FL 20 Cooled Color CMOS Camera, 20 MP, 1-inch Sensor, USB 3.0

Model FL 20 · waveqvanta.com/products/fl-20-cmos-camera

A cooled 20 MP color camera for low-magnification fluorescence microscopy and image documentation.



The FL 20 is a thermoelectrically cooled color CMOS camera intended for fluorescence work with low-magnification objectives. Its 1-inch (15.86 mm diagonal) sensor delivers 5472 × 3648 pixels, and cooling keeps dark current at 0.001 e^-/pixel/s so that fluorescence backgrounds stay clean during long exposures. Real-time 3D noise reduction and sharpening help produce color images suitable for documentation and publication.

Key features

- 20 MP color sensor (5472 × 3648, 2.4 µm pixels) with a 15.86 mm (1-inch) diagonal that covers the uniform central region of the image plane
- Cooling reduces dark current to 0.001 e^-/pixel/s, limiting hot pixels during long exposures
- Real-time 3D noise reduction for a cleaner fluorescence background
- Real-time sharpening for crisper color images
- Exposure times from 3 µs to 3600 s; 14 fps at full resolution over USB 3.0
- SDK for C, C++, C#, DirectShow and TWAIN; up to 4 cameras can run simultaneously via the SDK
- Images saved as TIF, JPG, PNG or DICOM

Specifications

Sensor Type	BSI CMOS
Sensor	Sony IMX183C
Color / Mono	Color
Peak QE	84%
Resolution	5472 × 3648 (20 MP)
Pixel Size	2.4 × 2.4 µm
Effective Area	13.1 × 8.8 mm
Array Diagonal	15.86 mm (1")
Full-Well Capacity	16 ke^-
Frame Rate	14 fps @ 5472 × 3648
Shutter Type	Rolling
Exposure Time	3 µs – 3600 s
Binning	Supported
Dark Current	0.001 e^-/pixel/s
Bit Depth	8 / 16 bit
Data Interface	USB 3.0
Optical Interface	C-mount
Power Supply	12 V
Dimensions	85 × 85 × 112 mm (H × W × L)

Weight	980 g
Operating Environment	Working: 0–40 °C, 10–85% RH
Image Format	TIF, JPG, PNG, DICOM
Multi-Camera	Up to 4 cameras simultaneously (via SDK)
Operating System	Windows, Linux
Software / SDK Support	Acquisition and analysis software; C / C++ / C# / DirectShow / TWAIN SDK

Typical applications

- Low-magnification fluorescence microscopy
- Fluorescence imaging of cells and plant specimens
- Polarizing microscopy
- DIC microscopy
- Image documentation for publication