

# High-Performance DVI Camera



## Data Sheet

**DK8075-C-E01**

**QXGA/XGA color**

The DK8075-C camera is a high-quality 3 megapixel color camera with the possibility of direct monitor connection via DVI interface. The camera combines simple handling of former analogous video cameras with the high imaging quality of a digital camera, including the possibility of real-time image improvement.

## Easy Handling

- Easy to use like common analogous CCTV cameras  
**Plug in, switch-on, ready**
- Image quality better than HDTV
- Real live video display without any noticeable delay time
- Comfortable parameter input by mouse and OSD menu without PC
- Parameter sets can be created and stored as user profiles. Camera can hold up to 8 profiles. Mouse control allows easy switching between them.
- Reduction of energy consumption of more than 200 W compared to a camera connected to a PC. Assuming 8 h of daily use this means a reduction of 400 kWh per year.
- The snapshot feature allows image recording for documentation purposes. As an exception in this case a PC is necessary for receiving image data.

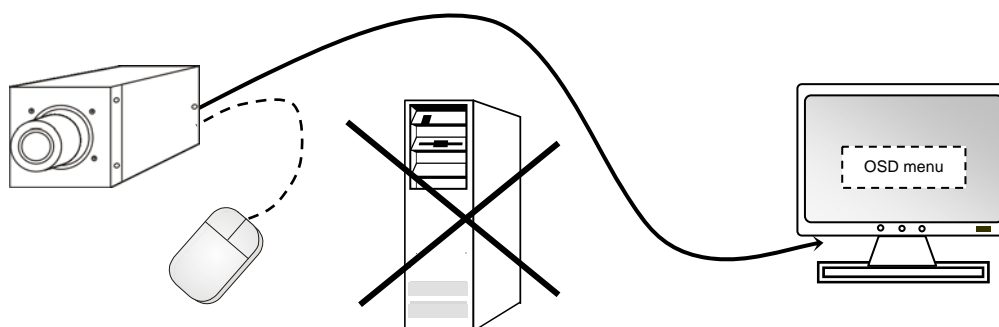


**DVI camera**

Because of the short delay time (latency) between image capturing and displaying direct manipulation of the observed object is possible.

## Application Fields

Typical fields of application for the 3 megapixel DK8075-C camera are high resolution measurement, microscopy, and documentation. Furthermore, it can be used for industrial surveillance of machinery and equipment as well as part of live video displaying systems on public events.



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### Characteristics

The standard video output format is DVI. Camera control is performed either by using a PC (via COM, I<sup>2</sup>C interface) or using commercially available peripheral devices like a mouse, trackball or keyboard.

An outstanding feature are the high performance internal processing units of the camera. High quality Bayer demosaicing, color space transformation, brightness adjustment, contrast, saturation and hue improvement are performed in real time by the camera hardware as well as a nonlinear dynamic improvement and Gamma correction. In addition shading correction is possible in order to individually adjust the response characteristic of every pixel to compensate effects due to illumination inhomogeneity or lens vignetting. Each function unit has the ability to process more than 100 megapixel per second and provides the user superior performance at low volume.

In addition to the processing components mentioned above, multifunctional and intelligent camera control functions are available. Examples are the automatic white balancing (AWB) and various algorithms for back light control and especially multi-window automatic exposure control (AEC). Even scenes with many moving objects of different brightness can be exposed correctly with these features. In combination with very short exposure times high quality images of fast moving objects are possible.

A digital zoom implemented in the onboard FPGA enables the user to enlarge areas up to 8 times. Enlargements up to 2× are lossless due to the high resolution of the sensor.

The snapshot feature allows recording of single images for documentation purposes. These images can be transmitted to a PC or laptop computer via the control interface.

Special DVI cables allow to bridge up to 30 m between camera and monitor. Using modern fiber optic cables camera remote operation is possible from distances up to 500 m.

Optionally there are adapters available to mount the optical head and/or the camera control unit e.g. on photo tripods.

### Technical Data

Sensor resolution	2048 × 1536	Video output	DVI-D optional: RGB, S-Video, FBAS
Sensor size	1/2"		
Shutter	rolling shutter	Output format (DVI)	1024 × 768
Exposure time	50 μs to 50 s	Communication interfaces	RS232, PS/2 for PC mouse, optional: I <sup>2</sup> C, RS422/485
Pixel size	3.2 μm × 3.2 μm		
A/D resolution	10 bit	Power supply	8 V to 24 V ± 20 % (nominal) / 5 W
Exposure control	4 measuring fields or manual	Dimensions	51 mm × 51 mm × 110 mm
White balance	automatically	Lens interface	CS-mount (adjustable)
Shading correction	automatically, pixel-precise	AOI/ROI zoom	2× (lossless)

### Special Design – IP67 Camera Head

The DK8475-C-E01 camera is a modified version for special application cases in industrial surveillance. It possesses a separated and rugged IP67 camera head. The typical separation distance between camera head and the control unit is 15 m. Longer distances (up to 50 m) are possible using special cables (for further information please look at DK8475 data sheet).