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High Resolution Digital B/W CCD Camera ORCA-ER



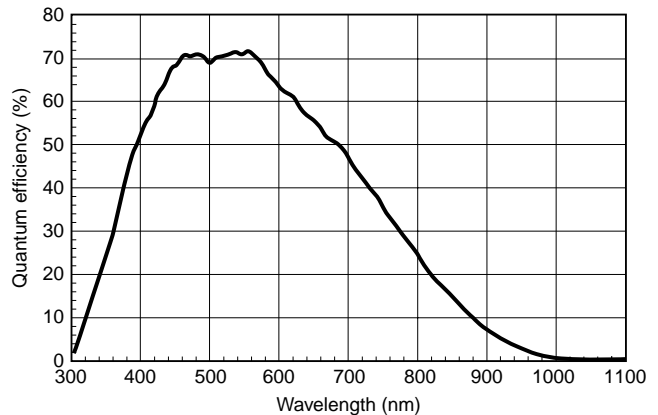
The ORCA-ER is a B/W CCD digital camera using an advanced progressive scan interline CCD chip with high sensitivity in VIS-NIR region offering substantially better noise characteristics at high frame rates. The Peltier cooled hermetic vacuum-sealed head can be cooled to -20°C , reducing dark noise and minimizing thermal drift which makes this camera an ideal choice for demanding scientific and industrial applications.

RS422A digital output ensures compatibility with a large number of commercially available frame grabber boards. In addition, a standard C-mount lens coupling makes it easy to connect to optical microscopes and lenses. Fast electronic shuttering, fast readout and low noise integration all combine to make this camera a great choice for both high and low level imaging applications.

APPLICATIONS

- Routine Fluorescence Microscopy
- Green Fluorescent Protein applications
- DNA and Ploidy analysis
- Red and Near infrared fluorescent applications
- Fluorescence In Situ Hybridization studies
- Motility and Motion analysis
- Combined DIC/Phase and Fluorescence
- Histology, Pathology and Cytology
- Metallurgical microscopy
- Failure analysis
- Semiconductor inspection
- X-ray scintillator readout

SPECTRAL RESPONSE CHARACTERISTIC

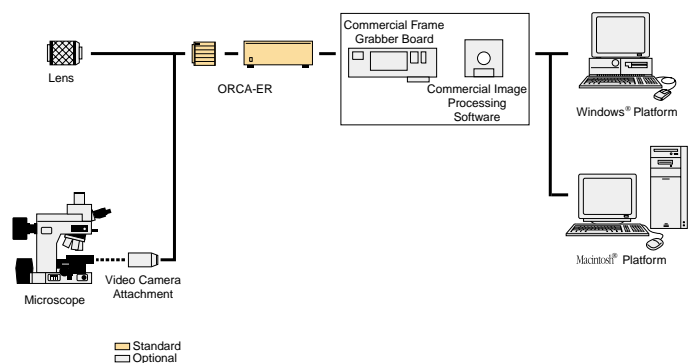


★ This is typical, not guaranteed

FEATURES

- High sensitivity in VIS-NIR region
- Hermetic vacuum sealed head
- High resolution of 1.37 million pixels
- Exposure time up to 10 sec
- Low dark noise with peltier cooling for a dynamic range of 3000 : 1
- Progressive scan interline CCD chip with no mechanical shutter
- Binning function for improved sensitivity
- Full remote control from PC

SYSTEM CONFIGURATION



SPECIFICATIONS

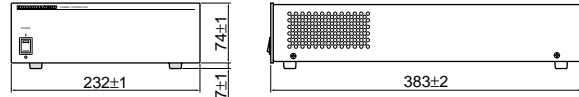
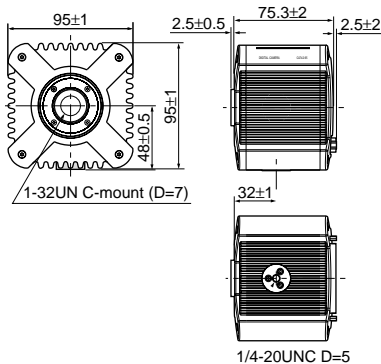
| | | | |
|--|---|-------|-------------|
| Type number | C4742-95-12ER | | |
| Camera head type | Hermetic vacuum-sealed air-cooled head | | |
| Imaging device | ER-150 progressive scan interline CCD | | |
| Effective number of pixels | 1344 (H) X 1024 (V) | | |
| Cell size | 6.45 μm (H) X 6.45 μm (V) | | |
| Effective area | 8.67 mm (H) X 6.60 mm (V) | | |
| Pixel clock rate | 14.75 MHz/pixel | | |
| Frame rate | 1 X 1 | | 8.3 frame/s |
| | binning | 2 X 2 | 16 frame/s |
| | | 4 X 4 | 28 frame/s |
| | | 8 X 8 | 45 frame/s |
| Readout noise (r.m.s.) typ. | 6 electrons | | |
| Full well capacity typ. | 18000 electrons | | |
| Dynamic range* typ. | 3000 : 1 | | |
| Cooling method | Forced air peltier cooling, with hermetic sealing | | |
| Cooling temperature | - 20 °C | | |
| Dark current | 0.1 electrons/pixel/s | | |
| A/D converter | 12 bit | | |
| Exposure time | 10 μs to 10 s | | |
| Sub-array | yes | | |
| Contrast enhancement | Analog gain (10times max.) and offset function | | |
| External trigger | yes | | |
| Lens mount | C-mount | | |
| Interface / Output signal (digital output) | RS-422A / 12 bit parallel output | | |
| External control | RS-232C (full remote for all camera functions) | | |
| Line voltage | AC 100 V / AC 117 V / AC 220 V / AC 240 V, 50/60 Hz | | |
| Power consumption | approx. 70VA | | |
| Ambient storage temperature | - 10 °C to + 50 °C | | |
| Ambient operating temperature | 0 °C to + 40 °C | | |
| Ambient storage/operating humidity | 70 % max. (no condensation) | | |

*Calculated from the ratio of the full well capacity and the readout noise

DIMENSIONAL OUTLINES (Unit: mm)

• Camera head (approx. 1.3 kg)

• Camera controller (approx. 6.2 kg)



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