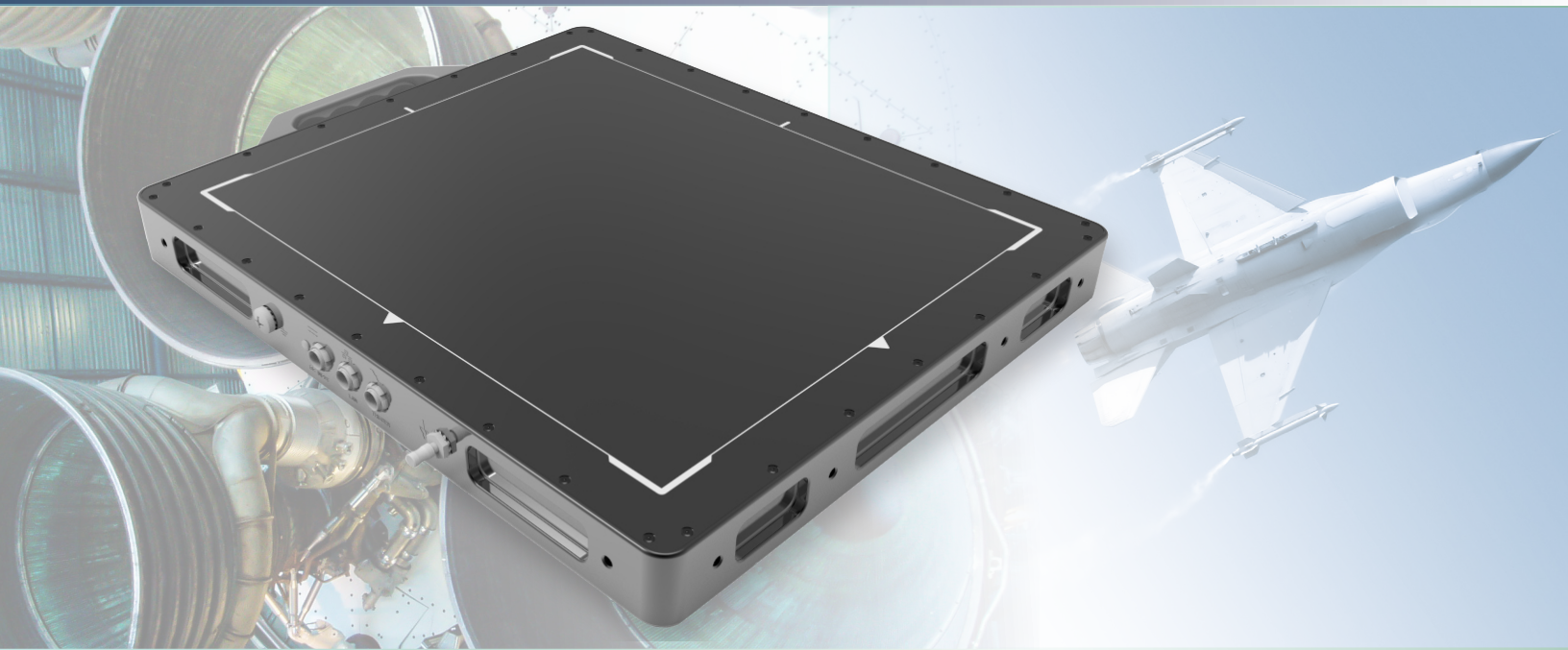# VAREX
IMAGING

Making the Invisible Visible

XRD 3025
Industrial Flat Panel Detector

OVERVIEW

Varex Imaging XRD 3025 is the next generation of Varex Imaging's XRD family of Flat Panel X-ray Detectors (FPDs). The XRD 3025 series provides a superior 100 μm pixel resolution and frame rates up to 20 frames per second. Varex Imaging XRD 3025 supports a broad X-ray energy range with two available models, G22 for 20 – 225 kV and G45 for 20 – 450 kV energy range. XRD 3025 is available with several CsI or Gadox scintillator options. Rapid system integration is accomplished via Gigabit Ethernet data communication and 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 3025 to meet the component requirements of industrial non-destructive testing, as well as life and physical science applications.[1]

FEATURES AND BENEFITS

- 100 μm pixel pitch
- 3008 x 2512 pixel matrix
- 65,536 grey levels (16-bit ADC)
- Ultra high sensitivity
- 5.5 fps (1x1), 11 fps (2x2), 20 fps (4x4)
- Suitable for a wide range of X-ray energies
- Selectable gain setting
- Gigabit Ethernet interface
- Superior Image Quality
- High Dynamic Range

APPLICATIONS[1]

- Industrial non-destructive testing
- 3D Cone Beam CT
- Metrology
- Scientific applications
- Industrial film replacement

SENSOR

Panel . . . . Single substrate amorphous silicon active TFT-diode array
Scintillator . . . . CsI:Tl or various Gd_2O_2S:Tb (Gadox)
Pixel Matrix . . . . 3008 × 2512 @ 100 μm pixel pitch
Total Area . . . . 300 × 250 mm²

ELECTRONICS

Charge Amplifier . . . Low noise ASICs with six user selectable gain settings
ADC 16-bit

Read-out Modes	Matrix	Pixel (μm²)	fps
	3008 × 2512	100 × 100	5.5
	1504 × 1256	200 × 200	11
	752 × 628	400 × 400	20

HOUSING

	XRD 3025N-G22	XRD 3025N-G45
Length × Width	354 mm × 304 mm	354 mm × 304 mm
Thickness	34.5 mm	34.5 mm
Weight	10 kg	16 kg
Entrance Window	1 mm Al or carbon-fiber	1 mm Al or carbon-fiber
X-ray Shielding	up to 225 kV	up to 450 kV with external shielding

COMMUNICATIONS

Data I/F . . . . Gigabit Ethernet
X-ray I/F . . . . Integrated Trigger control
Software . . . . Support for 32 and 64 bit Windows® or Linux® OS

IMAGING PERFORMANCE

Dynamic Range . . . . > 77 dB
Typical Lag . . . . < 8% 1st frame

ENVIRONMENTAL

Temperature . . . . 0 – 40°C (operating), -10 – 55°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 . . . . 100 - 240 VAC, 50/60 Hz, XRD EPS Power Supply
Dissipation . . . . 25 W

REGULATORY

Standards . . . . IEC/EN 61010-1, UL/CSA 61010-1, EN 61326-1
Regulations. . . . . RoHS

MECHANICAL CHARACTERISTICS

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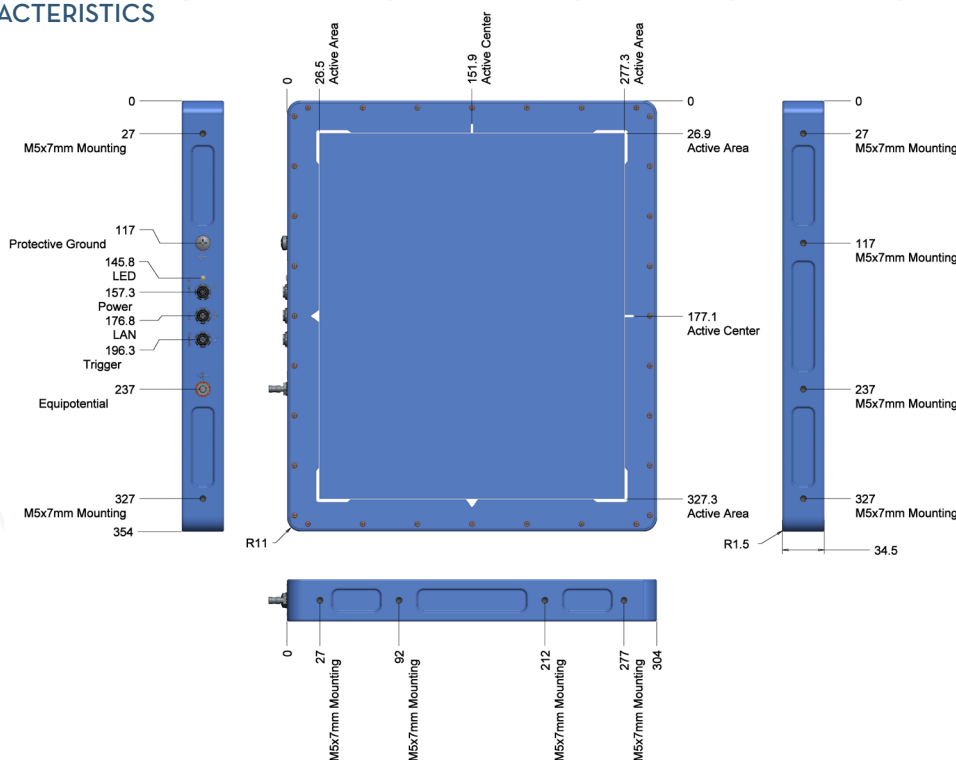
[1] Unless otherwise specified, Varex Imaging Flat Panel X-ray Detectors are components intended to be integrated into products by X-ray system manufacturers. System manufacturers are responsible for qualifying and validating their products for their intended uses and meeting all applicable regulatory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

Contents in this document are subject to change without notice.

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The data in this document is for reference only.