



visioSPHERE^{3D}



Data Sheet

VisioSPHERE^{3D}, 2.0 MegaPixel

Technical Specifications

System setup	Integrated system setup with two sensors and Ulbricht sphere
Positioning unit	Head holder and self-aligning mirror
Camera sensor	Colour, CCD, FireWire® IEEE 1394b
Camera resolution	1.624 x 1.234 Pixel high Resolution
Projection unit	Miniaturised Projection Technique
Light source	50 W high power LED (white)
Luminous intensity	300 ANSI Lumen
Number of projected line pairs	128
Minimum acquisition time	980 msec
Dimensions	W 650 x D 600 x H 700 mm
Sensor weight	33 kg
Power supply	AC 90 / 265 Volt, 50 – 60 Hz
Control unit (internal)	150 W, USB 2.0
Operating system	Windows 7 64 Bit
Data Interface	SDF, ASCII, STL, WRL,PLY
Software	AEVA for Windows

Field of View (FOV)

	Triangulation angle: 25 degrees Base length: 170 mm Operating distance: 380 mm
Field of view [mm] ⁽¹⁾	250
Field of view size [mm] ⁽²⁾	205 x 155
Measuring depth [mm] ⁽³⁾	130
x, y resolution [µm] ⁽⁴⁾	131
Resolution depth (z) [µm] ⁽⁵⁾	8
Noise (z) [µm] ⁽⁶⁾	± 12
Feature accuracy [µm] ⁽⁷⁾	± 40

COMPUTER REQUIREMENTS:

- Xeon processor >= 2 GHz
- 8 Go Ram memory minimum
- 500 Go hard disk and DVD-RW drive
- NVidia 1 Go memory graphic board
- 19 inch TFT display 1280 x 1024 resolution min

**Annotation:**

The given field of view is fixed and cannot be changed using different lenses for the cameras and / or projection units.

The lenses will be delivered with a predefined factory setting for the aperture and focal depth, which is optimised for the given FOV and which must not be changed by the user.

Please note:

All data and value specified in this data sheet only apply to a single capture.

The measurement specifications itemised are average values for the central measuring range which have been achieved under defined measurement conditions and after precise calibration of the sensor. They solely apply in combination with a system configuration provided by Breuckmann. Furthermore, all accuracy and resolution details depend on the object surface and the ambient scanning conditions.

- (1) All values stated in this data sheet are indications to express the range of values. The image diagonal of a stated field of view, for instance, may vary by $\pm 10\%$.
- (2) Size of FOV in relation to zero level.
- (3) Maximum extension in z-direction.
- (4) The values for lateral resolution are theoretically calculated (ratio of field of view to number of pixels of the camera chip).
- (5) The resolution limit is defined as the theoretically achievable accuracy (ratio of field of view to number of pixels of the camera chip).
- (6) The noise value is measured as deviation of the measured points against a best-fit curve. The noise of the measured 3D data highly depends on the noise of the camera chip.
- (7) Characteristic feature accuracy of the type series. The determination of the characteristic feature accuracy is based on VDI Guideline 2634.

EOTECH SA

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1 ZI du Fond des Prés

France - 91460 Marcoussis

Tel.: +33(0) 1 64 49 71 30

Fax: +33(0) 1 64 49 32 29

Email: info@eotech.fr