fluorescence, spectral imaging, or process monitoring.

Long term availability

We produce our cameras until there is demand and we can buy the components. Even if a product is marked on our web as obsolete, it can be produced on demand when the minimum quantity is met.

Features

- **Sensor-swappable line-up**
  - Sony IMX415 8MP / 4K @ 30fps - maximum resolution
  - Sony IMX462 2MP @ 60fps - large 2.9µm pixels for ultra-low-light; available in color or mono
  - onSemi AR0234 2MP global-shutter @ 60fps - rolling shutter artifacts for machine vision
- **Form-factors**
  - Rugged boxed camera (CNC-milled, black-anodised).
  - 38 × 38mm board-level module for OEM integration.
  - M3 holes on every side + optional ¼-20 / Swiss Arca mount plate for flexible mounting
- **Lens & filter flexibility**
  - Native 1-32 TPI **CS** or **M12/M12L** mounts; C-mount by 5 mm spacer
  - Drop-in filters: IR-cut (visible-only), no-filter (full spectrum), 850nm NIR long-pass; sensors offered in color or mono to match.
- **USB-C UVC plug-and-play**
  - High-Speed 480Mb/s, MJPEG & YUY2 streams; works on Windows, macOS, Linux, Android - no drivers
- **Industrial-grade build**
  - -50 °C … +85 °C operating range, < 2W from 5V USB
  - On-board EEPROM stores last settings; each unit has a unique serial number
  - RoHS, REACH, CE certified
- **Advanced controls** (via standard UVC) - full auto or manual settings: exposure, gain, white-balance, gamma, HDR/WDR, ROI, anti-flicker, and software zoom/pan/tilt).

  * Some features are sensor/firmware specific.

C3-415 - 8M/4K (was C3_4K)

Sensor specifications

Pixels	3840H x 2160V
Sensor size	5.568 x 3.132 mm
Shutter	Electronic Rolling Shutter
Sensor pixel size	1.45µm x 1.45µm
Frame rates	• MJPG – 30fps in all modes • YUV 4:2:2 (YUYV)
Output frame sizes	3840×2160, 2592×1944, 2048×1563, 1920×1080, 1600×1200, 1280×720, 1280×960, 800×600, 640×480, 320×240, custom available on request
Manual control	• Exposure • White balance (2000°K – 10000°K) • Gain • Gamma • Backlight compensation • Zoom, Pan, Tilt, Rotation • Low light compensation • Sharpness • Contrast • Saturation • Hue • Brightness • Anti-flicker frequency
Rated power	• 2W max • 290mA @ 5V – MJPEG / YUYV
Supported OS	• Windows • OSX • Linux • Android
Sensor	Sony IMX415

Variants

SKU	Filter	Chroma	Note

C3-415C-M12	9.5mm for wide angle lenses	RGB Color	M12	**Most common use for wide angle and fish-eye lenses.**
C3-415C-M12L	14.7mm for regular and telephoto lenses	RGB Color	M12L	**Modification for lenses above 6mm (typical)**
C3-415C	Visible band-pass (IRCUT filter) LP0689_P1010	RGB Color	CS	**Essential for real-life colors**
C3-415C-NF	No Filter	RGB Color	CS	Full spectrum false color imaging
C3-415C-NIR1	Long-pass NIR 850nm filter LP0689-P1012	RGB Color	CS	Blocks visible light, can see only Infrared.

C3-462 - High sensitivity, RGB/Mono

Sensor specifications

Pixels	1920H x 1080V
Sensor size	5.568 x 3.132 mm
Shutter	Electronic Rolling Shutter
Sensor pixel size	2.9µm x 2.9µm
Frame rates	• MJPG – 60fps in all modes • YUV 4:2:2 (YUYV)
Output frame sizes	1920×1080, 1600×1200, 1280×720, 1280×960, 800×600, 640×480, 320×240, custom available on request
Manual control	• Exposure • White balance (2000°K – 10000°K) • Gain • Gamma • Backlight compensation • Zoom, Pan, Tilt, Rotation • Low light compensation • Sharpness • Contrast • Saturation • Hue • Brightness • Anti-flicker frequency
Rated power	• 2W max • 290mA @ 5V – MJPEG / YUYV
Supported OS	• Windows • OSX • Linux • Android
Sensor	Sony IMX462
Chroma	Available in RGB color and Monochrome version

Variants

SKU	Filter	Chroma	Lens mount	Note
C3-462C-M12	9.5mm for wide angle lenses	RGB Color	M12	**Most common use for wide angle and fish-eye lenses.**
C3-462C-M12L	14.7mm for regular and telephoto lenses	RGB Color	M12L	**Modification for lenses above 6mm (typical)**
C3-462M-M12	9.5mm for wide angle lenses	Mono	M12	Same as C3-462C-M12 but Mono sensor for better light sensitivity
C3-462M-M12L	14.7mm for regular and telephoto lenses	Mono	M12L	Same as C3-462C-M12L but Mono sensor for better light sensitivity
C3-462C	Visible band-pass (IRCUT filter) LP0689_P1010	RGB Color	CS	**Essential for real-life colors**
C3-462C-NF	No Filter	RGB Color	CS	Full spectrum false color imaging
C3-462C-NIR1	Long-pass NIR 850nm filter LP0689-P1012	RGB Color	CS	Blocks visible light, can see only Infrared. Most likely you need **C3-462M-NIR1** if higher sensitivity is required
C3-462M	Visible band-pass (IRCUT filter) LP0689_P1010	Mono	CS	Rarely used, most likely you need **C3-462M-NF** or **C3-462M-NIR1**
C3-462M-NF	No Filter	Mono	CS	Full spectrum monochrome imaging
C3-462M-NIR1		Mono	CS	

	Long-pass NIR 850nm filter LP0689-P1012		Blocks visible light, can see only Infrared

C3-234 - Global shutter

Sensor specifications

Pixels	1920H x 1080V
Sensor size	5.784 x 3.624 mm
Shutter	Global Shutter
Sensor pixel size	3µm x 3µm
Frame rates	• MJPG – 60fps in all modes • YUV 4:2:2 (YUYV)
Output frame sizes	1920×1080, 1600×1200, 1280×720, 1280×960, 800×600, 640×480, 320×240, custom available on request
Manual control	• Exposure • White balance (2000°K – 10000°K) • Gain • Gamma • Backlight compensation • Zoom, Pan, Tilt, Rotation • Low light compensation • Sharpness • Contrast • Saturation • Hue • Brightness • Anti-flicker frequency
Rated power	• 2W max • 290mA @ 5V – MJPEG / YUYV
Supported OS	• Windows • OSX • Linux • Android
Sensor	Onsemi AR0234

Variants

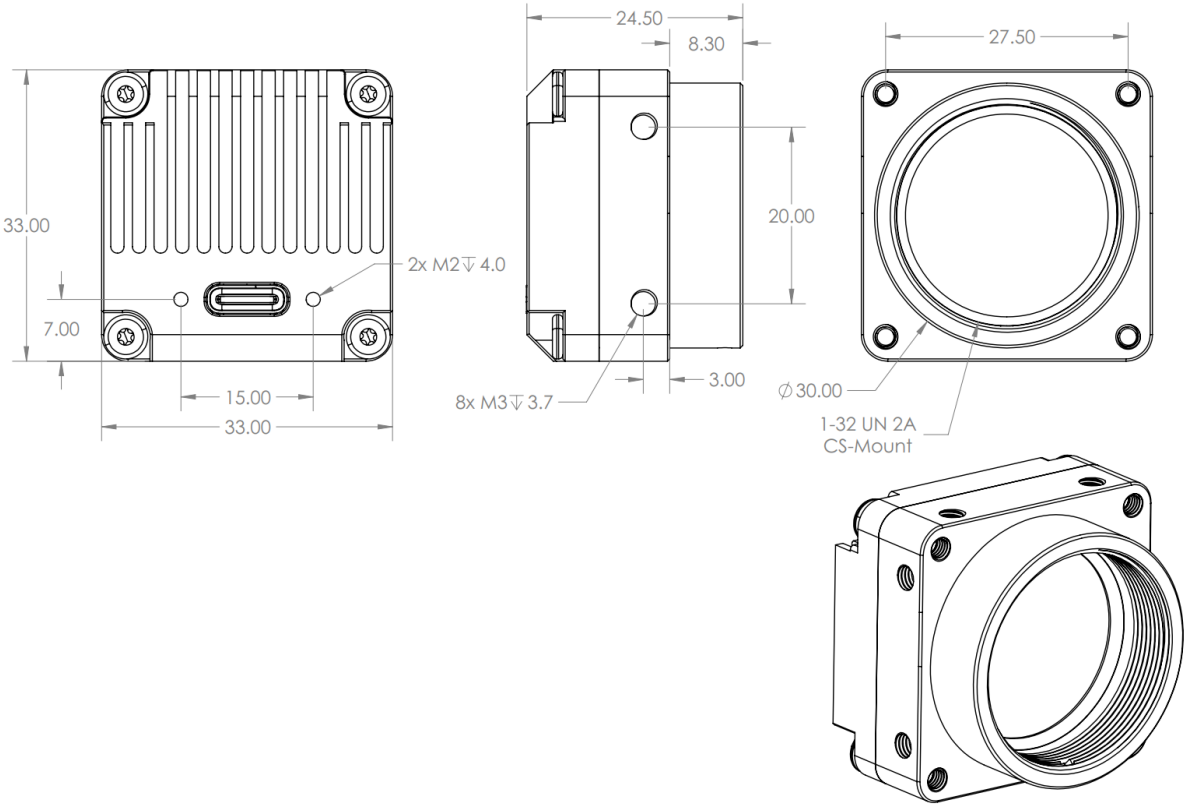
SKU	Lens mount	Chroma	Lens mount	Note

C3-234C-M12	9.5mm for wide angle lenses	RGB Color	M12	**Most common use for wide angle and fish-eye lenses.**
C3-234C-M12L	14.7mm for regular and telephoto lenses	RGB Color	M12L	**Modification for lenses above 6mm (typical)**
C3-234C	Visible band-pass (IRCUT filter) LP0689_P1010	RGB Color	CS	**Essential for real-life colors**
C3-234C-NF	No Filter	RGB Color	CS	Full spectrum false color imaging
C3-234C-NIR1	Long-pass NIR 850nm filter LP0689-P1012	RGB Color	CS	Blocks visible light, can see only Infrared.

Dimensions

Boxed camera

Weight	36g
Dimensions	33×33×24.5mm
Ingress protection	IP40 (No water protection, protected against solid objects)
Lens mount	CS-mount
Operational temperature	-50 ... 85°C (non condensing)

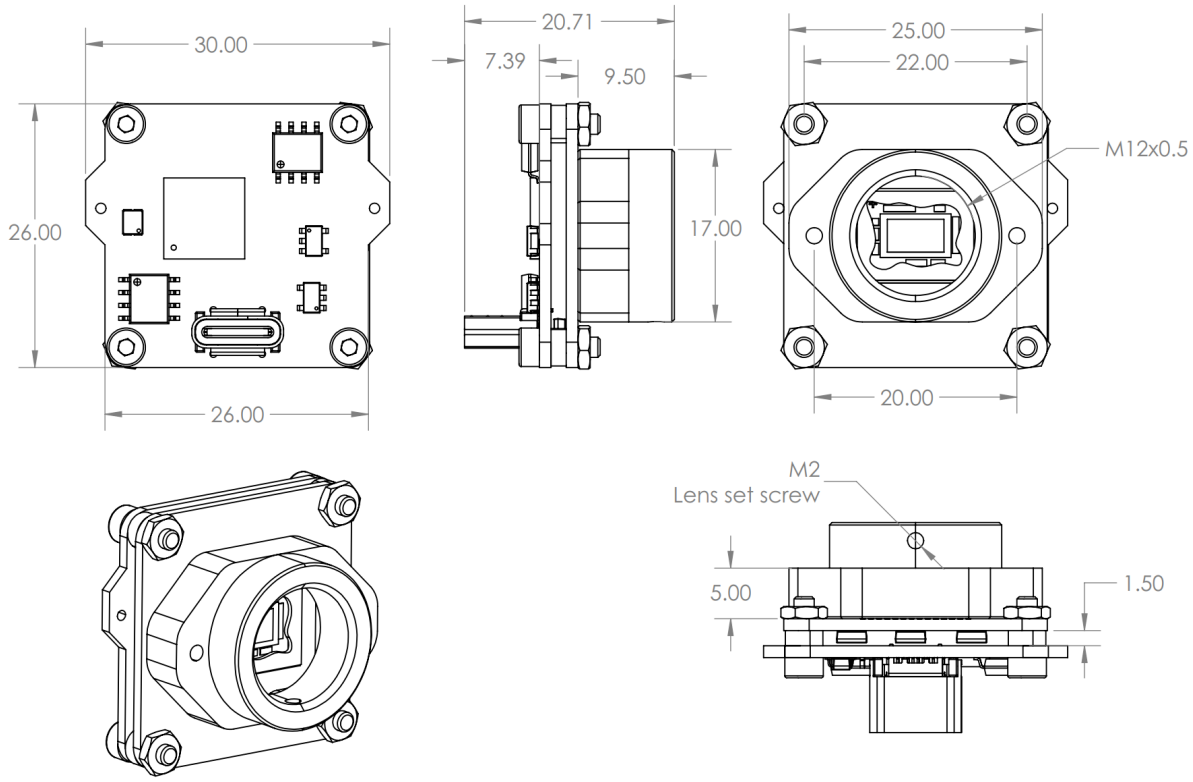


3D model @ GitHub

Board camera M12

Weight	11.2g
Dimensions	30×26×20.7mm
Ingress protection	

	IP40 (No water protection, protected against solid objects)
Lens mount	M12 (9.5mm), M12L (14.7mm)
Operational temperature	-50 ... 80°C (non condensing)

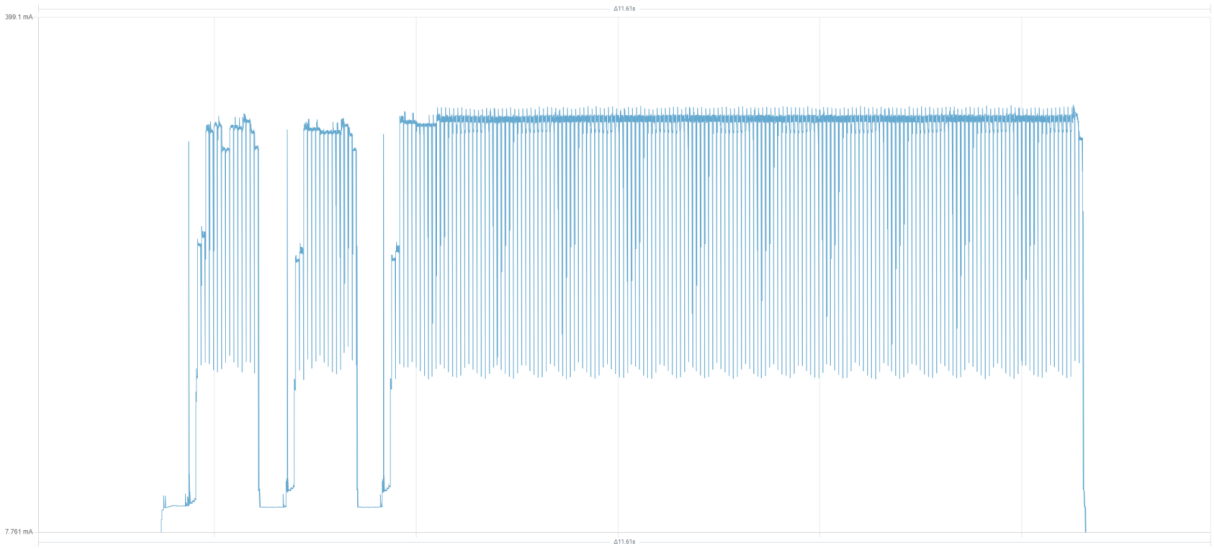


3D model @ GitHub

Power consumption

Power profile

Typical power consumption looks like in diagram below (MJPEG mode)



Update History

Date	Event
2023-10-10	First device in C3 camera family C3_4K
2024-07-01	Added C3-234C camera with AR0234 image sensor
2025-05-25	Added C3-462C and C3-462M cameras with IMX415 image sensor
2025-05-30	Firmware update - renamed USB product string from C3_4K to C3_415C to match other products in the C3 camera family