

XRD 1620 xN CS

Industrial Flat Panel Detector

**Superior Image Quality
High Dynamic Range**

Varex Imaging XRD 1620 xN CS Flat Panel X-ray Detector (FPD) is a member of the Varex Imaging family of 16-inch (41 cm) field of view amorphous silicon (a-Si) FPDs.

OVERVIEW

Varex Imaging XRD 1620 FPDs provide a dynamic range over 84 dB and frame rates up to 7.5 frames per second. XRD 1620 xN CS supports a broad range of energy levels from 20 kV – 16 MV and is available with several scintillator options. Rapid system integration is accomplished via a customized parallel interface, integrated trigger and X-ray synchronization circuitry. A comprehensive software library for image acquisition and processing is also provided.

The wide energy range, variable frame rates and scintillator options allow the Varex Imaging XRD 1620 xN CS to meet the component requirements of industrial non-destructive testing, as well as life and physical science applications¹.

FEATURES AND BENEFITS

- 200 μm pixel pitch
- 65,536 grey levels (16-bit ADC)
- High sensitivity
- Suitable for a wide range of X-ray energies
- Selectable gain setting

APPLICATIONS¹

- Non-destructive testing
- 3D Cone Beam CT
- Metrology
- Scientific applications

TECHNICAL SPECIFICATIONS

SENSOR

Panel	Single substrate amorphous silicon active TFT-diode array
Scintillator	CsI:TI or various $Gd_2O_2S:Tb$
Pixel Matrix	2048 × 2048 @ 200 μm pixel pitch
Total Area	409.6 × 409.6 mm ²

ELECTRONICS

Amplifiers	Low noise ASICs with user selectable gains
ADC	16-bit
Read-out Mode	Matrix Pixel (μm^2) fps
	2048 × 2048 200 × 200 3.75
	1024 × 1024 400 × 400 7.5

MECHANICAL

Size	672 mm × 599 mm × 44 mm
Weight	21 kg
Housing	Aluminum with Aluminum (XRD 1620 AN CS) or carbon-fiber (XRD 1620 CN CS) entrance window

COMMUNICATION I/F

Data I/F	Customized parallel Interface
X-ray I/F	Integrated Trigger control
Software	Support for 32 bit and 64 bit Windows® OS

MECHANICAL CHARACTERISTICS

(Dimensions in mm)

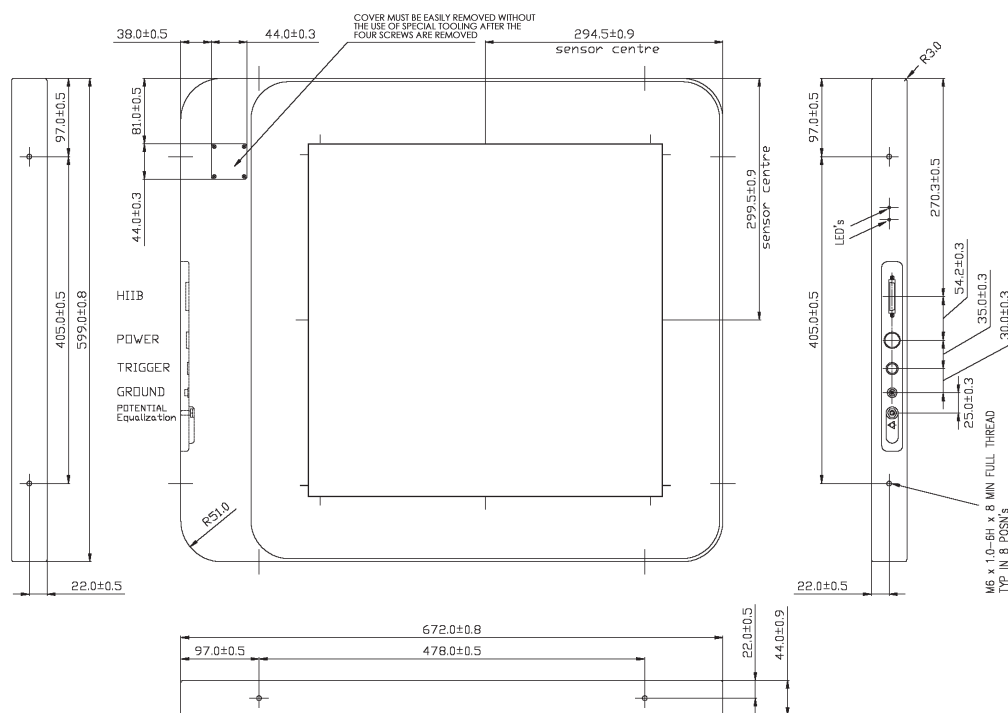


IMAGE PROCESSING

Type . . . Real Time offset, gain, defective pixel corrections on frame grabber

IMAGE PERFORMANCE

Dynamic Range	> 84 dB
Radiation Energy	40 kV – 16 MV (XRD 1620 AN CS) 20 kV – 16 MV (XRD 1620 CN CS)
Lag	< 8% 1 st frame

ENVIRONMENTAL

Temperature	10 – 35°C (operating), -10 – 50°C (storage)
Humidity	10 – 90% RH (non-condensing)
Vibration	IEC/EN 60068-2-6 (10 – 150 Hz, 0.5 g)
Shock	IEC/EN 60068-2-27 (11 ms, 2 g)

POWER

Supply	XRD EPS Power Supply 215 W
Dissipation	50 W

REGULATORY

Standards	IEC/EN 61010-1
Regulations	RoHS

¹ Unless otherwise specified, Varex Imaging Flat Panel X-ray Detectors are components intended to be integrated into products by X-ray system manufacturers. System manufacturers are responsible for qualifying and validating their products for their intended uses and meeting all applicable regulatory requirements.

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