

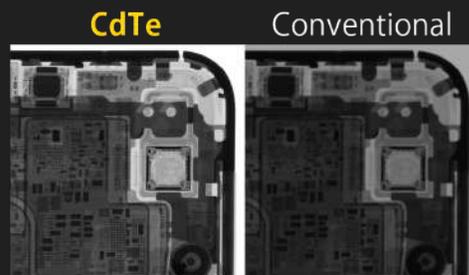
Direct conversion X-ray line sensor



Feature

High Sensitivity

The 1 mm thick cadmium telluride (CdTe) semiconductor detector can image X-rays with much higher efficiency than conventional X-ray sensors. In combination with an X-ray source with a high acceleration voltage, it is possible to image thick metal products, which was difficult with conventional X-ray inspection.

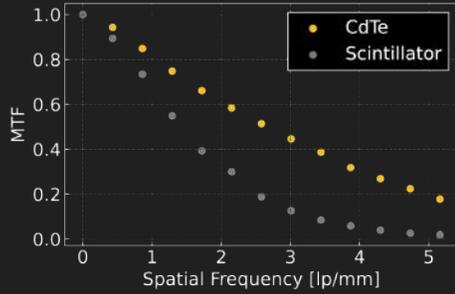


(Left) X-ray image using a CdTe line sensor / (Right) X-ray image using a conventional sensor

High Resolution

Conventional scintillator X-ray detectors convert X-rays into light before capturing images with a camera, resulting in blurred images due to light diffusion during the conversion process.

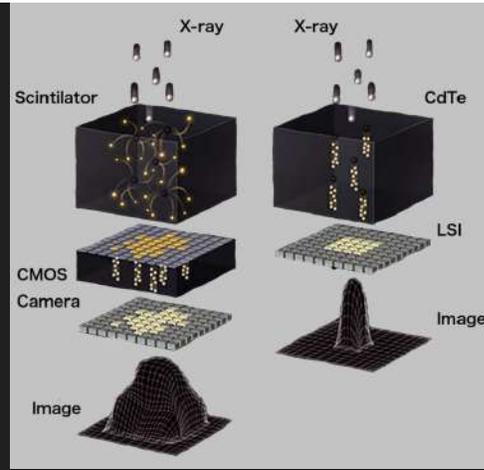
In contrast, direct conversion type CdTe detectors have a problem of blurred images due to light diffusion during conversion. On the other hand, the direct conversion type CdTe detector directly converts X-ray photons into electric charges in the pixel, and thus can capture higher resolution X-ray images.



空間分解能(MTF: Modulation Transfer Function)の比較

High speed

It is capable of capturing images at a speed of more than 500 frames per second, making it suitable for high-speed in-line inspection in the shipping inspection process.



Composite video of slow video (240fps) by camera and X-ray video by this product

Examples



Rotational imaging of dry cells (other angle projection for CT imaging)

Use case

- Inline Nondestructive Testing
- Infrastructure Inspection
- Industrial Computed Tomography (CT)

System configuration

It can be integrated into your equipment or inspection system via serial communication control and image output via CameraLink.



Specification

Active area	204.8 x 3.2 mm
Number of Pixels	2048 x 32 pixel
Pixel pitch	100 μm
Frame rate	500 fps
Line speed	96 m / min (max)
Pixel data format	14 bit gray scale
Sensitivity	2078 LSB/uGy
Dynamic range	83 dB
Sensor type	Direct conversion type
Data Interface	CameraLink (Base configuration, SDR)
Controll Interface	Serial (RS-232C and CameraLink)
Trigger In	BNC
Power supply	12V AC adaptor
Power consumption	20W
Weight	3.0 kg
Size	(D) 244 x (W) 290 x (H) 64 mm
Operation Temperature	0 °C~30 °C