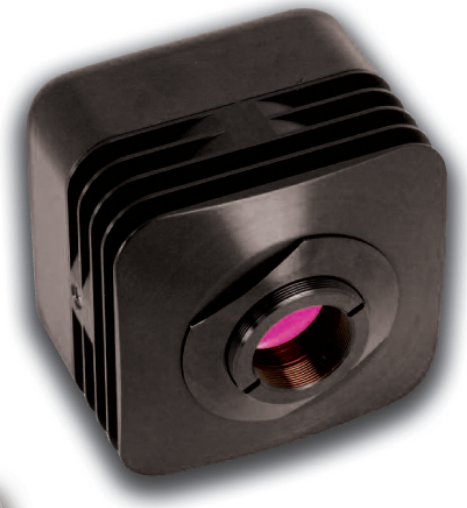
Solutions for Scientific Imaging

DVC-1500M
MONOCHROME DIGITAL CAMERA

Features

- High QE CCD: > 62% @ 500 nm
- 1.4 Megapixel Resolution: 1392 X 1040
- Interline Progressive Scan CCD
- 12 Bit Digitization
- Dual speed readout: 40 and 20 MHz
- 8e⁻ Read Noise
- "C" Lens Mount
- Variable, On-Chip Region of Interest and Binning
- Flexible Exposure and Readout Modes
- Gigabit Ethernet or Camera Link Interface
- DVCView™ Image Capture and Control Software
- SDK for Windows and Linux
- Software and External Asynchronous Triggers
- CE / UL / CUL / FCC Certified
- RoHS Compliant



Enhanced NIR (QX) Option

- Boosts NIR response between 500-1100nm
- Software selectable

Optional TE Cooling

- Fanless, vibration-free
- Compact design
- Low power
- 1-stage or 2-stage TE cooler

Description

The DVC-1500M is a versatile, high performance digital camera with functions tailored to high-throughput scientific and industrial applications. This camera is based on a Sony ICX285AL progressive scan interline CCD, and is capable of very low noise at both 20MHz and 40MHz readout rates. The high quantum efficiency of the CCD peaks in the 500-600 nm region of the spectrum.

The DVC-1500M has four basic operating modes: streaming overlapped exposure, streaming non-overlapped exposure, edge-triggered snapshot, and variable pulse-width exposure. Each mode can be operated at either 20 or 40 MHz and can support variable binning and region of interest operation allowing users to match the needs of their 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 all DVC cameras via the DVC API.

SPECIFICATIONS

DVC-1500M

CCD

ICX285AL 2/3" progressive-scan Interline CCD

Active Pixels	1392 (H) X 1040 (V)
Active Image Area	8.98 mm X 6.71 mm (2/3" format)
Pixel Size	6.45 µm X 6.45 µm (sq. format)
Aspect Ratio	4:3
QE	> 62% @ 500 nm
Full Well	16,000e⁻ (1X1) 32,000e⁻ (Bin 2X2)

Digital Video

I/O	12-Bit Camera Link or Gigabit Ethernet			
A/D Converter 1 A/D Converter 2	20 MHz @ 12-bits 40 MHz @ 12-bits			
Read Noise	8e- @ 20 MHz			
Binning (selected examples)			20MHz	40MHz
	1X1	1392 X 1040	12	23
	1X2	1392 X 520	23	41
	2X2	696 X 520	23	41
	3X3	464 X 346	32	56
	4X4	348 X 260	40	68
ROI (selected examples)			20MHz	40MHz
	800 X 512		23	42
	400 X 256		41	69
	200 X 128		66	102
Programmable Gain Range	35 dB			
Offset Control (Black)	0% to 6% in 256 steps			
Exposure Range	39 µs to 1 hour			

Electrical

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

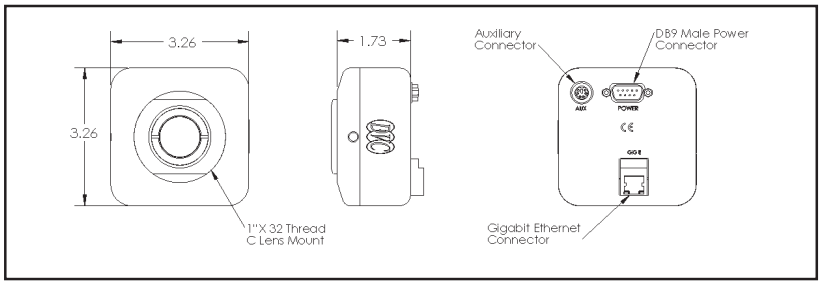
Mechanical

Cooling T1 (1-stage cooler) T2 (2-stage cooler)	(from 25°C ambient) 0°C -20°C
Weight W/T1 Cooler W/T2 Cooler	18 oz (505 grams) 30 oz (900 grams) 38 oz (1077 grams)
Lens Mount	C-Mount
Camera Mount	1/4" X 20 Standard Tripod mount
Camera Connector	Camera Link or Gigabit Ethernet
Power Connector	DB-9M

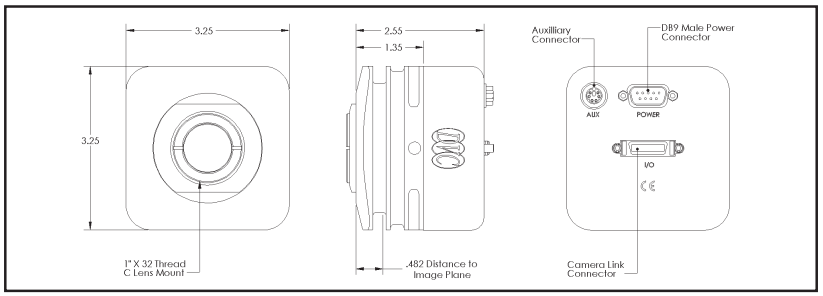
QX Option

Control	On/Off via software selection
Enhancement Range	500nm-to-1100nm (see graph)

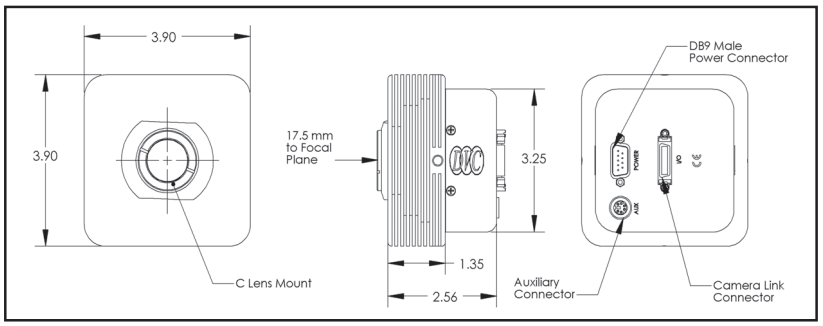
1500M (shown with Gigabit Ethernet connector)



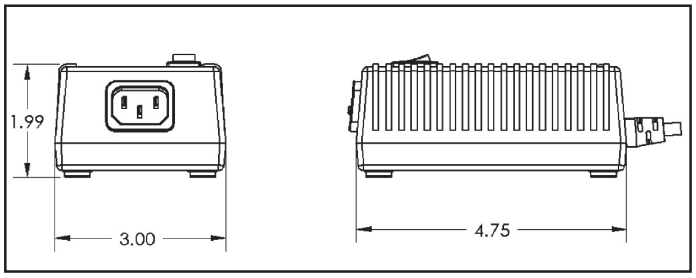
1500M-T1 Cooled (shown with Camera Link connector)



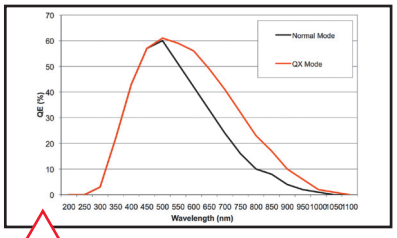
1500M-T2 Cooled (shown with Camera Link connector)



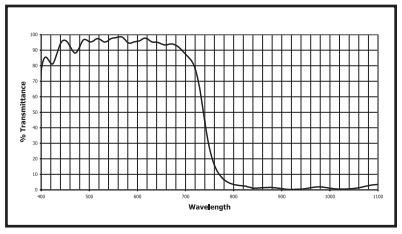
Switchmode power supply



CCD Quantum Efficiency



IR Filter Response



The "QX" option, when enabled via software, boosts the response of the camera in the NIR region [550-1100nm], resulting in a near doubling of the response at some wavelengths. Note: antiblooming performance is reduced when QX is enabled.

DVC Company

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