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.

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 µm

Center to center spacing: 12 µm

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: +5ºC to +40ºC

Humidity: Less than 80% at +31oC

POWERED BY
IDT

WINDOWS XP

FULLY COMPATIBLE

Specifications subject to change

MotionPro X4™

- **- 512 x 512 pixels**
- **- Over 5000 frames per second at full resolution**
- **- 100 ns exposure option**
- **- Global electronic shutter eliminates motion blur**

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LabVIEW
National Instruments

The MathWorks

MotionPro X4™

FEATURES LIST

CMOS image sensor

The X4 image sensor offers the highest sensitivity and frame rates of the MotionPro cameras. The global electronic shutter eliminates motion blur for extremely high speed events.

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 X4 cameras are capable of increasing the framing rate to 400,000 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, Frame-Sync, Trigger-In, and Sync-In connectors onboard camera.

X4 CAMERA SPECIFICATIONS:

Pixel Depth: 10 bits

Resolution: 512H x 512V pixels (262,144 pixels)

Sensor Imaging Area: 8.19mm H x 8.19mm V, Diagonal: 11.58mm

Pixel Size: 16 μm x 16 μm

Center to center spacing: 16 μm

Responsivity: 9 V / lux-second @ 550nm

Internal Dynamic Range: 57dB

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: +5oC to +40oC

Humidity: Less than 80% at +31oC

Specifications subject to change

MotionPro X5™

- 4 Megapixel resolution at 250 frames per second
- Small 7μ pixels reveal the smallest of details
- 500 fps available with Plus upgrade
- MAC OSX and Windows XP Compatible

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.

FEATURES LIST

CMOS image sensor

The X5 delivers the ultimate combination of frame rate and resolution. 4 million, 7μ pixels capture the smallest details in the largest fields of view.

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 X5 camera is capable of increasing the frame rate to over 50,000 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

Irig B, Frame-Sync, Trigger-In, and Sync-In connectors onboard camera.

X5 SENSOR SPECIFICATIONS:

Array Format: 2,352H x 1,728V (4,064,256 pixels)

Aspect Ratio: 4:3

Optical Format: 1 inch

Pixel Size: 7.0μ x 7.0μ

Pixel Pitch: 7.0μ

Pixel Fill Factor: 55%

Sensor Imaging Area: 16.46mm H x 12.10mm V – Diagonal 20.43mm

Responsivity: Monochrome 2,500 bit/lux-sec

Shutter: Electronic Rolling Shutter

ADC: On-chip 10 bit

Photo response non-uniformity: 1 % rms

Pixel saturation level: 25,000 electrons

Dark signal non-uniformity: 0.1 % rms

Internal dynamic range: 60 dB

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 ºC to +40 ºC

Humidity: Less than 80% at +31ºC

POWERED BY
IDT

WINDOWS XP

FULLY COMPATIBLE

Specifications subject to change