

# MotionPro X3™

- 1.3 Megapixel (1280 x 1024 pixels)
- Over 1000 frames per second at full resolution
- Color and monochrome
- Windows and Mac OSX compatible
- 11-bit Dynamic Range in XDR mode



MotionPro X cameras offer the ultimate in usability and versatility. Our latest developments in CMOS sensor and camera design ensure ideal image quality and the most comprehensive feature set in one efficient package. Included MotionPro software lets you easily optimize camera settings, acquire, analyze, and save images and is also fully integrated with our synchronization, illumination, and data acquisition devices. IDT revolutionizes scientific imaging by offering compatibility among add-on components. Our ingenuity creates solutions.



<http://www.idtvision.com>



National Instruments



The MathWorks



# MotionPro X3™

## FEATURES LIST

### CMOS image sensor

The X3 image sensor design delivers superb image quality in color and black and white with very low noise at KHz frame rates

### Short interframe time

Double-exposure mode utilizes a 100 nanosecond interframe time making this the perfect Particle Image Velocimetry (PIV) camera.

### XDR

Extended Dynamic Range mode increases the dynamic range of the sensor up to 11 bits.

### USB2 and Gigabit Ethernet communication interfaces

Standard communication between the computer and camera is done via USB2. Optional Gigabit Ethernet is available for increased download speeds and use over networks.

### Configurable ROI

By reducing the number of horizontal lines in the Region of Interest, the X3 cameras are capable of increasing the framing rate to 64,000 fps.

### Flash Memory

Factory settings are stored onboard, making the camera even more portable.

### Software Compatibility

MotionPro X Studio includes National Instruments Labview VIs, Matlab plugins, TWAIN, and a C++ SDK.

### Live Preview

Full time, live preview on a monitor lets you see what the camera sees.

### Video Out

NTSC and PAL

### Flexible Triggering

Connectors for IRIG B B, Frame-Sync, Trigger-In, and Sync-In connectors onboard camera.

## X3 CAMERA SPECIFICATIONS:

**Array Format:** 1,280H x 1,024V (1,310,720 pixels)

**Aspect Ratio:** 4:3

**Optical Format:** 1 inch

**Sensor Imaging Area:** 15.36mm H x 12.29mm V – Diagonal 19.67mm

**Responsivity:** Monochrome 1,000 bit/lux-sec

**Shutter:** Global Electronic Shutter

**ADC:** On-chip 10 bit

**Photo response nonuniformity:** <0.6 % rms

**Pixel saturation level:** 63,000 electrons

**Dark signal non-uniformity:** <0.4 % rms

**Pixel Depth:** 10 bits

**Pixel Size:** 12 x 12  $\mu$ m

**Center to center spacing:** 12  $\mu$ m

**Pixel Fill factor:** 40 %

**Dynamic range:** 59 dB

**Configurable binning:** 1x1, 2x2, 3x3, 4x4

**Trigger modes:** Internal (continuous), external (edge-low, edge-high, pulse low and pulse high), circular/BROC, set pre- and post-trigger frames

**Memory configuration:** 2 GB and 4 GB

**Minimum inter-frame rate:** 100 ns

**Digital interface:** Plug-and-play with real-time preview, USB-2.0, optional Gigabit Ethernet network

**Trigger and synchronization:** CMOS level (3.3 V) via BNC connectors

**Operating system:** Windows 2000, XP, MAC OS X

**Integration time:** 100 ns to 1000 ms

**Programmable gain and offset:** 10 bit resolution

**Optical interface Standard:** C-mount, optional F-mount, optional Canon Mount, converters available

**Size/ Weight:** 95x95x162 mm, 1.9 Kg

**Mount:** 1/4-20 photo mount

**Power requirements:** 100-240 V, 50-60 Hz

**Temperature:** +5°C to +40°C

**Humidity:** Less than 80% at +31°C



FULLY COMPATIBLE

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Specifications subject to change