


1512N CMOS

Industrial Flat Panel Detectors

A photograph of the 1512N CMOS Flat Panel Detector, a rectangular device with a black top surface and a silver-colored metal frame. It is shown at an angle, highlighting its thickness and the mounting screws on the side. The background is a blurred image of a circuit board.

Superior Image Quality
with High Resolution for
Non-Destructive Testing

OVERVIEW

Varex Imaging's 1512N CMOS Flat Panel X-ray Detector (FPD) is a high speed, low noise X-ray detector with excellent sensitivity. It employs state-of-the-art large-area CMOS (Complementary Metal-Oxide Semiconductor) image sensor technology and is supplied with a range of scintillator and interface options.

Varex Imaging 1512N Flat Panel X-ray Detector has switchable pixel gain that makes it well suited to real-time imaging and CT as well as static imaging with high dynamic range.

FEATURES AND BENEFITS

- 74.8 μm pixel pitch
- 1944 x 1536 pixel matrix
- High Sensitivity and High Dynamic Range modes
- Operation up to 225 kV
- Suitable for real-time imaging at up to 86 fps
- 1 x 1, 2 x 2 and 4 x 4 pixel binning options
- High DQE
- Various scintillator options available
- Input/output for X-ray generator synchronization
- Camera Link or GigE Vision data connection

APPLICATIONS¹

- Electronics inspection
- Casting inspection
- Weld and pipeline inspection
- Metrology
- Micro Cone Beam Computed Tomography
- Materials science
- Quality control in automotive, aerospace and electronics manufacturing

Technical Specifications

SENSOR

Pixel Size (μm)	74.8
Sensitive Area (mm ²)	145.4 × 114.9
Pixel Matrix (px)	1944 × 1536

MAX FRAME RATE (FPS)

Pixel Binning	Camera Link	GigE Vision
1×1	26	14
2×2	70	56
4×4	86	86

IMAGE PERFORMANCE

Dynamic Range (dB)	
High Dynamic Range Mode	typ. 71
High Sensitivity Mode	typ. 68
X-ray Energy Range (kV)	12 - 225

MECHANICAL

Weight (kg)	3.2
Dimensions l × w × h (mm ³)	223.5 × 150 × 42

COMMUNICATIONS

Camera Link	Base 80 Mhz (1 cable)
GigE Vision	1000BASE-T
Digital Output	14-bit
Control Channel	115 kBaud serial link / Camera Link / GigE Vision
Sync Ports	BNC
Sync In Port	3 - 15 V edge or level trigger
Sync Out Port	TTL (0 - 5.0 V)
Software	Support for 32 and 64 bit Windows® OS

POWER

	Camera Link	GigE Vision
Dissipation	8.5 W	10.5 W

SCINTILLATOR OPTIONS

High Efficiency microcolumnar CsI

High Resolution microcolumnar CsI

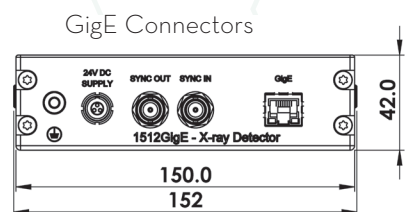
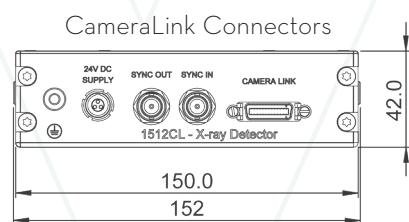
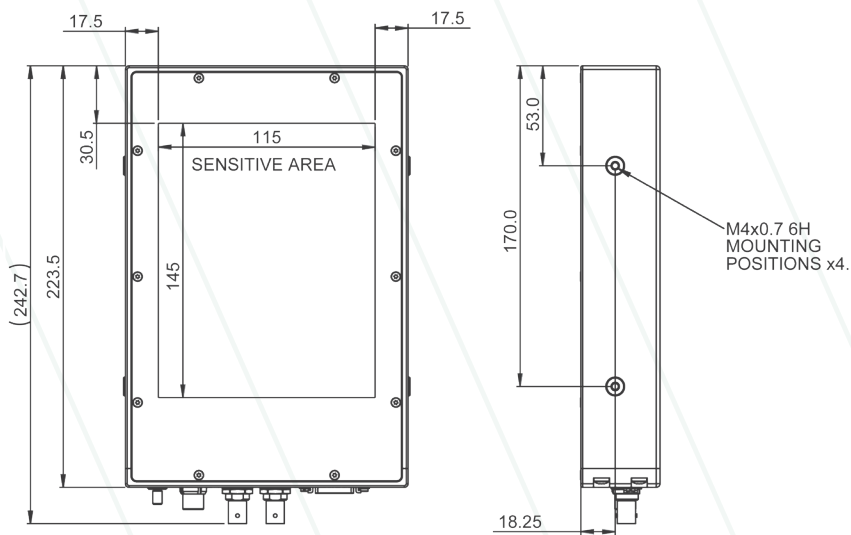
Various Gd₂O₂S:Tb (GOS) fluorescent screens

TEMPERATURE RANGE

Operating Temperature	+10°C to +40°C
Storage Temperature	-10°C to +50°C

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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