XRD 1611 xP

Industrial Flat Panel Detector





OVERVIEW

Varex Imaging XRD 1611 xP Flat Panel X-ray Detectors provide a dynamic range of over 84 dB and frame rates up to 15 frames per second. XRD 1611 xP 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 with integrated trigger and X-ray synchronization circuitry. A comprehensive software library for image acquisition and processing is also provided.

Wide energy range, variable frame rates and multiple scintillator options allow the Varex Imaging XRD 1611 xP to meet demanding component requirements of industrial non-destructive testing, as well as life and physical science applications¹.

FEATURES AND BENEFITS

- Greater than 16 million pixels
- 100 µm pixel pitch
- 65,536 grey levels (16-bit ADC)
- · Ultra high sensitivity
- Live images @ 15 fps
- Suitable for a wide range of X-ray energies
- · Selectable gain setting
- · Galvanic isolation by fiber-optical interface

APPLICATIONS¹

- 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:TI or various Gd ₂ O ₂ S:Tb
Pixel Matrix	4096 × 4096 @ 100 μm pixel pitch
Total Area	409.6 × 409.6 mm ²

ELECTRONICS

Amplifiers	Low noise ASIC	s with 6 user selectable	e gain settings
ADC			16-bit
Read-out Mode	Matrix	Pixel (μm²)	fps
	4096 × 4096	100 × 100	3.75
	2048 × 2048	200 × 200	7.5
	1024 × 1024	400 × 400	15

MECHANICAL

Size	672 mm × 599 mm × 44 mm
Weight	25 kg
Housing Aluminum housing with Alum	inum (1611 AP) or carbon-fiber
	(1611 CP) entrance window

COMMUNICATION I/F

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

IMAGE PERFORMANCE

Dynamic Range	>84 dB
Radiation Energy	
	20 kV - 15 MV (XRD 1611 CP)
Lag	< 8% 1 st frame

ENVIRONMENTAL

Temperature 10 ·	- 35°C (operating), -10 - 50°C (storage)
Humidity	30 - 70% 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		90W

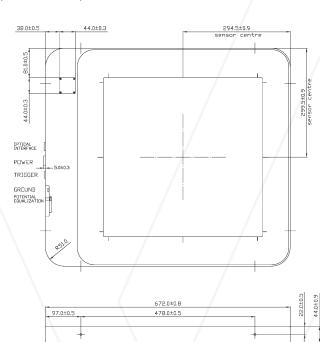
REGULATORY

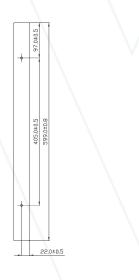
Standards	IEC/EN 610	010-1, UL/CSA	61010-1: 2012	, EN 61326-1:2013
Regulations				RoHS

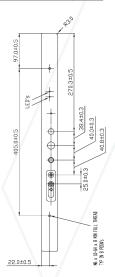
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MECHANICAL CHARACTERISTICS

(Dimensions in mm)







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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.