

Dhyana 2100

The Dhyana 2100 is designed to deliver the maximum speed and maximum resolution combination seen yet with a sCMOS sensor.



Key Features

Benefits

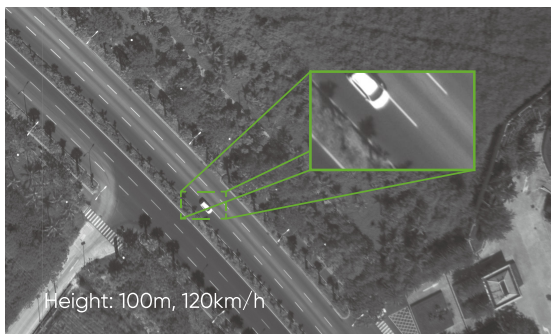
450 fps @ 21 MP	To allow the observation of fine details at high speed. ^[1]
Fast Binning Mode	Up to 1725 fps @ 5 MP with high sensitivity and high dynamic range. ^[2]
Global Shutter	High image quality standard with no artifacts and no distortion.
Air & Liquid Cooling	Maintains low dark noise, minimizes vibration, and aids thermal stability.

Typical Applications

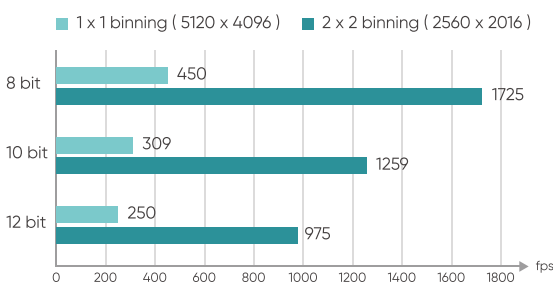
- Wafer Inspection
- FPD Inspection
- Aerial Photography
- Voltage Sensitive Imaging
- Cardiac Imaging

Noted Examples

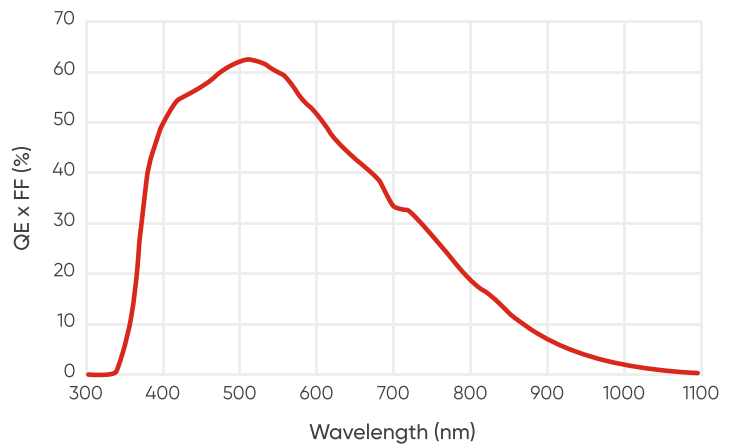
[1] High-Speed using global shutter provides clear images from objects moving at speed.



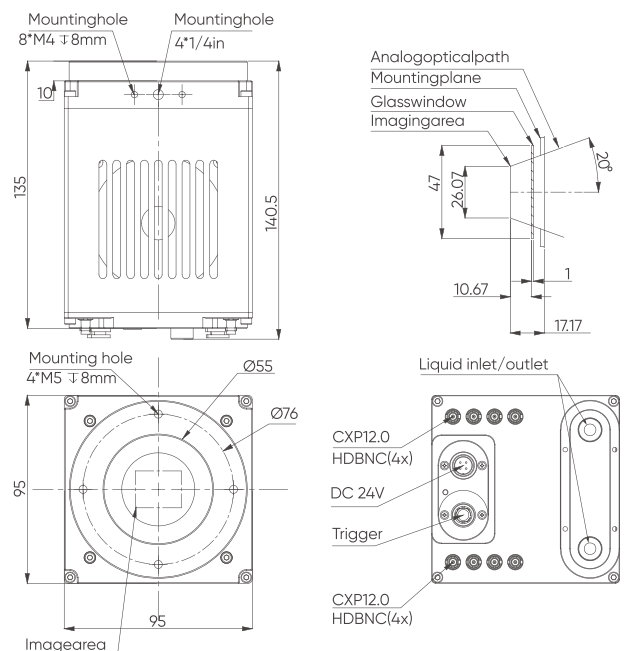
[2] Speed Comparison in Fast Binning Mode.



Quantum Efficiency



Dimensions (Unit: mm)



Specifications

High Speed sCMOS Camera

www.tucsen.com

Model	Dhyana 2100
Sensor Type	FSI CMOS
Sensor Model	Gpixel GSPRINT4521
Peak QE	63% @ 520 nm
Color/Mono	Mono
Array Diagonal	29.5 mm
Effective Area	23.04 mm x 18.43 mm
Resolution	5120 (H) x 4096 (V)
Pixel Size	4.5 μm x 4.5 μm
Full-Well Capacity	Typ. : 28 ke- (12 bit Gain 0), 120 ke- (binned)
Dynamic Range	Typ. : 68.8 dB (12 bit Gain 2)
Frame Rate	Full mode : 450 fps @ 8 bit, 300 fps @ 10 bit, 250 fps @ 12 bit Base mode : 225 fps @ 8 bit, 150 fps @ 10 bit, 150 fps @ 12 bit
Readout Noise	Typ. : 3.5 e- (Median)
Shutter Type	Global
Exposure Time	4 μs ~ 10 s
DSNU	1.1 e-
PRNU	Typ. : 0.15 % @ 12 bit gain 0, Typ. : 0.45 % @ 12 bit gain 3
Cooling Method	Air, Liquid
Max. Cooling	30 °C below ambient
Binning	2 x 2, 4 x 4, 8 x 8
ROI	Support
Trigger Mode	Hardware, Software
Output Trigger Signals	Exposure start, Readout end
Trigger Interface	Hirose
Data Interface	Full mode : CXP12 x 8, Base mode : CXP12 x 4
Data Bit Depth	8 bit, 10 bit, 12 bit
Optical Interface	M58 / F-Mount / User Customization
Power Supply	24 V / 6 A
Power Consumption	\leq 120 W
Dimensions	95 mm x 95 mm x 140.5 mm
Weight	1816 g
Software	SamplePro, LabVIEW, MATLAB, Micro-Manager 2.0
SDK	C, C++, C#, Python
Operating System	Windows, Linux
Operating Environment	Working: Temp. 0~40 °C , HUM 10~85% Storage: Temp. 0~60 °C , HUM 0~90%