

Typical application areas

- ▶ full field digital mammography
- ▶ tomosynthesis and breast CT

The 2923MAM is a high speed, low noise mammography detector with excellent sensitivity. It employs state-of-the-art large-area CMOS image sensor technology and is supplied with a choice of interface options.

The tapered case profile allows improved coverage of the chest wall, with field of view extending 3mm from the edge.

Product features

- ▶ 75µm pixel pitch
- ▶ 3888 x 3072 pixels
- ▶ binning to 4x4
- ▶ high DQE
- ▶ 14 bit digital output
- ▶ Scintillator: CsI high definition
- ▶ BNC input/output for X-ray generator synchronisation
- ▶ Ethernet or Camera Link data connection

Image acquisition

Pixel size	74.8µm	MTF at 6 lp/mm	>20%
Sensitive area	290.8 mm x 229.8 mm	DQE	0.7 at 0.5 lp/mm
Resolution	3888 x 3072 pixels	Pixel saturation charge	1.4 Me ⁻
Sensor type	CMOS active pixel sensor	ADC resolution	14 bits
Chest wall to active area	3 mm	Detector dynamic range	typ. 70dB
Pixel binning	1x1, 1x2, 1x4, 2x1, 2x2, 2x4, 4x1, 4x2, 4x4	Dark current	8000 e ⁻ /s (typical at 40C)

Interfaces

Camera Link	Full Configuration (2 cables)
Ethernet interface	1000BaseT (GigE Vision)
Control channel	115 kBaud serial link carried by Camera Link / Ethernet
Sync in port	3 - 15V, edge or level trigger, BNC
2 x Sync out port	TTL (0 - 3.3V), BNC

Max frame rate (fps)

	Camera Link	Ethernet
1x1	17	3
1x2	34	6
1x4	52	11
2x1	25	6
2x2	36	11
2x4	67	23
4x1	32	11
4x2	65	23
4x4	78	46

Programmable features

Dynamically configurable binning	Pixel size and aspect ratio can be programmed dynamically, enabling optimised data acquisition for tomosynthesis or CT.
Standby mode	Power-down of the detector when not imaging, to conserve power and reduce detector temperature
Exposure sensing mode	288 x 192 non-destructive readout pixels, evenly distributed across the imaging area, can be used to measure the exposure during the integration process.
Trigger modes	<ul style="list-style-type: none">▶ Edge-trigger mode (pre-programmed exposure time)▶ Duration mode (externally controlled exposure time)▶ Software mode (detector triggered by host computer)
Test pattern	An internally generated grey scale image is available for reference.
Exposure time	Programmable. Minimum exposure time is 59 ms at full resolution.
Multi-exposure control	Automatic multiple exposure, for combining images from an object with high density ratio.

Standards compliance

CE marked. UL & CSA listed.

For compatibility with OEM medical systems, the product and its accessories have been certified to standards according to the EU Medical Devices Directive:

- ▶ IEC 60601-1 (Electrical safety)
- ▶ IEC 60601-1-2 (Electromagnetic compatibility) Class A device.

Accessories

- ▶ Power cable: 3m, XLR to FCI D-sub power
- ▶ Mains power supply unit 110V – 240V AC
- ▶ EPIX E4 Camera Link board for PC

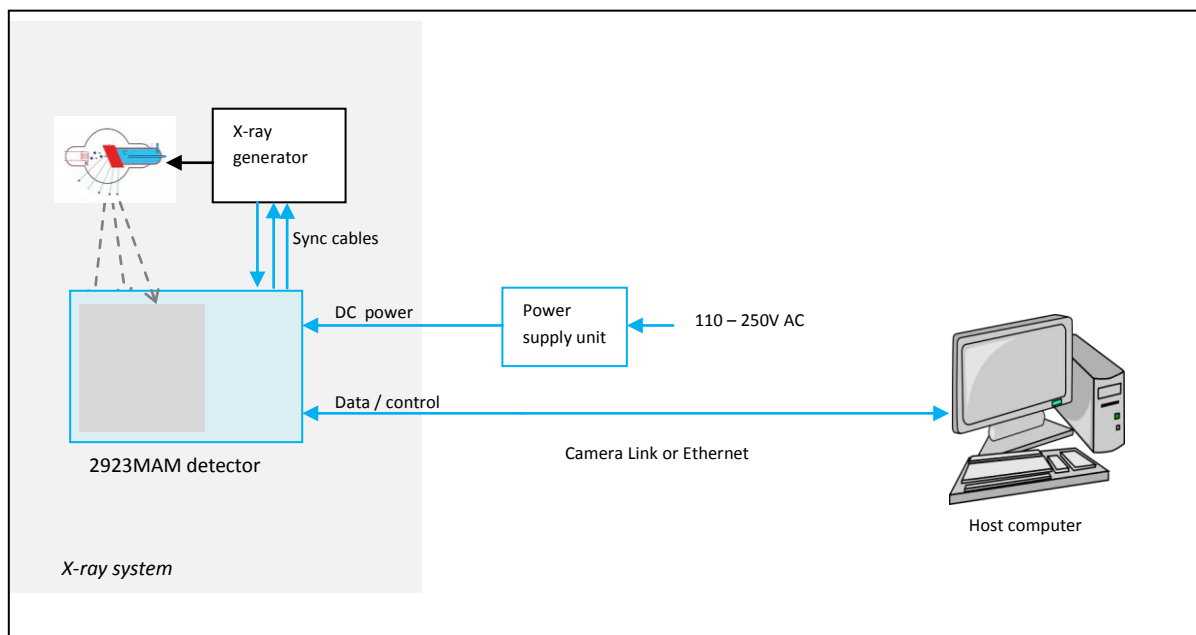
Scintillator

- ▶ High resolution CsI

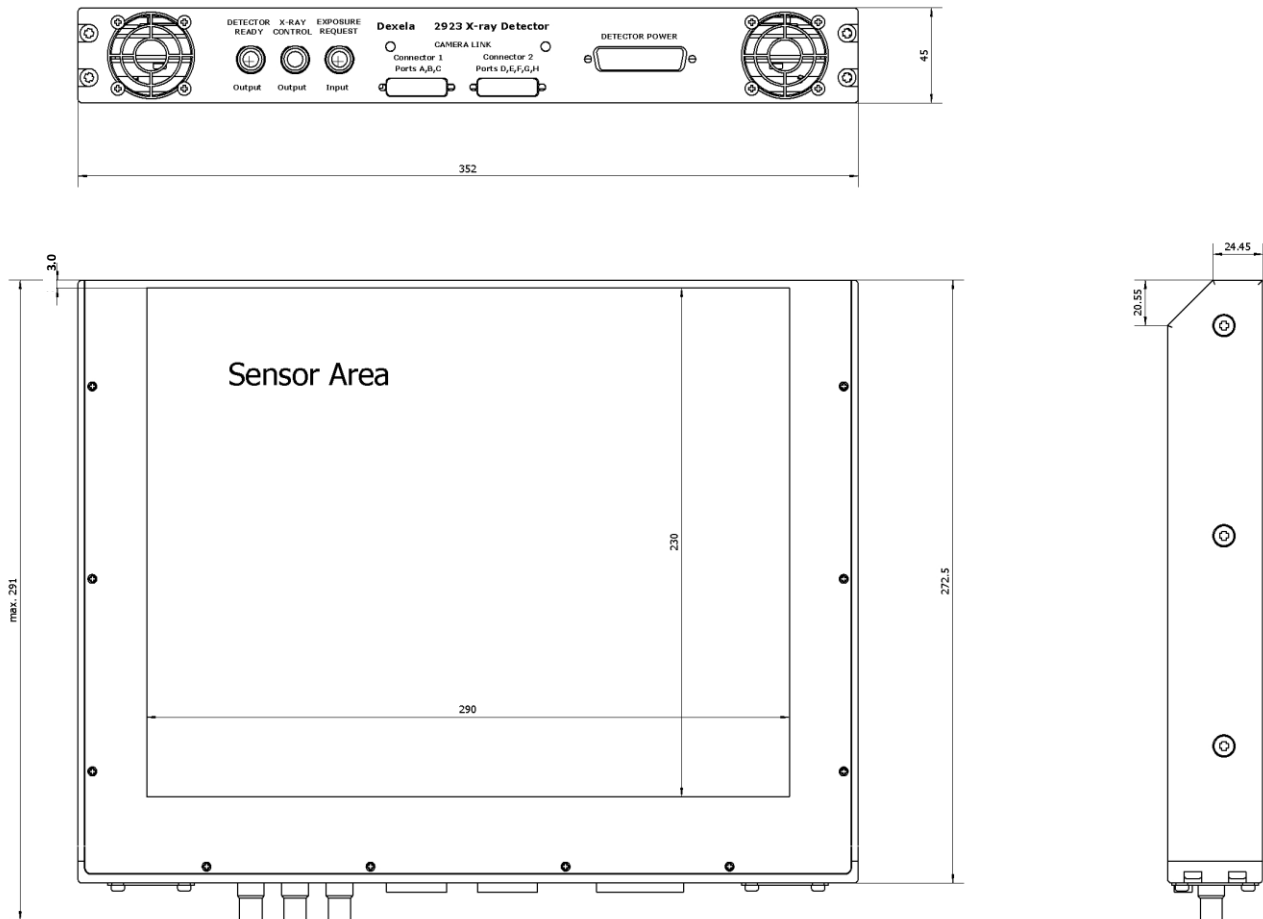
Temperature range

- ▶ Operating temperature: +10C to +40C
- ▶ Storage temperature: -10C to +50C

Connections



Case dimensions

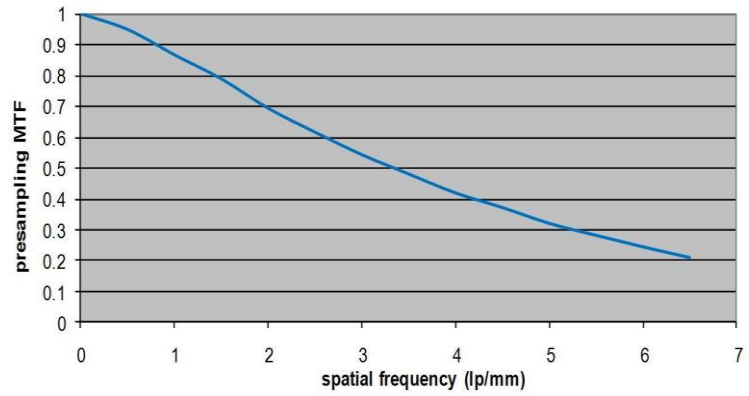


Connector panel designation is dependent on data link option (Camera Link or Ethernet).

Mounting: remove any of the three M5 bolts on each side and use the threaded holes as mounting points.

Weight: 5.5 kg

Resolution



DC supply requirements

Voltage inputs and currents	1: +4.0 to +4.5V 4.2A 2: +6.0 to +7.5V 3.0A 3: -6.0 to -7.5V 1.2A
Connector type	D-sub power (FCI) 5-way
Ripple/noise input	Max 1% peak over 0-20MHz
Power-down current	Input 1: < 150mA Inputs 2,3: <1mA
Power dissipation (active)	45W max

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