XRD 1621 xN ES

Industrial Flat Panel Detector

Superior Image Quality
High Dynamic Range

Varex Imaging XRD 1621 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 1621 FPDs provide a dynamic range exceeding 88 dB and frame rates up to 30 frames per second. XRD 1621 xN supports a broad range of energy levels from 20 kV to 15 MV and is available with several scintillator options. System integration is accomplished via a frame grabber with a customized fiber-optical interface. The frame grabber is designed to perform on-board corrections including Multiple Gain Correction at up to 10 signal levels. Rapid system integration is accomplished via optical data communication, 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 1621 xN to meet the component requirements of industrial non-destructive testing, as well as life and physical science applications[1].

FEATURES AND BENEFITS

- 200 µm pixel pitch
- 65,536 grey levels (16-bit ADC)
- Ultra high sensitivity
- Live images @ 30 fps
- Suitable for a wide range of X-ray energies
- Selectable gain setting
- Galvanic isolation by fiber-optical interface

APPLICATIONS[1]

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

Technical Specifications

SENSOR

Panel ..... Single substrate amorphous silicon active TFT-diode array
Scintillator ..... Direct deposition CsI:Tl or various Gd_2O_2S:Tb
Pixel Matrix ..... 2048 × 2048 @ 200 µm pixel pitch
Total Area ..... 409.6 × 409.6 mm²

ELECTRONICS

Amplifiers ..... Low noise ASICs with up to 6 user selectable gains
ADC 16-bit

Read-out Modes	Matrix	Pixel (µm²)	fps
	2048 × 2048	200 × 200	15
	1024 × 1024	400 × 400	30

MECHANICAL

Size ..... 672 mm × 599 mm × 44 mm
Weight ..... 25 kg
Housing ..... Aluminum with Aluminum (1621 AN) or carbon-fiber (1621 CN) entrance window

COMMUNICATION I/F

Data I/F ..... Fiber-optical interface
X-ray I/F ..... Integrated Trigger control
Software ..... Support for 32 and 64 bit Windows® OS

IMAGE PERFORMANCE

Dynamic Range ..... > 88 dB
Radiation Energy ..... 40 kV – 15 MV (XRD 1621 AN ES)
20 kV – 15 MV (XRD 1621 CN ES)
Lag ..... < 8% 1st 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

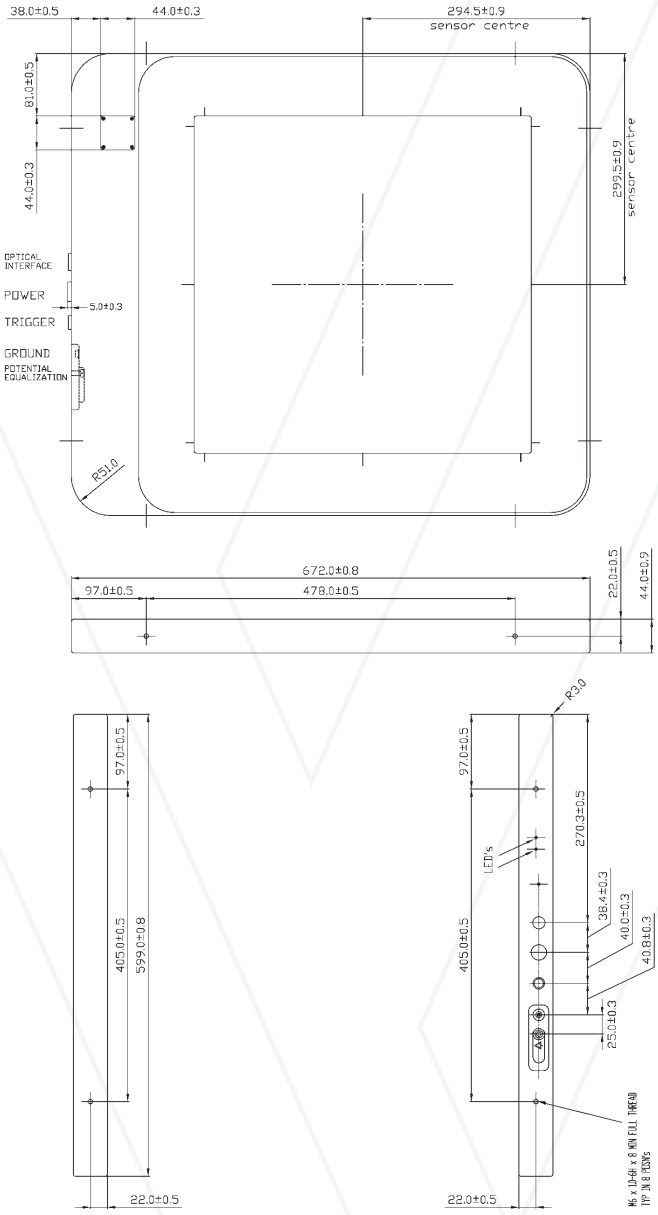
Supply ..... XRD EPS Power Supply 215 W
Dissipation ..... 80 W

REGULATORY

Standards IEC/EN-60950-1
Regulations ..... RoHS

MECHANICAL CHARACTERISTICS

(Dimensions in mm)



[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.

Contents in this document are subject to change without notice.

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The data in this document is for reference only.