



# F40 X-Ray Detector

High Resolution, Wide Dynamic Range

Compact Form Factor, USB 3.0

Numerous Modes for Any Application



**Image performance:** The F40 provides a high 10.2 MP resolution via the 19.5  $\mu\text{m}$  pixel with 16-bits of grey-scale data. The small pixel with patented low-noise technology provides crisp, clear images. This enables extreme detail for subject analysis in a wide range of applications from living tissue through dense materials.

**Ease of use:** Packed into a 72mm x 53mm active area, this light-weight agile form factor uses USB 3.0 connectivity for plug-and-play integration and high-performance imaging right where you need it.

**Any application:** With several trigger, shutter and high-speed modes, we enable a variety of use cases from single shot to programmed sequences. The wide dynamic range and 99% pixel linearity make the F40 suitable for a large span of exposure values from low intensity to high intensity x-ray sources.

**Trusted excellence:** Building upon decades of field proven designs, Fairchild Imaging can modify the scintillators per specific needs. F40 sensors are designed and manufactured in the United States of America. Contact your sales representative for more information.

Key Features	Main Benefits
10.2 MP resolution 19.5 $\mu\text{m}$ pixel 25.6 lp/mm MTF 99% pixel linearity 70 dB dynamic range	Bringing visibility to fine image detail
High speed frame rate Agile form factor Dual gain modes Multiple trigger modes Customizable scintillator options Wide exposure range up to 160 kV	Imaging excellence in a wide range of applications
USB 3.0 plug and play Onboard image correction Waterproof capsule 135g total weight	Ease of integration and use

## Ideal for capturing images in versatile environments

### Specifications

#### Sensor

Detector	CMOS
Total resolution	10.2 MP
Active area dimension	72 mm x 53 mm
Active area pixels	3700 x 2736 pixels
Scintillator	Tunable FOP with Csl
Frame Rate	10 fps (expandable)
Digital Output	16 bits
Data protocol	USB 3.0, Type-C
Image processing	Onboard correction files

#### Mechanical

USB Cable	Detachable, Field Replaceable
Waterproof	IPX8
Weight	135 grams

#### Pixel

Pixel size	19.5 $\mu\text{m}$ x 19.5 $\mu\text{m}$
Shutter types	Rolling, Global Reset
Trigger	Auto-detect Software programmable
Programmable Gain	LG: 1x   HG: 20x
Integration time range	25 ms to 2.5 s
Pixel linearity	99% in HG
LP/MM	14 lp/mm actual at 20 $\mu\text{Gy}$

#### Operating

Operating Systems	Windows, Mac
Power requirement	1.5 amps
Operating temp	-5°C to 40°C



(F40, shown in actual size.)



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