FL 26BW

The FL 26BW is a cooled CMOS camera designed for long exposure imaging. It not only incorporates high sensitivity and low noise advantages from latest sensor technologies, but also leverages Tucsen's many years experiences on cooling chamber design and advanced image processing. FL 26BW is able to capture clean and even images for up to 60 minutes exposure time.

Key Features	Benefits
SONY BSI CMOS	92% peak QE, 0.85 e- readout noise and no glow.
< 0.0005 e-/p/s Dark Current	Equivalent to the cooled CCD for long exposure imaging.
16000 : 1 Dynamic Range	More than 4X that of the CCD, greatly expanding the signal detection range.
Pixel Correction Technology	High background quality ensures more accurate quantitative analysis. [1]
Flexible Binning Mode	Improving the sensitivity and dynamic range capability.
High Reliability Cooling Chamber	Cooled to -25°C@Ambient 22°C, no condensation or other problems.
Compact Design	Conducive to instrument system integration.

Typical Applications

- Chemiluminescence
- Bioluminescence
- dPCR
- Fluorescence Imaging

Noted Examples

[1] The FL 26BW has excellent background uniformity, as it has basically eliminated the bad factors such as amplifier grow and bad pixels.

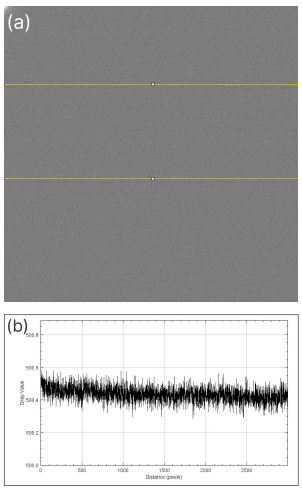
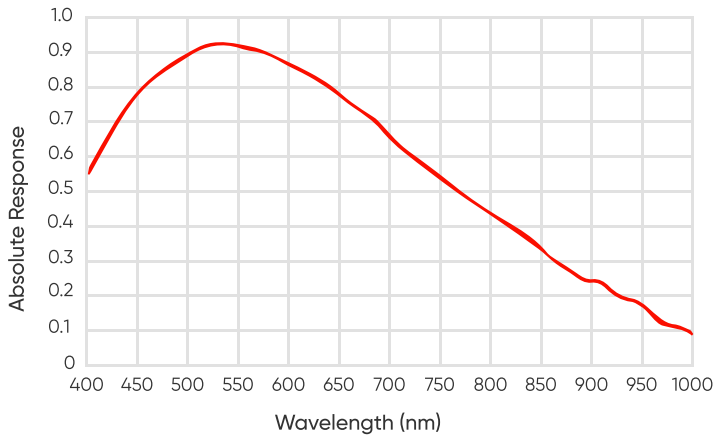
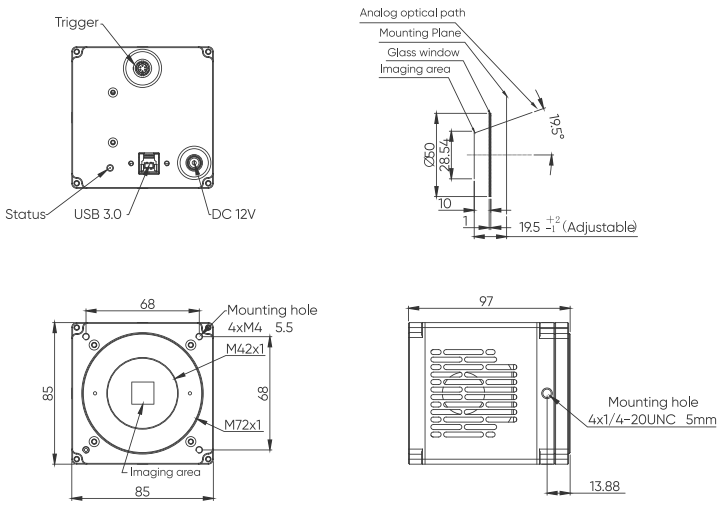


Figure (a) is the background image taken by FL 26BW with 600s exposure.
Figure (b) is the grayscale intensity curve corresponding to the yellow region, showing excellent background uniformity.

Quantum Efficiency



Dimensions (Unit: mm)



Specifications

Product Name	FL 26BW			
Sensor Type	BSI CMOS			
Sensor Model	SONY IMX571BLR-J			
Chrome	Mono			
Array Diagonal	28.3 mm (1.8")			
Effective area	23.4 mm x 15.6 mm			
Pixel Size	3.76 μm × 3.76 μm			
Resolution	6240 x 4168			
Peak QE	92%@530 nm			
Dark Current	< 0.0005 e-/p/s			
Bit Depth	16 bit			
Gain Mode	Gain 0	Gain 1	Gain 2	Gain 3
Full Well Capacity	49 Ke-	15.7 Ke-	7.8 Ke-	3 Ke-
Readout noise	2.7 e-	1.0 e-	0.95 e-	0.85 e-
Frame Rate	6.5 fps@6240 × 4168 (Standard), 3.4 fps@6240 × 4168 (Low Noise), 35.5 fps@3120 x 2084 (Sensor Bin)			
Shutter Mode	Rolling, Global Reset			
Exposure Time	34 μs~60 min			
Image Correction	DPC			
ROI	Support			
Binning	2 x 2, 3 x 3, 4 x 4, 5 x 5, 6 x 6, 8 x 8, 16 x 16			
Cooling Method	Air Cooling			
Cooling Temp.	-25°C@Ambient 22°C			
Trigger Mode	Hardware, Software			
Trigger Output	Exposure Start, Global, Readout End, High Level, Low Level			
Trigger Interface	Hirose-6-Pin			
SDK	C / C++ / C# / Python			
Software	Mosaic V3, Sample Pro, LabVIEW, MATLAB, Micro-Manager 2.0			
Data Interface	USB 3.0			
Optical Interface	M42 / Customizable			
Power Supply	12 V / 8 A			
Power Cons.	≤ 50 W			
Dimensions	85 mm (H) x 85 mm (W) x 97 mm (L)			
Weight	945 g			
Operating System	Windows, Linux			
Environment	Working: Temp. 0°C~40°C, HUM 10%~85%, Storage: Temp. -10°C~60°C, HUM 0%~85%			

*Specifications in this manuat are subject to changes without prior notice.