Dhyana 400BSI V3

The Dhyana 400BSI V3 delivers perfect sensitivity and resolution for high NA microscope objectives, being designed lighter and low power consumption, making it ideal for integrating and fitting into small spaces.[1]
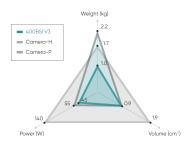
Key Features / Benefits

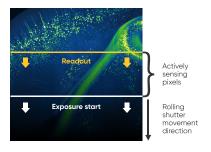| Key Features	Benefits
95% QE & Lowest Noise	High signal-to-noise ratio across UV / Visible / NIR.
6.5 µm x 6.5 µm Pixel Size	Optimal spatial sampling and sensitivity for 100X, 60X and 40X microscope.
18 mm Array Diagonal	Ideal for the microscopes that have C-mount ports.
Rolling Shutter Control Mode	Allowed to define line time delays or slit heights for scanning systems such as Light-sheet Microscopy. [2]
Camera Link & USB 3.0	While the USB 3.0 is quite flexible and easy to use, the CameraLink is a faster and stable option up to 100 fps@4.2 MP.
Air & Liquid Cooling	Maintains low dark noise, minimizes vibration, and aids thermal stability.

Typical Applications

- Advanced Microscopy
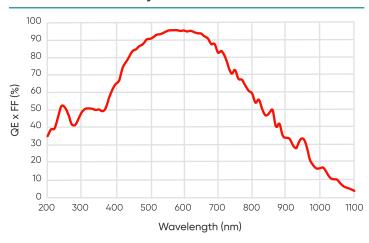- Spectral Imaging
- Astrophysical

Noted Examples
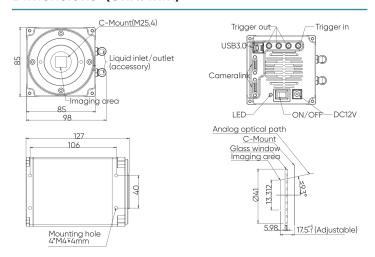
[1] Compact, lighter design low power consumption.

Weight (kg)
- 400BSI V3
- Camera-H
- Camera-P

[2] The Rolling Shutter Control Mode applied in Light-sheet Microscopy.

Readout

Exposure start

Actively sensing pixels

Rolling shutter movement direction

Quantum Efficiency

Dimensions (Unit: mm)

C-Mount(M25.4)
Liquid inlet/outlet (accessory)
Imaging area
85
85
98

127
106
40
Mounting hole 4*M4*4mm

Trigger out   Trigger in
USB3.0
Cameralink
LED   ON/OFF   DC12V

Analog optical path
C-Mount
Glass window
Imaging area
Ø41
13.312
5.98
17.5 (Adjustable)

Specifications

Model	Dhyana 400BSI V3	
Sensor Type	BSI sCMOS	
Sensor Model	Gpixel GSENSE2020BSI	
Peak QE	95%@600 nm	
Chrome	Mono	
Array Diagonal	18.8 mm	
Effective Area	13.3 mm x 13.3 mm	
Resolution	2048 (H) x 2048 (V)	
Pixel Size	6.5 μm x 6.5 μm	
Full Well Capacity	Typical: 45 Ke-	
Dynamic Range	Typical: 90 dB	
Frame Rate	12 bit Firmware HDR: 43 fps@Camera Link, 43 fps@USB 3.0 High Speed: 100 fps@Camera Link, 60 fps@USB 3.0	11 bit Firmware HDR: 74 fps@Camera Link, 45 fps@USB 3.0 High Speed: 100 fps@Camera Link, 60 fps@USB 3.0
Readout Noise	CMS (Typical): 1.1 e- (Median), 1.2 e- (RMS) HDR (Typical): 1.6 e- (Median), 1.7 e- (RMS)	
Shutter Mode	Rolling, Global Reset	
Exposure Time	6.6 μs~10 s	
DSNU	0.2 e-	
PRNU	0.3%	
Cooling Method	Air Cooling, Liquid Cooling	
Cooling Temp.	45℃ below ambient (Liquid cooling)	
Dark Current	0.5 e-/pixel/s@-10℃	
Binning	2 x 2, 4 x 4	
ROI	Support	
Timestamp Acc.	1 μs	
Trigger Mode	Hardware, Software	
Trigger Output	Exposure Start, Global Exposure, Readout End, High, Low, Trigger Ready	
Trigger Interface	SMA	
Data Interface	USB 3.0, CameraLink	
Bit Depth	11 bit, 12 bit, 16 bit	
Optical Interface	C-mount	
Power Supply	12 V / 8 A	
Power Cons.	45 W	
Dimensions	85 mm (H) x 85 mm (W) x 127 mm (L)	
Weight	995 g	
Software	Mosaic 3.0, Sample Pro, LabVIEW, MATLAB, Micro-Manager 2.0	
SDK	C / C++ / C# / Python	
Operating System	Windows, Linux	
Environment	Working: Temp. 0℃~40℃, HUM 0%~85%; Storage: Temp. 0℃~60℃, HUM 0%~90%	