

# smartSCAN-HE

## R8 | C8 — 8.0 Megapixel



### System

|                        |  |
|------------------------|--|
| Camera sensor          | s/w or color CCD, Gigabit Ethernet   |
| Camera resolution      | 2 x 8,147,712 Pixel (3,296 x 2,472)  |
| 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 R8<br>50 W High Power LED (white) for C8 |
| Luminous intensity     | 550 ANSI Lumen <sup>(1)</sup>  |
| 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

| Field of view [mm] <sup>(2)</sup>        | M - 300   | M - 450   | M - 650   | M - 950   | M - 1,300   |
|--|-----------|-----------|-----------|-----------|-------------|
| Field of view size [mm] <sup>(3)</sup>   | 235 x 175 | 355 x 265 | 525 x 400 | 760 x 585 | 1,065 x 870 |
| Measuring depth [mm] <sup>(4)</sup>      | 150       | 220       | 330       | 480       | 660         |
| X, Y resolution [µm] <sup>(5)</sup>      | 71        | 108       | 159       | 230       | 324         |
| Resolution limit (Z) [µm] <sup>(6)</sup> | 12        | 18        | 26        | 38        | 52          |
| Feature accuracy [µm] <sup>(7)</sup>     | 20        | 28        | 42        | 60        | 85          |

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

| Field of view [mm] <sup>(2)</sup>        | S - 075 | S - 150  | S - 250   | S - 350   |
|--|---------|----------|-----------|-----------|
| Field of view size [mm] <sup>(3)</sup>   | 65 x 50 | 110 x 80 | 210 x 160 | 260 x 205 |
| Measuring depth [mm] <sup>(4)</sup>      | 40      | 70       | 130       | 160       |
| X, Y resolution [µm] <sup>(5)</sup>      | 20      | 33       | 64        | 79        |
| Resolution limit (Z) [µm] <sup>(6)</sup> | 3       | 6        | 10        | 14        |
| Feature accuracy [µm] <sup>(7)</sup>     | 8       | 10       | 14        | 18        |

## 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.

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