FL 20BW Mono Cooled CMOS Camera, 20 MP, 84% QE

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

A 20 MP cooled monochrome CMOS camera for low-magnification fluorescence imaging and documentation.



The FL 20BW is a cooled monochrome camera based on a Sony back-illuminated CMOS sensor with 5472 × 3648 pixels at 2.4 µm and 84% peak QE. Cooling brings dark current down to 0.001 e^-/pixel/s, which reduces hot pixels in long exposures. It is designed for documentation and system integration with low-NA, low-magnification optics.

Key features

- 20 MP (5472 × 3648) at 2.4 µm on a 15.86 mm (1-inch) sensor, imaging the central, most uniform part of the image plane
- 84% peak QE and 0.6 e^- read noise
- Dark current as low as 0.001 e^-/pixel/s for clean long exposures
- Exposure times from 3 µs to 3600 s; 16 fps at full resolution
- USB 3.0 and C-mount; up to 4 cameras can be run simultaneously through the SDK
- Saves TIFF, JPG, PNG and DICOM; SDK for C/C++, C#, DirectShow and TWAIN

Specifications

Sensor Type	BSI CMOS
Sensor	Sony IMX183CLK-J
Color / Mono	Mono
Peak QE	84%
Resolution	5472 × 3648 (20 MP)
Pixel Size	2.4 µm × 2.4 µm
Effective Area	13.1 mm × 8.8 mm
Array Diagonal	15.86 mm (1")
Full-Well Capacity	16 ke^-
Readout Noise	0.6 e^-
Frame Rate	16 fps @ 5472 × 3648
Shutter Type	Rolling
Exposure Time	3 µs to 3600 s
Binning	Supported
Dark Current	0.001 e^-/pixel/s
Bit Depth	8 bit, 16 bit
Data Interface	USB 3.0
Optical Interface	C-mount
Power Supply	12 V
Dimensions	85 mm × 85 mm × 112 mm (H × W × L)
Weight	980 g
Operating Environment	Working: 0°C to 40°C, 10–85% RH
Software / SDK	Acquisition and analysis software; SDK: C/C++, C#, DirectShow, TWAIN; Windows, Linux

Typical applications

- Fluorescence imaging
- qPCR
- dPCR
- Chemiluminescence imaging
- Low-magnification fluorescence microscopy and documentation