

The 2315MAM 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.

### Typical application areas

- ▶ full field digital mammography

### Product features

- ▶ 75µm pixel pitch
- ▶ 3072 x 1944 pixels
- ▶ binning to 4x4
- ▶ high DQE
- ▶ 14 bit digital output
- ▶ Scintillator: CsI high definition
- ▶ BNC input/output for X-ray generator synchronisation
- ▶ Camera Link or Ethernet data connection

### Image acquisition

<b>Pixel size</b>	74.8µm	<b>MTF at 6 lp/mm</b>	>20%
<b>Sensitive area</b>	229.8 x 145.4 mm	<b>DQE</b>	0.7 at 0.5 lp/mm
<b>Resolution</b>	3072 x 1944 pixels	<b>Pixel saturation charge</b>	1.4 Me <sup>-</sup>
<b>Sensor type</b>	CMOS active pixel sensor	<b>ADC resolution</b>	14 bits
<b>Chest wall to active area</b>	3.3 mm	<b>Detector dynamic range</b>	typ. 70dB
<b>Pixel binning</b>	1x1, 1x2, 1x4, 2x1, 2x2, 2x4 4x1, 4x2, 4x4	<b>Dark current</b>	8000 e <sup>-</sup> /s (typical at 40C)

### Interfaces

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

### Max frame rate (fps)

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

## Programmable features

<b>Dynamically configurable binning</b>	Pixel size and aspect ratio can be programmed dynamically, enabling optimised data acquisition for CT.
<b>Standby mode</b>	Power-down of the detector when not imaging, to conserve power and reduce detector temperature
<b>Exposure sensing mode</b>	192 x 144 non-destructive readout pixels, evenly distributed across the imaging area, can be used to measure the exposure during the integration process.
<b>Trigger modes</b>	<ul style="list-style-type: none"><li>▶ Edge-trigger mode (pre-programmed exposure time)</li><li>▶ Duration mode (externally controlled exposure time)</li><li>▶ Software mode (detector triggered by host computer)</li></ul>
<b>Dark level offset</b>	Sensor offset can be adjusted by software to optimise the dynamic range of the sensor.
<b>Test pattern</b>	An internally generated grey scale image is available for reference.
<b>Exposure time</b>	Programmable. Minimum exposure time is 59 ms at full resolution.
<b>Multi-exposure control</b>	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

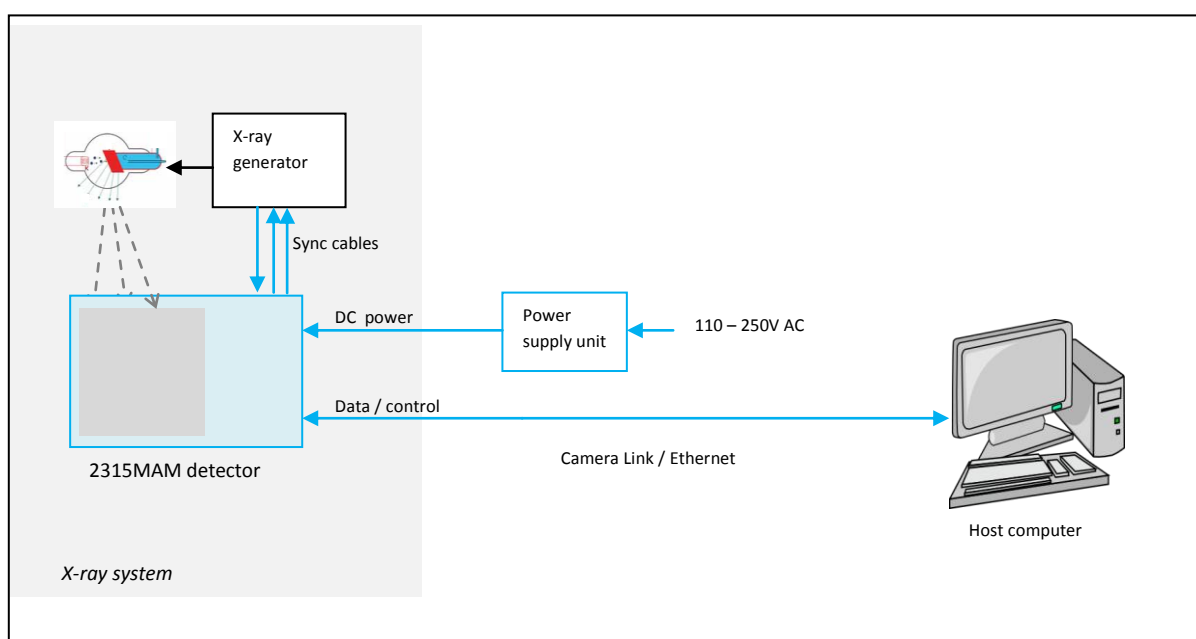
## Scintillator options

- ▶ High resolution CsI on amorphous carbon substrate

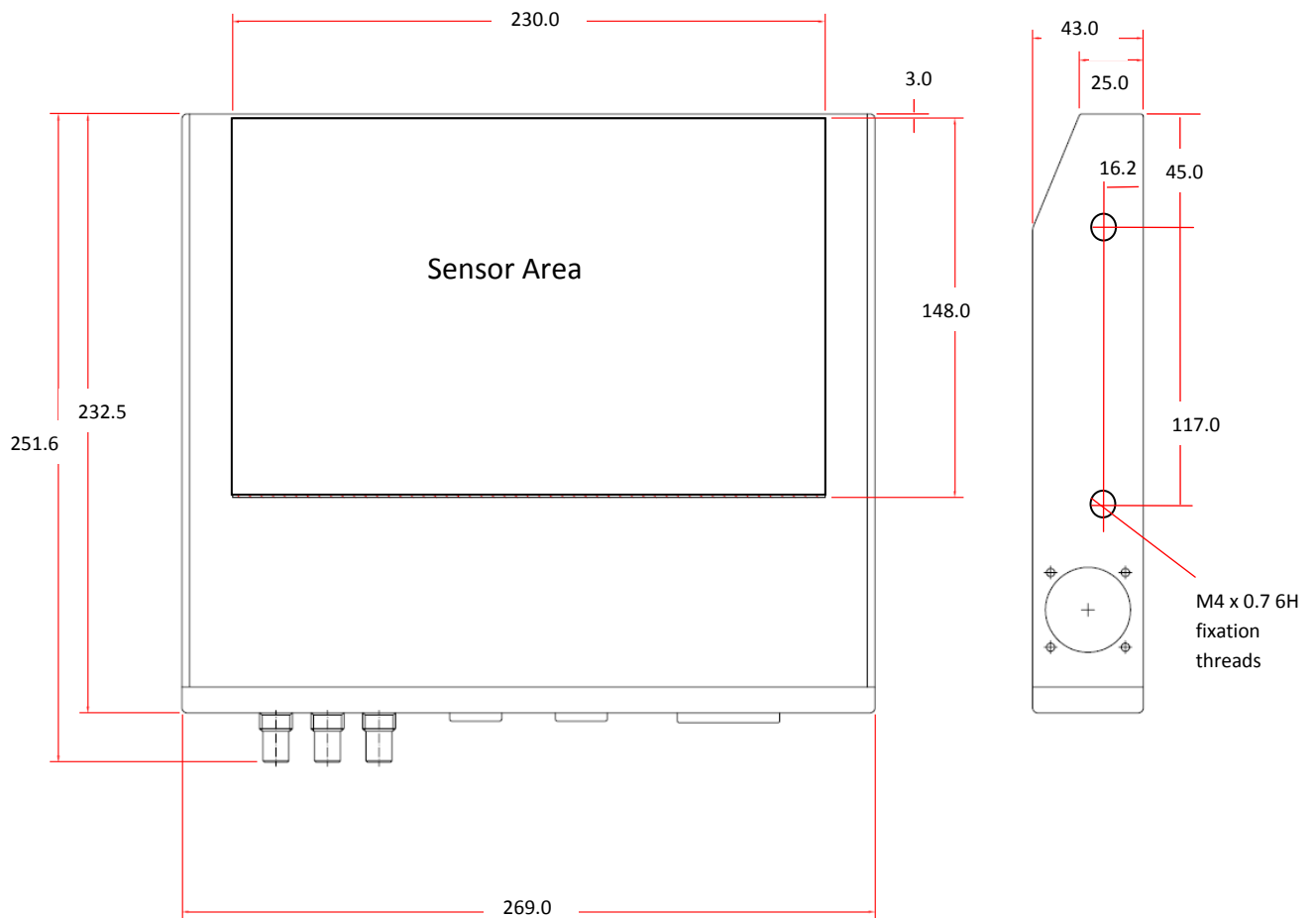
## Temperature range

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

## Connections



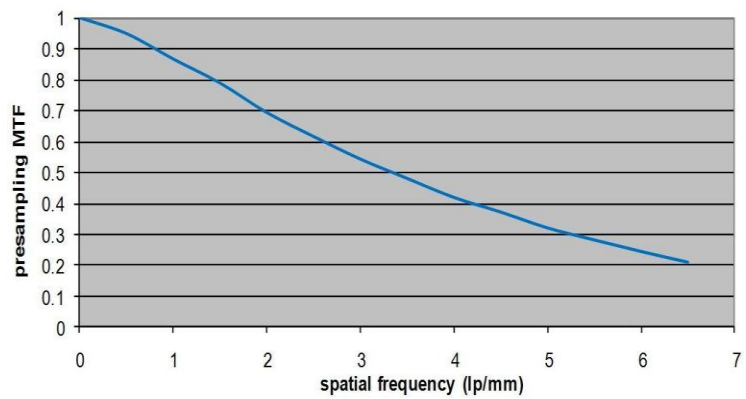
## Case dimensions



Mounting: use the two M4 threaded inserts on each side of the enclosure, shown dimensioned.

Weight: 3.5 kg

## Resolution



## DC supply requirements

Voltage inputs and currents	1: +4.0 to +4.5V 2.5A 2: +6.0 to +7.5V 1.6A 3: -6.0 to -7.5V 0.6A
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)	26W max

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