

LLD-2 VGA Video Camera with Multiple Measurement Functions

- No computer and software needed
- 2 megapixel, color, high quality CMOS, resolution 1600 X 1200
- 2 USB ports for mouse and USB flash drive
- Image/video saved in flash drive for review and playback
- Up to 12 crosshair markers moveable to any location on screen
- Multiple measurement functions: distance, area, circle & angle
- Screen freeze function of multiple-area (1/4, 1/2 or full screen)
- On screen graduated scale with division pixel number adjustable
- Able to store length calibrations for up to 9 camera lenses
- High measurement accuracy up to sub-micron
- Live VGA video output directly to display, projector or digital TV
- Ease-to-use by menu operation using mouse with clear & stable image



Applications

- ▣ Academic teaching
- ▣ Microscopic amplification systems
- ▣ QC/QA in micro IC assembly
- ▣ PCB and SMT production
- ▣ Industrial precision positioning
- ▣ Medical and scientific R&D
- ▣ Jewelry appraisal

Installation

- ▣ Install a proper camera lens onto the CS mount of the camera
- ▣ Connect the VGA OUT terminal to a VGA display using a VGA cable
- ▣ Plug the 5VDC AC adaptor into the 5V DC socket of the camera
- ▣ Connect a mouse and a flash drive to the two USB ports, respectively

Menu Operation

- ▣ Press right button of the mouse once, main menu pops up; press again, main menu closes.
- ▣ On main menu, move cursor, click left button to open sub-menu.
- ▣ On sub-menu, move cursor, click left button to execute corresponding function.
- ▣ Single click left button to return to main menu.

Method of Measurement

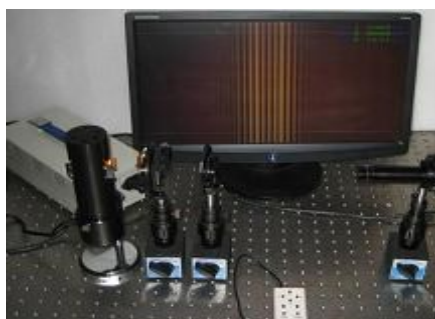
- ▣ Place the sample under test on the specimen stage, select lens to match current lens from calibration menu.
- ▣ Measure length between two points: up to 10 sets of lengths that can be measured and stored.
- ▣ Measure rectangle: up to 10 rectangles can be measured and stored; width, height and area displayed on screen.
- ▣ Measure circle: up to 10 circles can be measured & stored; center & radius displayed on screen.
- ▣ Measure angle: up to 10 angles can be measured and stored; angle value displayed on screen.
- ▣ Freeze image of selected area for more stable measurement
- ▣ Acquire, record and save picture or video.

Specifications

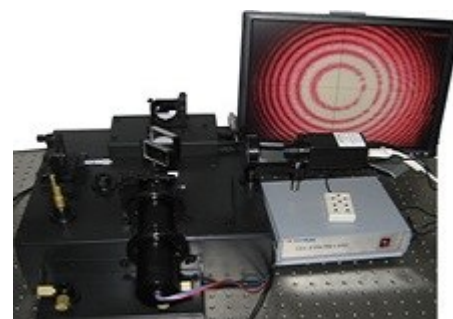
Sensor	2 megapixel, color, 1/3" CMOS
Effective pixels	1600 (H) x 1200 (V), pixel size 2.8 μm x 2.8 μm
Data	8 bits
Frame rate	15 frames/s progressive scan, electronic rolling shutter (ESR)
Dynamic range	> 63 dB
S/N	44 dB
Sensitivity	1 V/lux-sec (at 550 nm)
Exposure	10 ms ~ 60 ms, auto or manual
White balance	auto
Lens mount	CS/C
Video output	VGA, resolution selectable 1024 x 768, 1280 x 1024, 1440 x 900
Image adjustment	brightness, contrast, saturation, tone, H-mirror, V-mirror, b/w, negative
Cross line	up to 12 cross cursors
USB port	2 (one for mouse, one for USB flash drive)
Working temperature	0~60 °C
Power supply	5 VDC \pm 10%, 800 mA
Dimensions	50 x 50 x 90 (mm)
Package	camera unit (CS), 5 VDC adapter, manual



Microscopic PCB inspection



Biprism interference experiment



Michelson interferometer