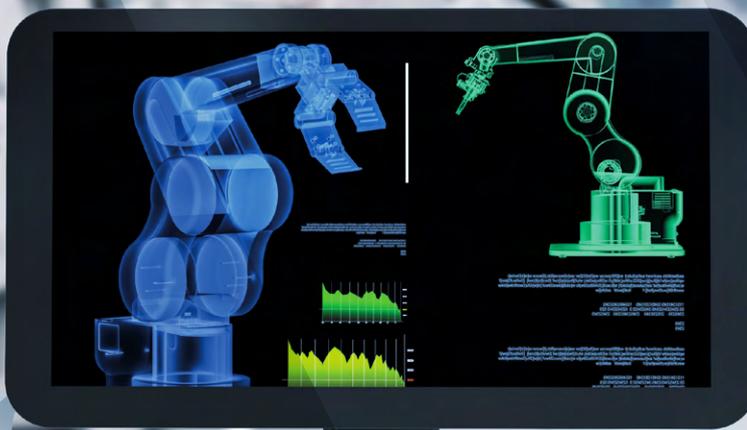# SiX 650 HD-G / SiX 650 HD-E-G
Detectors for Non Destructive Testing applications

THE OPTIMAL SOLUTION FOR NON DESTRUCTIVE TESTING

> SiX 650 HD-G and HD-E-G are new CMOS digital detectors designed by Thales for 2D and 3D Non Destructive Testing applications, in many industrial sectors, from automotive electronics to aerospace as well as control of electronic boards or mechanical parts of industry.

> The new-gen CMOS technology is behind the detector's outstanding performance, with very low image noise, absence of artefacts, high sensitivity and low-power consumption.

> Thanks to its integrated internal shielding, the SiX 650 HD-G and HD-E-G detectors offer a very long lifetime and therefore can be used for the most demanding applications such as in-line inspection.

SiX 650 HD-G / HD-E-G
The optimal solution to cover 3D and 2D Industrial NDT

ROBUST AND TAILORED TO YOUR INDUSTRIAL NEEDS

In addition to the standard CsI versions, the SIX 650HD-G & HD-E-G detectors offer the choice between two scintillators: **Gadox standard** or **Gadox Plus**. The SIX 650 HD-G & HD-E-G are suitable for high kV applications up to **250 kV**. Two interfaces are available: **Ethernet** (GigE) or **Camera Link**.

HIGH SENSITIVITY AND LOW NOISE

The SiX 650 HD-G and HD-E-G produce minimal noise in the image (no artefacts) and offer a higher dynamic range up to 80 dB. Embedded is a dual gain feature for optimal image quality in 2D and 3d applications. for general radiology applications.

VERSATILE AND FAST

The SiX 650HD-G & HD-E-G deliver a 145 x 118 mm image and this size can be easily reduced according to the area of interest. The detectors feature high speed image acquisition up to 40 fps in high resolution mode.

LIGHT, COMPACT, EASY TO USE, EASY TO INTEGRATE

The SiX 650HD-G & HD-E-G are light and easy to use as the distance from detector edge to sensing area is only 12mm. Mechanical interface and integrated passive cooling facilitate its integration in xray systems. The detector is delivered with a software development kit.

SIX SPECIFICATION

	SIX 650HD- GS / SIX 650HD-E-GS	SIX 650HD- GP / SIX 650HD-E-GP
Scintillator	Gadox standard	Gadox plus
Pixel size	150 µm	150 µm
Active image area	960 x 786 pixels	960 x 786 pixels
Sensing Area	144 x 118 mm	144 x 118 mm
DQE@0lp/mm,RQA5	> 25 %	> 30 %
MTF@1lp/mm, RQA5	> 60 %	> 55 %
Dynamic range	> 76 dB (high gain)	> 76 dB (high gain)
	> 78 dB (low gain)	> 78 dB (low gain)
Max kV range	180 kV	250kV
A/D Conversion	14 bits	14 bits

MODES

Capture modes	Pulsed, Continuous	Pulsed, Continuous
Frame rate	up to 40 fps (full image, full resolution)	up to 40 fps (full image, full resolution)
	up to 60 fps (full image, 2x2 binning)	up to 60 fps (full image, 2x2 binning)
ROI setting	Configurable size and position	Configurable size and position

OPERATING CONDITIONS

X-ray maximum linear dose	2,1 - 3,2 µGy (high gain)	1,7 - 2,5 µGy (high gain)
	15,8 - 23,8 µGy (low gain)	12,4-18,6 µGy (low gain)
Temperature range	10 - 40°C	10 - 40°C
Lifetime dose	1000 Gy	1000 Gy

INTERFACES

Power consumption	7.5 W	7.5 W
Data interface	SIX 650HD-G: Camera link	SIX 650HD-G: Camera link
	SIX 650HD-E-G: GigE-vision (Gigabit Ethernet)	SIX 650HD-E-G: GigE-vision (Gigabit Ethernet)
SDK	Detector management and calibration, image correction	Detector management and calibration, image correction

MECHANICAL CHARACTERISTICS

Overall dimensions	183 x 168 x 27 mm	183 x 168 x 27 mm
Weight	1.7 kg	1.7 kg

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