

OM02 HIRES

Special CCD Cameras for PCB Inspection



OM02 HIRES CCD camera

In an anodized aluminum block which is vibration resistant and dust protected are mounted a CCD camera, a *telecentric* objective, a near infrared illuminator and an optical filter which has a transmission peak at the illuminator wavelength. The illuminator radiation passes through the filter but the camera receives only the backscattered light from the object of the same wavelength. So, the visible environmental light is cut-off. The connections for power in and signal out are made with connectors fixed by screws. The CCD cameras **OM02** are designed for the inspection and the alignment with high precision of PCBs (*Printed Circuit Boards*) during their manufacturing process (layers stacking, pressing, cutting, drilling, etc.). The use of a *telecentric* optics is very important to reduce perspective errors and to obtain constant magnification in spite of the fact that the PCB changes its distance from the optics, due to the change of thickness of multi-layers. The CCD cameras **OM02** are manufactured with three working areas: *Standard* 8 x 10.6 (4x 5.3 with zoom 2X active) mm *Laser* 3.6 x 4.8 (1.8 x 2.4) mm e *BGA* 2.3 x 3 (1.1 x 1.5) mm. Being the working areas so small it is possible to detect images with high resolution and to process them for micrometric measurements.

TECHNICAL SPECIFICATIONS

CCD Camera

- Sensor: CCD 1/3"
- Standard video: CCIR B/W
- Number of *pixel*: 795 Hor. x 596 Ver.
- Scanning System: 625 lines 50 fields/sec
- Video out: 1 Volt p-p / 75 Ohm
- Shutter: 1/50—1/120.000 automatic
- S/N: 52 –60 dB (*AGC off*)
- Iris: automatic esp.
- AGC: ON /OFF

Optics

- Objective: fixed focus telecentric
- Working area :
 - 8 x 10.6 (4x5.3 Zoom) mm *Standard*
 - 3.6 x 4.8 (1.8x2.4 Zoom) mm *Laser*
 - 2.2 x 2.9 (1.1x1.4 Zoom) mm *BGA*
- Working distance: 41 mm (± 12) *Standard*
31.5 mm (± 2.5) *Laser*
43.5 mm (± 1.5) *BGA*

Material

- Black anodized aluminum

Illuminator IR LED

- Wavelength: 880 nm
- Number of LEDs: 18 in a ring dia. 21 mm
- Illum. angle: 20°
- Lum. intensity: >20 mW/sr / LED

Dimensions (mm, included connectors)

- Standard* : 128 x 54 x 48
- Laser* : 140 x 54 x 48
- BGA* : 140 x 54 x 48

Power in

- +12 Volt – 250 mA

Connectors

- DIN SKV 5p M
for power in CCD and LED
for zoom, AGC and mirror on/off signal input
- TNC for video out



Connectors

How to order:

- 8S0965/S : OM02 Hires *Standard*
- 8S0965/L : OM02 Hires *Laser*
- 8S0965/B : OM02 Hires *BGA*
- 8S0765 : Coax. Cable 5 m BNC-BNC
- 8S0966 : Power Cable 5 m DIN 5P F -DSUB 9