

smartSCAN-HE

R4 | C4 – 4.0 Megapixel



System

Camera sensor	b/w or color, CCD, FireWire® IEEE 1394b
Camera resolution	2 x 4,194,304 Pixel (2,048 x 2,048)
Projection unit	Miniaturized Projection Technique
Projection resolution	28,723,200 Pixel (6,144 x 4,675)
Light source	50 W High Power LED (blue, green, red, white) for R4 50 W High Power LED (white) for C4
Luminous intensity	550 ANSI Lumen ⁽¹⁾
Minimum measuring time	1 s
Sensor weight	4 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: 27 degrees
Base length: 470 mm
Working distance: 1,000 mm

	M - 400	M - 700	M - 850
Field of view [mm] ⁽²⁾			
Field of view size [mm] ⁽³⁾	285 x 285	510 x 510	600 x 600
Measuring depth [mm] ⁽⁴⁾	220	350	400
X, Y resolution [µm] ⁽⁵⁾	140	250	295
Resolution limit (Z) [µm] ⁽⁶⁾	16	28	34
Feature accuracy [µm] ⁽⁷⁾	25	44	53

Triangulation angle: 32.5 degrees
Base length: 240 mm
Working distance: 370 mm

Triangulation angle: 18 degrees
Base length: 470 mm
Working distance: 1,500 mm

	S - 075	S - 125	S - 250	L - 600	L - 1,250
Field of view [mm] ⁽²⁾					
Field of view size [mm] ⁽³⁾	55 x 52	95 x 95	170 x 170	435 x 435	910 x 910
Measuring depth [mm] ⁽⁴⁾	36	60	110	300	600
X, Y resolution [µm] ⁽⁵⁾	27	50	85	210	445
Resolution limit (Z) [µm] ⁽⁶⁾	3	5	10	24	15
Feature accuracy [µm] ⁽⁷⁾	7	9	14	38	79

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 (and of the CRP base, if necessary). 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 Breuckmann. 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.

Subject to change without notice. Version: 01/2015