...AICON
3D Systems

smartSCAN
C1 — 0.8 Megapixel

System

Camera sensor	Color, CCD, FireWire® IEEE 1394b
Camera resolution	1 x 800,832 Pixel (1,032 x 776)
Projection unit	Miniaturized Projection Technique
Projection resolution	28,723,200 Pixel (6,144 x 4,675)
Light source	50 W High Power LED (white)
Luminous intensity	550 ANSI Lumen [1]
Minimum measuring time	1 s
Sensor weight	3 kg
Power supply	AC 110/230 Volt, 50-60 Hz
Control unit	150 W, USB 2.0
Operating system	Windows 7, 64 Bit

Fields of view

Triangulation angle: 18 degrees
Base length: 324 mm
Working distance: 1,000 mm

	M - 125	M - 250	M - 550
Field of view [mm] [2]	M - 125	M - 250	M - 550
Field of view size [mm] [3]	100 x 70	205 x 145	420 x 300
Measuring depth [mm] [4]	60	100	260
X, Y resolution [µm] [5]	95	195	405
Resolution limit (Z) [µm] [6]	7	14	31
Feature accuracy [µm] [7]	15	30	65

Annotation:

All fields of view (FOV) can be realized by using the same fundamental components, i.e. the system base, cameras and projection unit, through a simple change of the objectives. In order to simplify the setup and calibration of the standard measuring ranges, they will only be provided with an individually prepared and tested set of lenses for each FOV. The lenses are delivered with a predefined factory setting for the aperture and focal depth, which are optimized for the corresponding FOV and do not need to be altered by the user.

Please note:

All data and values specified in this data sheet are typical values and apply to a single capture only. Actual values may differ by 20 %. The measurement specifications are average values for the central area of the measuring field which are achieved under predefined measurement conditions and after precise calibration of the sensor. They apply solely in combination with a system configuration provided by AICON 3D Systems. Furthermore, all resolution and accuracy values are dependent on the properties of the object surface as well as the ambient scanning conditions.

(1) ANSI Lumen describes the value of the luminosity output of the light source adapted to the camera sensitivity.
(2) Denomination of the scanner bases (S, M, L) and the diagonal in the center of the measuring volume. The camera positions which are determined by using different CRP (carbon fiber reinforced plastic) bases are called scanner bases.
(3) Lateral expansion (X x Y) in the center of the measuring volume.
(4) Depth of the measuring volume (Z).
(5) The values for the lateral resolution have been calculated theoretically (ratio of the size of the FOV and number of pixels of the camera chip).
(6) The resolution limit is defined as the theoretically achievable resolution.
(7) The determination of the feature accuracies is based on VDI Guideline 2634.