



## Features

- High QE CCD: >55% @500nm
- 4 Megapixel Resolution: 2048 X 2048
- Interline, Progressive-Scan CCD
- 12-Bit Digitization
- Single or Dual-tap readout
- Dual A/D Converters: 20 MHz and 40 MHz Pixel Clock
- Low Read Noise
- Optional 1-Stage or 2-Stage TE Cooler
- Variable, On-chip Region of Interest and Binning
- Flexible Exposure and Readout Modes
- Gigabit Ethernet or Camera Link Interface
- Software and External Asynchronous Triggers
- DVCView™ Image Capture and Control Software
- SDK for Windows and Linux
- CE/UL/CUL/FCC Certified
- RoHS Compliant



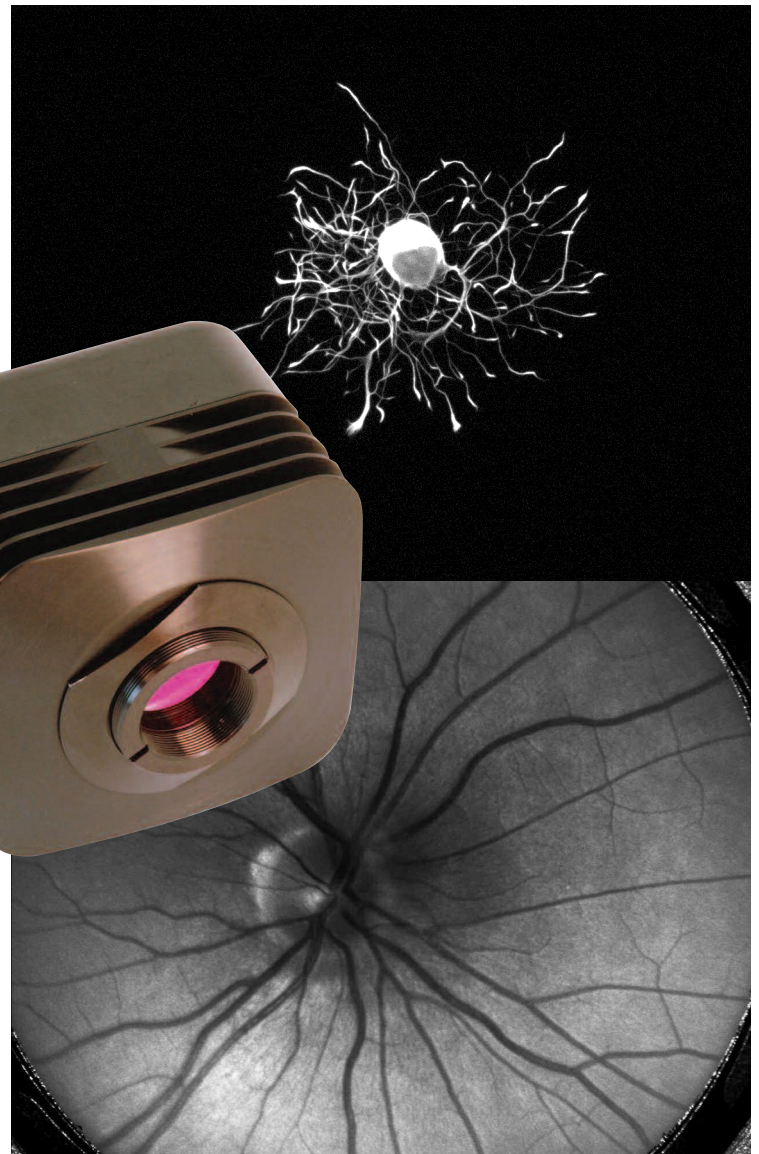
## Description

The DVC-4000DM is a high-resolution digital camera utilizing the new Kodak KAI-4022 progressive scan interline CCD sensor for improved signal-to-noise. The quantum efficiency of the CCD peaks in the 500-600nm region of the spectrum, resulting in optimum sensitivity for most applications.

The DVC-4000DM has four basic operating modes:

streaming overlapped exposure, streaming non-overlapped exposure, edge-triggered single-frame snapshot, and variable pulse-width exposure. Software selectable single/dual-tap readout at 20 MHz or 40 MHz allow the optimization of CCD readout to the needs of a particular application.

DVCView™ application software is provided with the camera for real-time viewing and image capture. A multi-platform SDK is available to developers, streamlining integration of any DVC camera via the DVC API.



# SPECIFICATIONS

# DVC-4000DM

## CCD

KAI-4022 progressive-scan interline CCD

Active Pixels	2048 X 2048
Pixel Size	7.4 $\mu\text{m}$ X 7.4 $\mu\text{m}$ (sq. format)
Imager Size	21.43 mm (diagonal)
Aspect Ratio	1:1
Peak QE	> 55%
Full Well	33,000e <sup>-</sup> @ 20 MHz 20,000e <sup>-</sup> @ 40 MHz

## Digital Video

I/O	12-Bit Camera Link or Gigabit Ethernet		
A/D Converter	20 MHz @ 12-bits 40 MHz @ 12-bits		
Read Noise	10 e <sup>-</sup> @ 20 MHz		
Binning (selected examples)	Single Port:	20MHz	40MHz
	1X1 2048 X 2048	4.4	8.3
	2X2 1024 X 1024	8.2	15.1
	4X4 512 X 512	14.8	25.2
	Dual Port:	8.1	14.5
	1X1 2048 X 2048	14.7	25.1
ROI (selected examples)	Single Port:	20MHz	40MHz
	1024 X 1024	8.2	15.1
	512 X 512	14.9	25.5
	256 X 256	25.1	38.9
	Dual Port:	14.8	24.7
	1024 X 1024	25.1	38.2
512 X 512	25.1	38.2	
256 X 256	38.5	52.6	
Gain Control Range	35 dB		
Offset Control (Black)	0% to 6% in 256 steps		
Exposure Range	60 $\mu\text{s}$ to 1 hour		

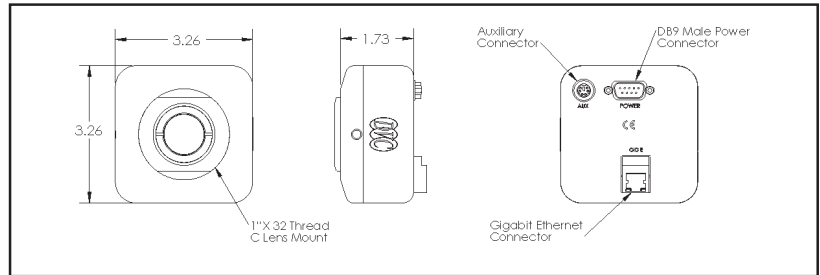
## Electrical

Input Voltage	110/220 VAC 50/60 Hz
Power	< 5 Watts

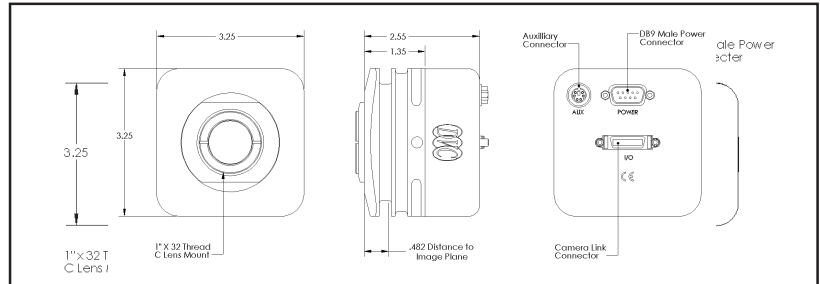
## Mechanical

Size	3.25" (H) X 3.25" (W) X 1.73" (L)
W/T1 Cooler	3.25" (H) X 3.25" (W) X 2.56" (L)
W/T2 Cooler	3.90" (H) X 3.90" (W) X 2.57" (L)
Weight	18 oz (505 grams)
W/T1 Cooler	30 oz (900 grams)
W/T2 Cooler	38 oz (1077 grams)
Lens Mount	C-mount; F-mount optional
Camera Mount	1/4" X 20 Standard Tripod mount
Camera Connector	Camera Link or Gigabit Ethernet
Power Connector	DB-9M

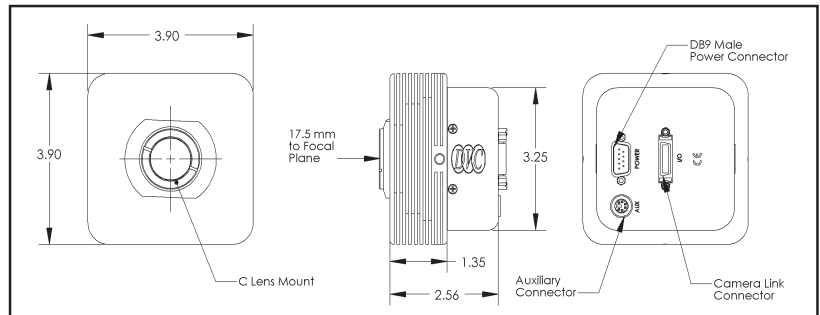
## 4000DM (shown with Gigabit Ethernet connector)



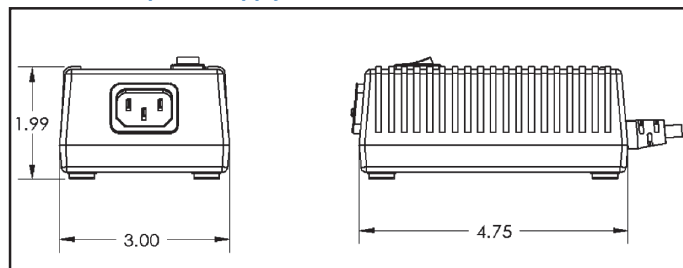
## 4000DM-T1 Cooled (shown with Camera Link connector)



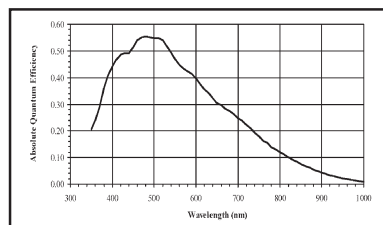
## 4000DM-T2 Cooled (shown with Camera Link connector)



## Switchmode power supply



## CCD Quantum Efficiency



## IR Filter Response

