

All Digital Time Domain Imaging™ SXGA-3DM

For fast bit-plane sequencing applications

Forth Dimension Displays offers the SXGA-3DM spatial light modulator (SLM) solution specifically designed to meet the demands of optical metrology system builders.

The SXGA-3DM is a fast switching, all digital, high performance reflective SLM product featuring Forth Dimension Displays' industry proven SXGA (1280 x 1024) Time Domain Imaging™ display with an application specific display interface.

The interface allows the system builder to precisely time their images on the device under test. Bi-directional trigger signals (either to the interface or from it) ensure accurate synchronization with other system components such as cameras or translation tables. With storage for 768 full resolution 1-bit images, the interface allows offline set up for online optimization with no controlling PC required.

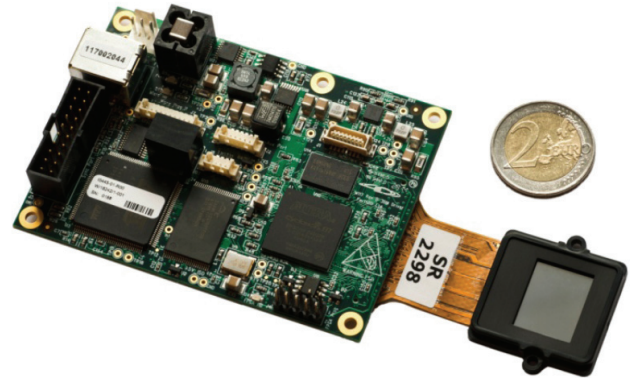
The microdisplay offers SXGA resolution, digitally precise images in a high fill factor liquid crystal on silicon package. Already recognised as the leading microdisplay for high-end near-to-eye display systems, the quality and precision of image are also available to the 3D metrology market. The SXGA-3DM from ForthDD offers a solution designed to meet current and future demands of optical metrology applications.

BENEFITS

- High resolution, SXGA (1280 x 1024 pixel)
- 40 Microsecond switching liquid crystal enables the rapid rendering of complex patterns
- >96% fill factor: accurate image projection with no visible structure
- All digital grey scale – linear response Time Domain Imaging™
- Powerful GUI and API
- Reduced design-in time

FEATURES

- Small form factor
- Flexible synchronization
- Non-volatile storage for 768 bit-planes and associated sequences
- One system can perform multiple measurements
- Flexible LED interface, optional LED driver board
- Direct drive
- Variable display addressing sequences
- RS232 / USB interface for system control



APPLICATIONS

- High resolution structured illumination
- Coded Aperture Compressive Temporal Imaging
- 3D AOI and SPI systems
- Super Resolution and Confocal Microscopy
- Lattice Light Sheet Microscopy
- Structured Light Projection
- Inline 3D component inspection
- 3D Optical profiling



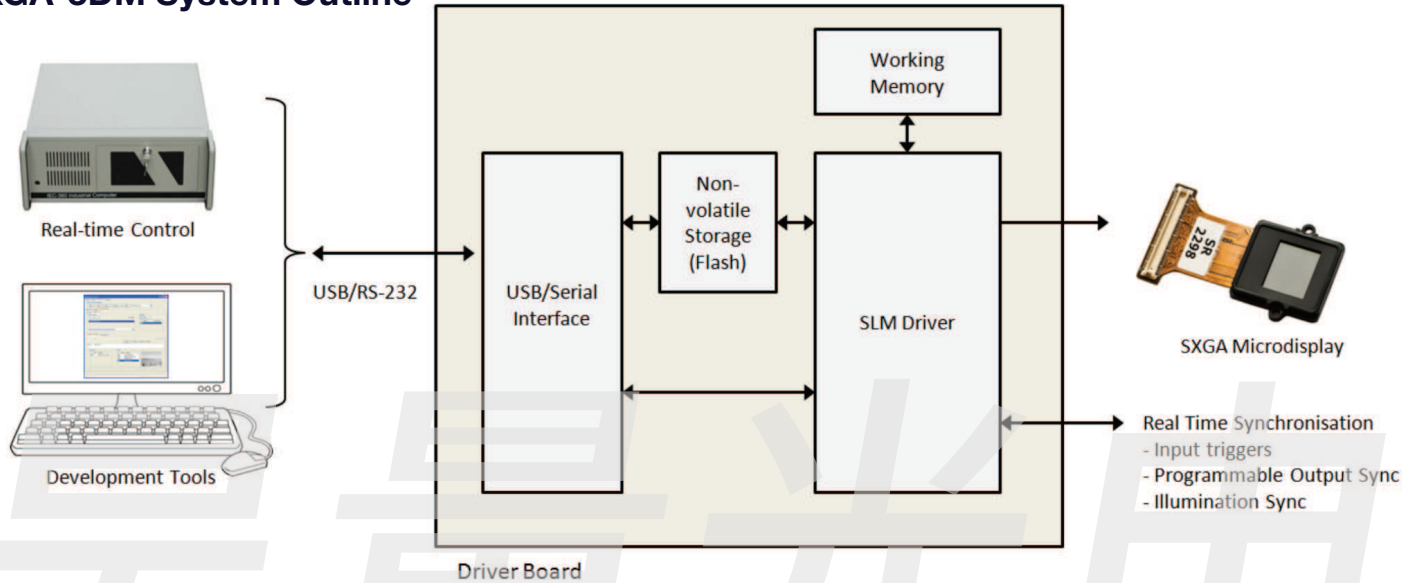
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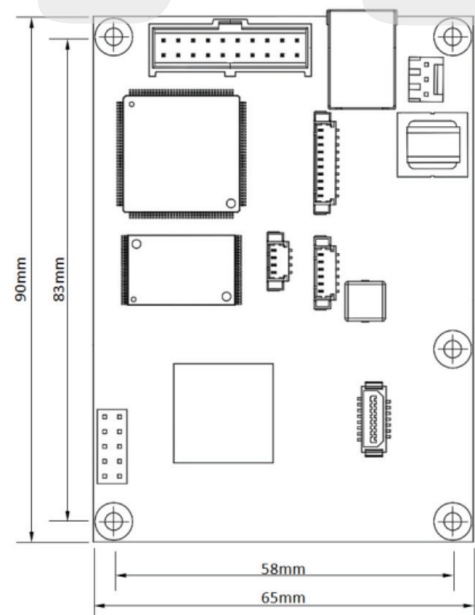
SXGA-3DM System Outline



Outline Specifications

Resolution	SXGA (1280 x 1024 pixel)
Non-volatile Storage Capacity	768 x 1-bit SXGA resolution bit-planes
Maximum Refresh Rate	3.2KHz Binary / 240Hz 8-bit Greyscale
Interfaces	USB 2.0 / RS-232
Synchronisation	Isolated Input Triggers Programmable Isolated Output Sync Isolated Illumination Sync
Power	+12VDC / 3.5W (including Microdisplay)
Weight	54g (Driver Board & Microdisplay)
Operational Temp Range	-10°C to +50°C

Driver Board Outline Dimensions



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