Dhyana 401A-G Compact FSI sCMOS Camera, 11 µm Pixels, 91 ke⁻ Full Well

Model Dhyana 401A-G · waveqvanta.com/products/dhyana-401a-g-scmos-camera

A compact GigE sCMOS camera with large 11 µm pixels, built for instrument integration.



The Dhyana 401A-G is a compact front-illuminated sCMOS camera for instrument integrators, using the GSENSE400 sensor with 2048 × 2048 pixels of 11 µm across a 32 mm diagonal. The large pixels give a typical full well of 91 ke⁻ and 95 dB dynamic range with 1.5 e⁻ median read noise, so strong and weak signals can be recorded in the same frame. A GigE interface, M42 (T-mount) optics and a 540 g body keep system design simple.

Key features

- 11 µm pixels, comparable to binning a classical CCD by 2× to 3×, for higher per-pixel sensitivity
- 91 ke⁻ typical full well and 95 dB dynamic range for scenes with both bright and dim regions
- 1.5 e⁻ median read noise; 58% peak QE at 600 nm
- 32 mm diagonal (22.5 mm × 22.5 mm) captures a wide field in a single frame
- GigE data interface following the GenICam standard
- Compact 70 mm × 70 mm × 68 mm body, 540 g, 6 W power consumption

Specifications

Sensor Type	FSI sCMOS
Sensor	GSENSE400
Color / Mono	Mono
Peak QE	58% @ 600 nm
Resolution	2048 × 2048
Pixel Size	11 µm × 11 µm
Effective Area	22.5 mm × 22.5 mm
Array Diagonal	32 mm
Full-Well Capacity	91 ke⁻ (typical)
Readout Noise	1.5 e⁻ median (typical)
Dynamic Range	95 dB
Frame Rate	20 fps
Shutter Type	Rolling
Exposure Time	21 µs – 1 s
Binning	2 × 2
ROI	Supported
Bit Depth	12 bit, 16 bit
Data Interface	GigE (GenICam)
Trigger	Hardware, software; Hirose connector
Trigger Output	Exposure Start, Readout End
Optical Interface	M42 (T-mount, M42 × 1)

Power Supply	12 V / 2 A
Power Consumption	6 W
Dimensions	70 mm × 70 mm × 68 mm (H × W × L)
Weight	540 g
Operating Environment	0–40 °C, 10–85% RH
Software / SDK Support	Sample acquisition software; C / C++ / C# SDK; Windows, Linux

Typical applications

- OEM instrument integration
- Laser spot analysis
- Single-molecule imaging
- Spectrometer detection
- Imaging under complex lighting conditions