

Toshiba 41.5 MP sensor exclusive at Raytrix



Changeable C-Mount

Integrated UHR-Optics



C42



8k Ultra-High Resolution

41.5 Megapixels @ 7 FPS

4k Superspeed Video

4k@30 FPS, 2k@60 FPS

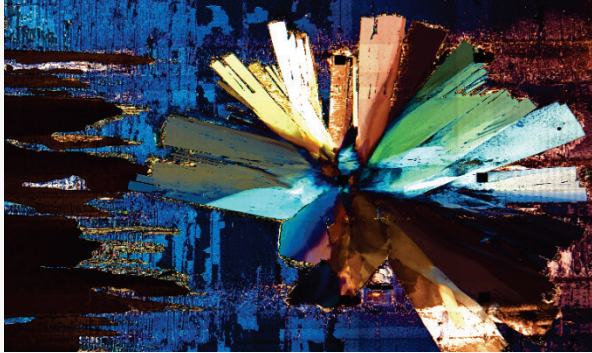
Superb Picture Quality

HDR, BSI, Noise Reduction

Changeable C-Mount

Option: OiS & Shift-Lens

for Professional Applications



Life Science (small pixel size)

Microscopy, Endoscopy, Borescopy



Logistics / Parcel Service Depots

Bar Code Reading / Scanning



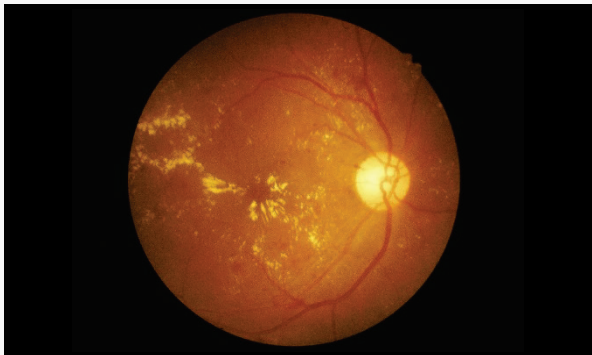
Security Monitoring (leightweight)

Quadrocopter, 3D Aerial Imaging



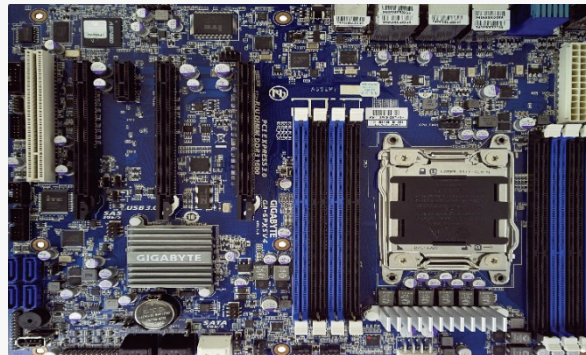
Video Conferencing

Webcam, Eye Tracking



Medical

Ophthalmology, Cornea/Retina-Scan



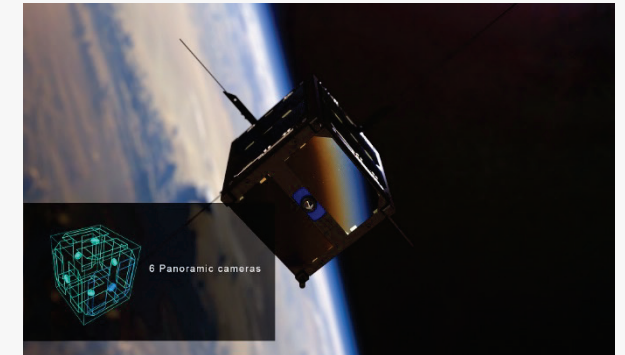
Machine Vision

Board Inspection, Line-Scan Camera



Automotive, Google-Street-View

Driver Assistance System



Space, Science, Army

Micro Satellites, Drones

C-Mount Camera



Application

Machine Vision | Microscopy | Life Science | R&D | Education | Video | Medical

Image sensor

- CMOS, HDR, color noise reduction, defect pixel correction
- rolling shutter with global start, 2/3" sensor class
- 1.1µm pixel size, back side illuminated (BSI)
- raw mode: Bayer8, total sensor size 7728 x 5368 with 41.5 MP, future work: 12bit pixel depth

Region of interest (ROI)

User defined

Minimum integration time

- 4k: 8µs
- Full resolution: 16µs

Power consumption

- Powered by USB 3.0 cable
- 350mA (800mA peak)

Frame rate

- 7 FPS (frames per second) at full resolution (7708 x 5352 pixels)
- >30 FPS video at 4k UHD resolution (3856 x 2168 pixels)
- >60 FPS video at 2k Full-HD

Body

- dimensions: 39mm (W), 39mm (H), 28mm (D), weight: 71g, case material: aluminium
- award winning design, tripod adaptor

Interface

- USB 3.0 superspeed (up to 7m cable with micro-B screw lockers, up to 100m with optical USB 3.0 cable)
- optional: external hardware trigger input (TTL)

Temperature range

- -30°C to 70°C (optimal: 45°C)

Optics

- changeable C-mount for adapting any industrial or microscopic optics
- optional: without cover glass/IR filter

Software

- [SDK/API programming interface for Microsoft® Windows® 7/8 and for Linux](#)
- [MVTec® Halcon®, Cognex® Vision Pro®, Mathworks® Matlab®](#)

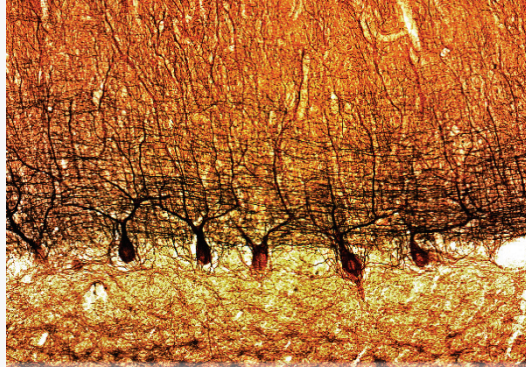
Requirements

- Microsoft® Windows® 7/8, Linux
- OpenGL 3.0, intel® HD5000 or higher
- intel®, Fresco Logic® or Renesas® USB 3.0 controller

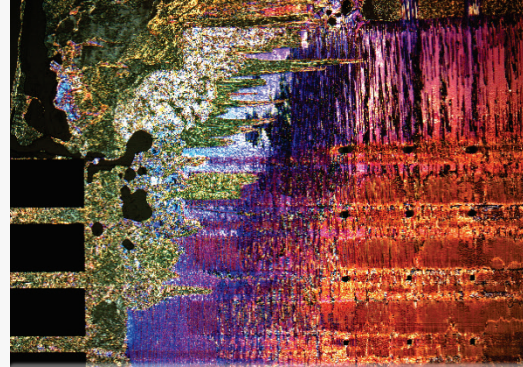
S-Mount Optics



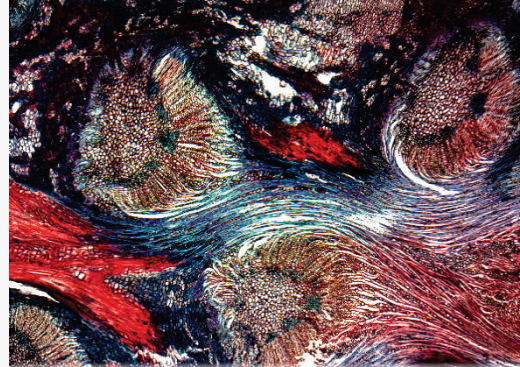
Optical angle	79° angle of view diagonal
Focal length	f=26mm 35mm equivalent focal length: 25mm for 16:9, 27mm for 4:3
Aperture	F/2.2
Resolution	>40 MP
Sensor class	2/3"
Distorsion	Low
Mount	M12x0.5, S-Mount
Application	High resolution optics for action cams (e.g. GoPro, etc.)
Optical system	System of 6 lenses (5 plastic molded high performance plastic, one high precision glass element)



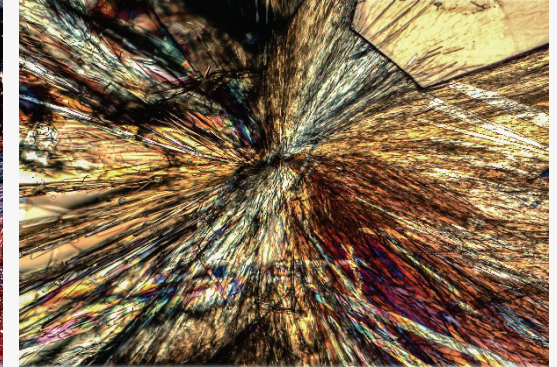
Human cerebellum*



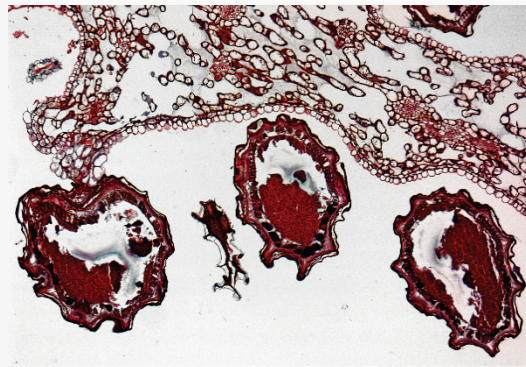
Recrystallized LCD display border area*



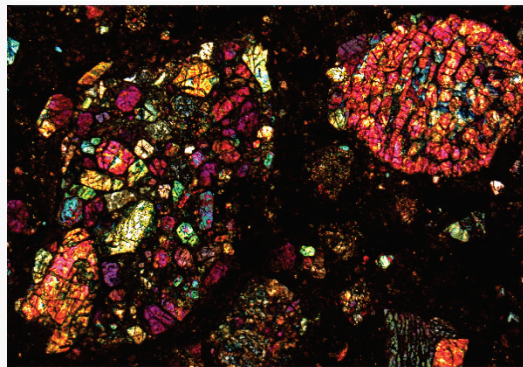
Alder cone*



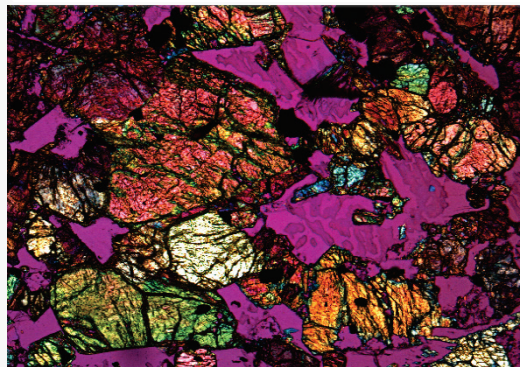
Potassium dichromate



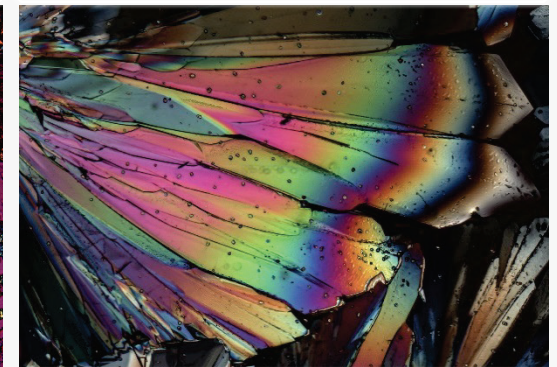
Maple leaf bud*



Chondrite*



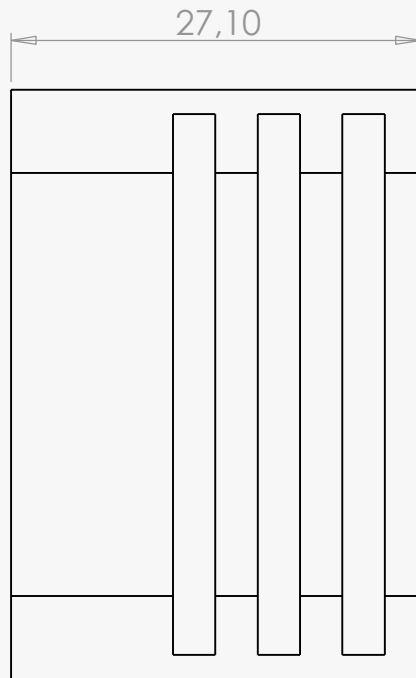
Mars meteorite*



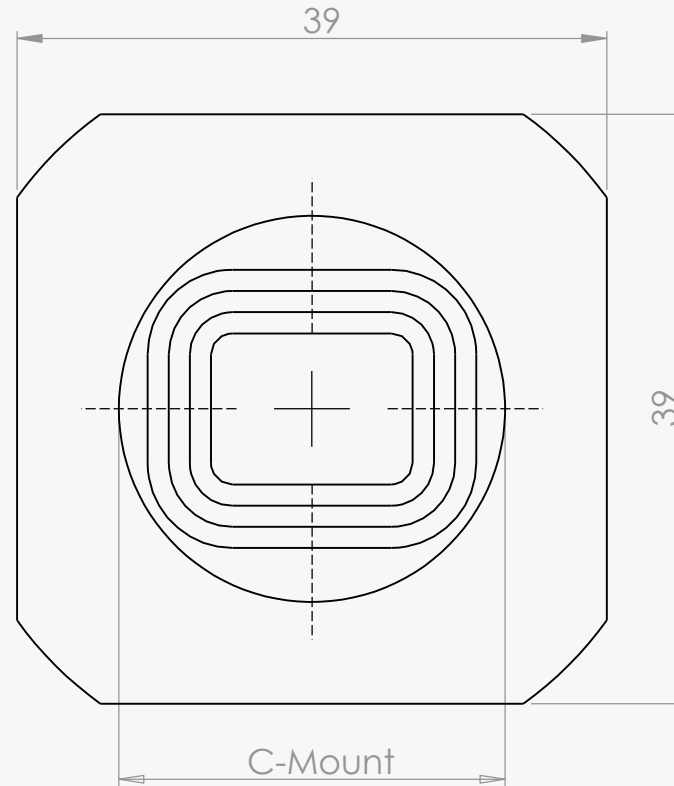
Glucose

*Mikrofotografie by KAGE Mikrofotografie

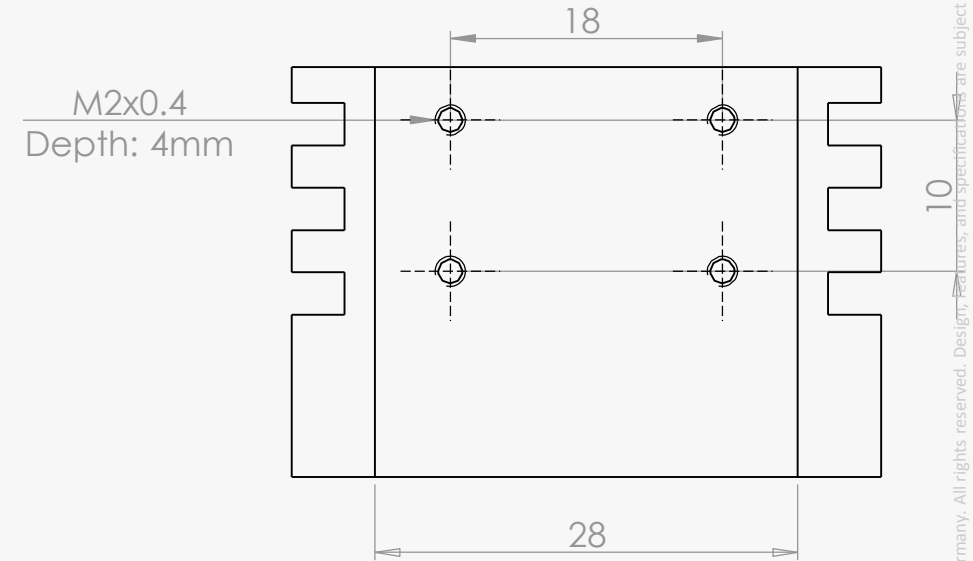
C-Mount Camera



Side View



Front View



Bottom View

Compact Camera

Webcam | Machine Vision | Security | Life Science | R&D | Education | Video | Medical | Computational Photography | 3D



Application

Image sensor

- CMOS, HDR, color noise correction, defect pixel correction
- rolling shutter with global start, 2/3" sensor class, 1.1 um pixel size, back side illuminated (BSI)
- raw mode: Bayer8, total sensor size 7728 x 5368 (41.5 MP)

Region of interest (ROI)

One user defined window

Minimum integration time

- 4k: 8µs
- Full resolution: 16µs

Power consumption

- Powered by USB 3.0 cable
- 350mA with OIS (800mA peak)

Frame rate

- 7 FPS (frames per second) at full resolution (7708 x 5352 pixels)
- >30 FPS video at 4k UHD resolution (3856 x 2168 pixels)
- >60 FPS video at 2k Full-HD

Optics

- integrated ultra high resolution optics
- software controllable **SHIFT-LENS (X,Y)** and **FOCUS (Z)**
- 79° angle of view diagonal
- aperture F/2.2
- focal length f=26mm
- mechanical optical image stabilizer (OIS)
- easy system integration, thanks to wide angle lens for short working distances

Body

- dimensions: 39mm (W), 39mm (H), 28mm (D), weight: 71g, case material: aluminium
- award winning design, tripod adaptor

Interface

- USB 3.0 superspeed (up to 7m cable with micro-B screw lockers, up to 100m with optical USB 3.0m cable)
- optional: external hardware trigger input (TTL)

Software support

- [SDK/API programming interface for Microsoft® Windows® 7/8 and Linux](#)
- [MVTec® Halcon®, Cognex® Vision Pro®, Mathworks® Matlab®](#)

Requirements

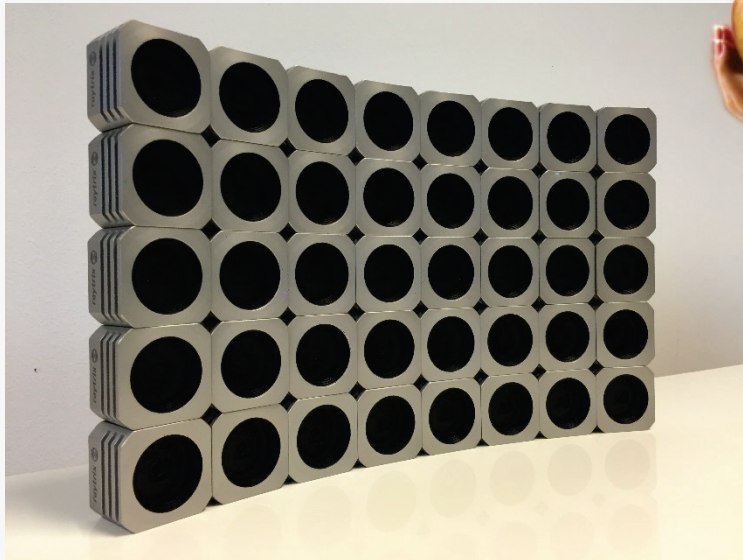
- Microsoft® Windows® 7/8 (64bit), Linux, OpenGL 3.0, intel® HD5000 or higher, intel®, Fresco Logic® or Renesas® USB 3.0 controller

for 3D Hologram Display

5x5 Camera Matrix for 3D Light Field Photography & Video

Scaleable to any Camera Matrix Size

Compact Camera Dimension for Mobile Use

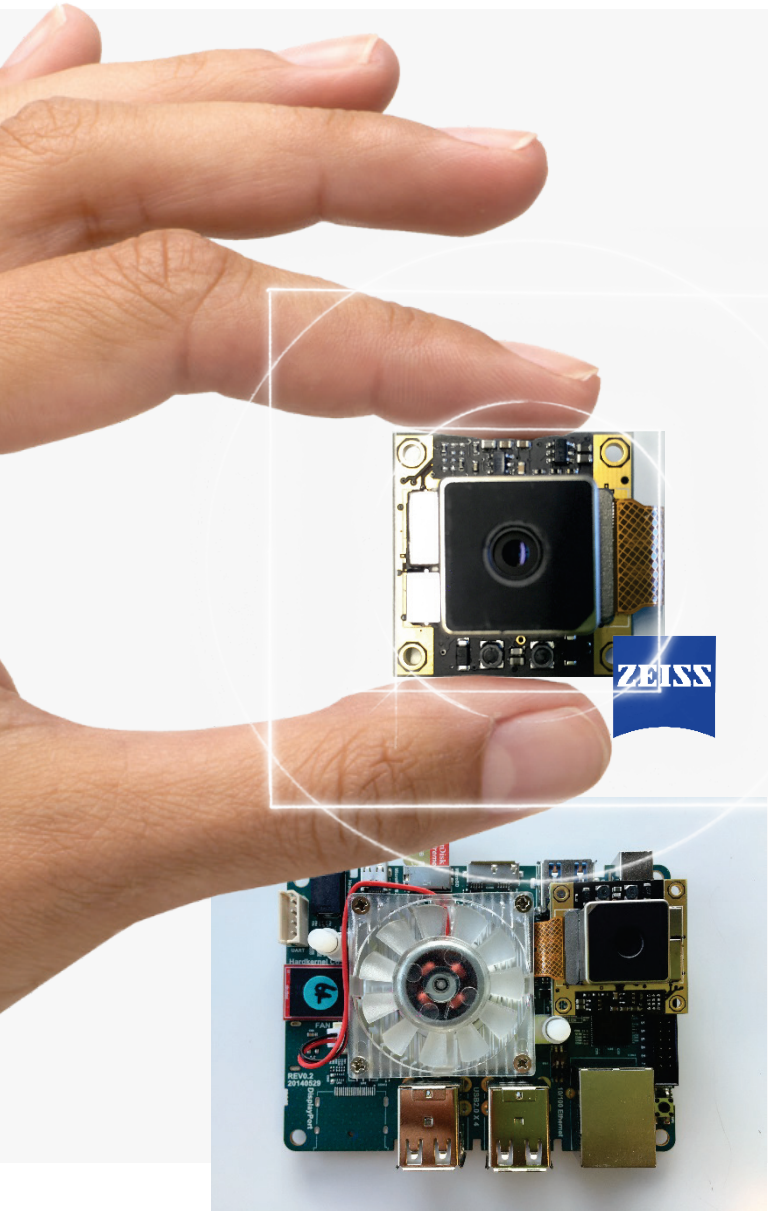


Astonishing State-of-the-Art 3D (glasses-free) with great pop-out Effect

Eye-Catcher for Promotion Tours, Product Launches, Exhibitions, POS

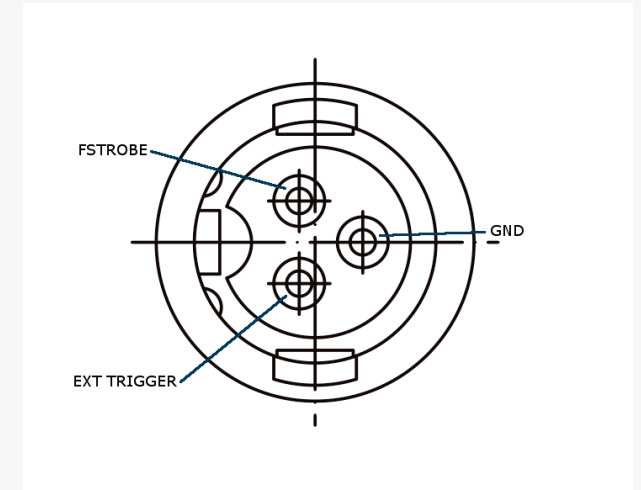
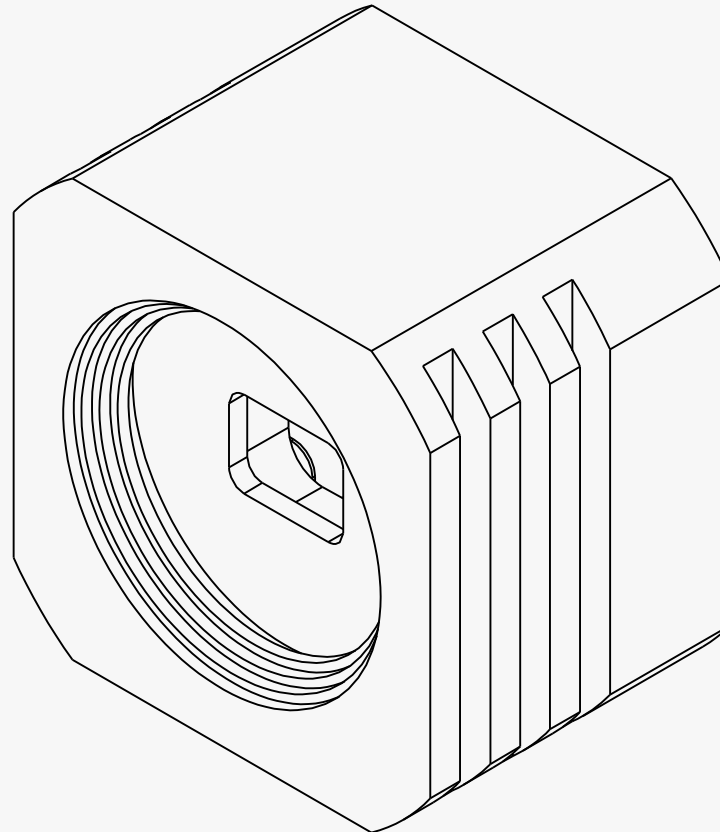
Customized Real or Rendered 3D-Content for your individual Product Advertising

Lightweight Board Level Camera



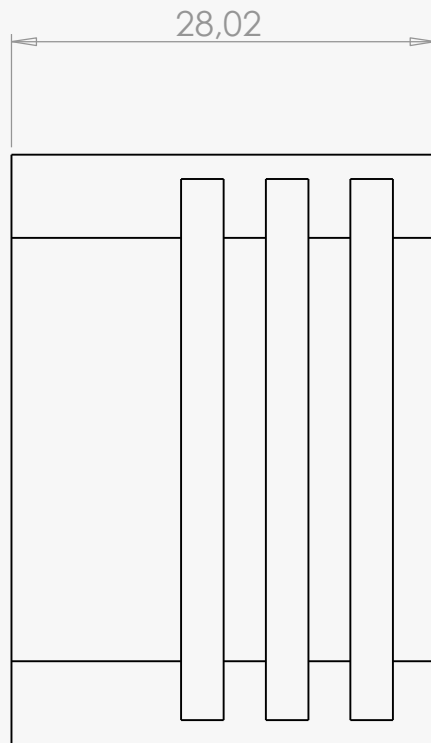
Application	Webcam Machine Vision Security Life Science R&D Education Video Medical Computational Photography 3D
Image sensor	• CMOS, HDR, color noise correction, defect pixel correction • rolling shutter with global start, 2/3" sensor class, 1.1 um pixel size, back side illuminated (BSI) • raw mode: Bayer8, total sensor size 7728 x 5368 (41.5 MP)
Minimum integration time	• 4k: 8µs • Full resolution: 16µs
Power consumption	• Powered by USB 3.0 cable • 350mA with OIS (800mA peak)
Frame rate	• 7 FPS (frames per second) at full resolution (7708 x 5352 pixels) • >30 FPS video at 4k UHD resolution (3856 x 2168 pixels) • >60 FPS video at 2k Full-HD
Optics	• integrated ultra high resolution optics • software controllable SHIFT-LENS (X,Y) and FOCUS (Z) • 79° angle of view diagonal • aperture F/2.2 • focal length f=26mm • mechanical optical image stabilizer (OIS) • easy system integration, thanks to wide angle lens for short working distances
Weight	• Board: 5g • Camera Module: 5g
Interface	• USB 3.0 superspeed (up to 7m cable with micro-B screw lockers, up to 100m with optical USB 3.0m cable) • optional: external hardware trigger input (TTL)
Software support	• SDK/API programming interface for Microsoft® Windows® 7/8, Linux • MVTec® Halcon®, Cognex® Vision Pro®, Mathworks® Matlab®
Requirements	• Microsoft® Windows® 7/8 (64bit), Linux, OpenGL 3.0, intel® HD5000 or higher, intel®, Fresco Logic® or Renesas® USB 3.0 controller

Compact Camera

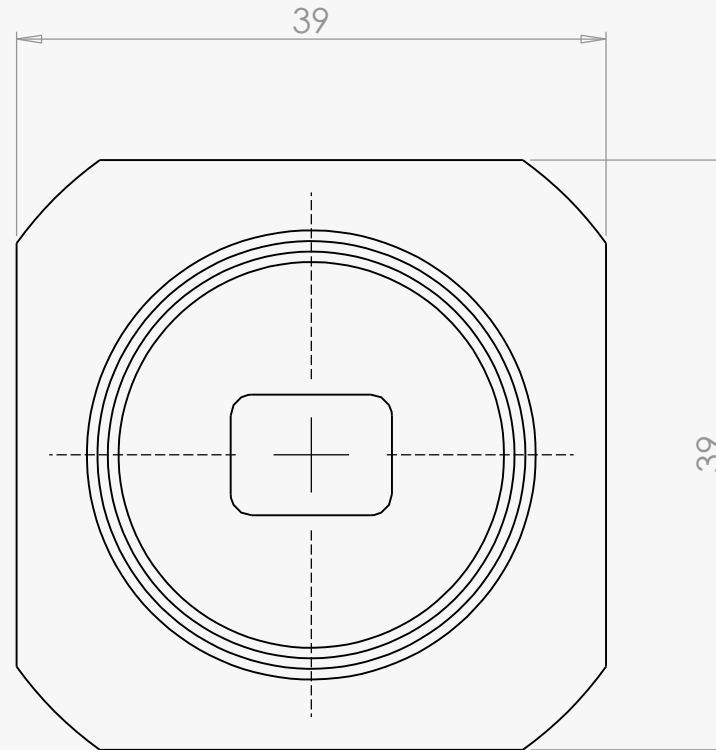


Trigger Input Interface Pin

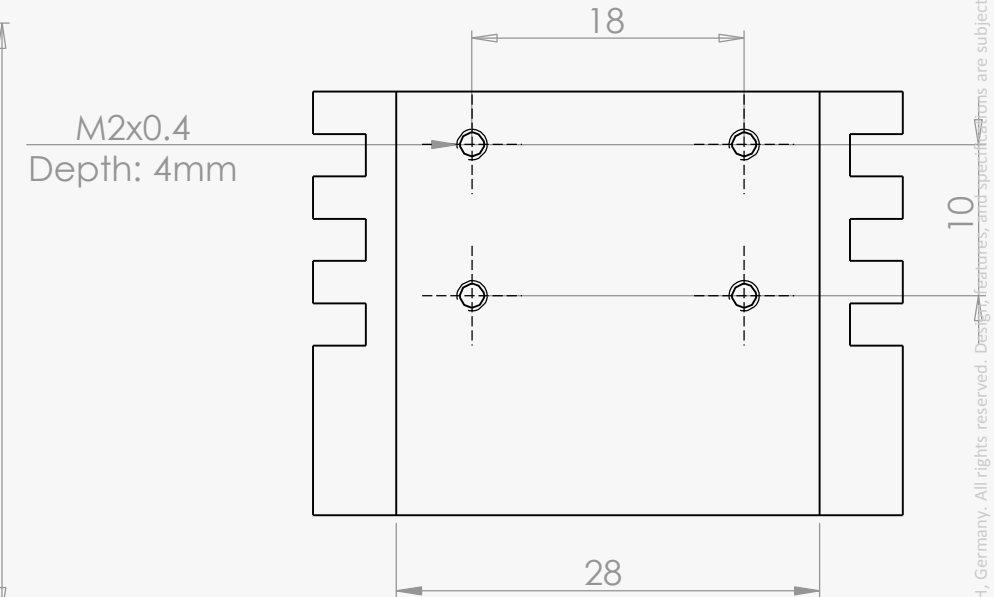
Compact Camera



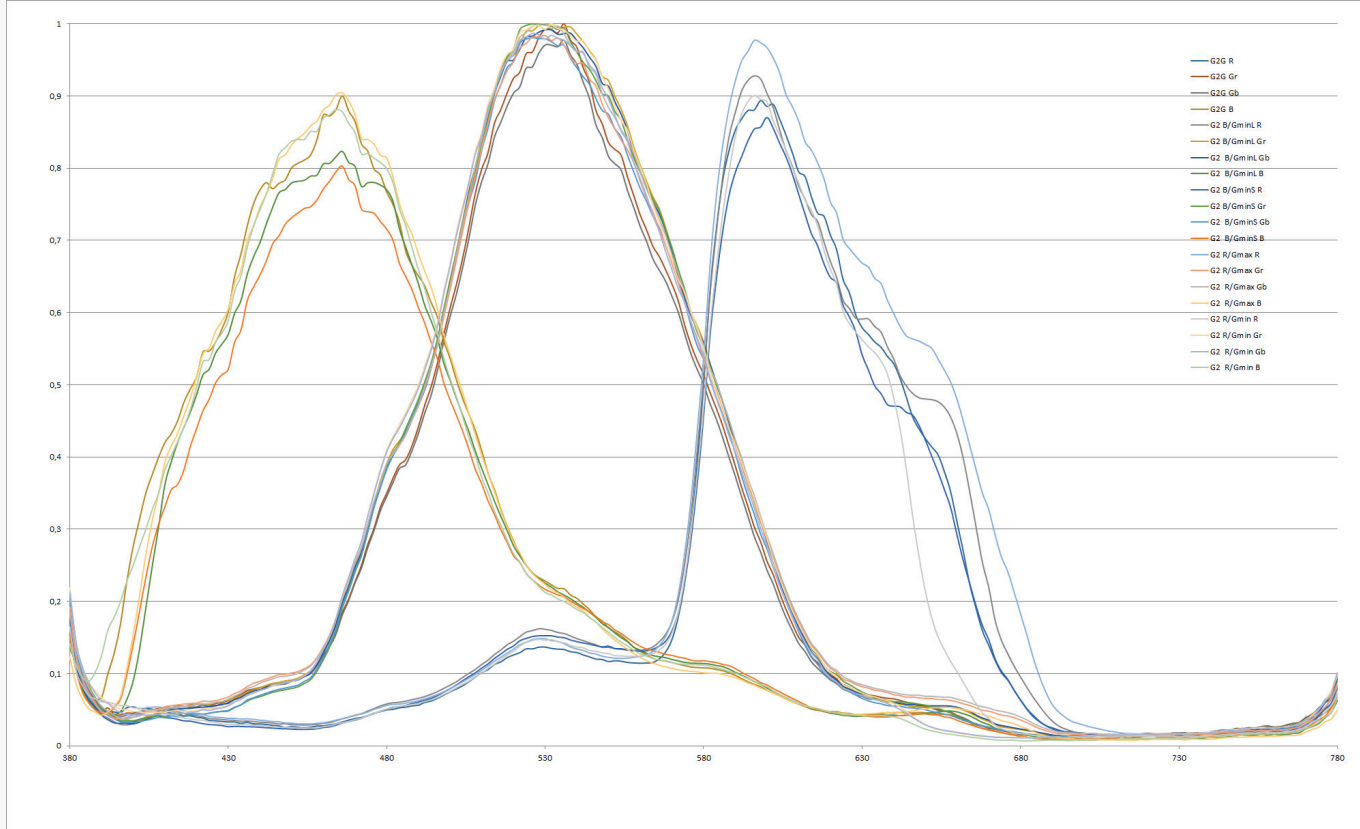
Side View



Front View



Bottom View



Spectral Response Curves

CRA

Height	mm	0	1.002	2.003	3.005	4.006	5.008
Chief	deg	0	11	22	30	33	30
Upper	deg	-13	-1	10	20	25	24
Lower	deg	13	24	34	41	43	38

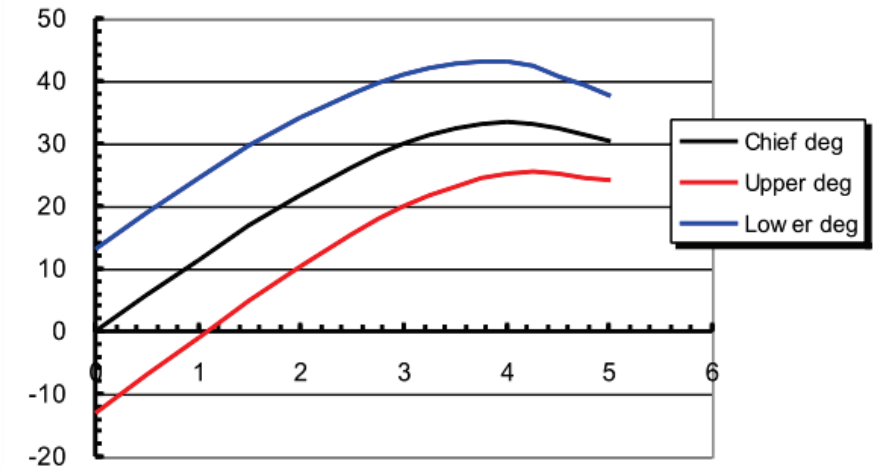


Figure 29 Optics CRA

Chief Ray Angle



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