Economical High-Speed Cameras in a Compact Package for Laptop Control

Compact, Versatile and Easy to Use

The i-SPEED 210 and the i-SPEED 211 are the perfect high-speed cameras for real-world situations where access, portability and rapid deployment matter. These cameras fit in the palm of your hand; when tethered to a laptop or Ethernet cable, they can fit almost anywhere – under dashboards, in engine compartments, in machinery and more.

Providing a balance between cost, speed, resolution and compact size, the i-SPEED 210 and i-SPEED 211 are ideal high-speed cameras for budget-conscious test laboratories, production lines and test facilities. The high-sensitivity CMOS sensor provides over 1.3 million pixels of resolution at 500 fps -- suitable for slowing down most life science, robotics and machinery applications. The global exposure shutter makes this a true professional high-speed camera capable of recording complicated rotating objects, but at a price that will not break a laboratory budget.

The 1-hour battery that comes standard on the model 211 coupled with a standard laptop make this camera ideal for untethered portable field work. Add a layer of rugged durability with the optional Hi-G shock package.

FEATURES

- **SXGA resolution 1280 x 1024 CMOS sensor**
- **Maximum frame rate of 79,500 frames per second**
- **Fits in the palm of your hand; the 210 is a 2.5" cube and the 211 is a 3.5" cube**
- **Excellent light sensitivity**
- **Full resolution to 500 fps (1,750 fps in quad mode)**
- **Certified to 100 G shock, 10 G vibration**
- **Up to 8 GB of memory for long recordings**
- **Interchangeable C-mount lenses**
- **1 hr battery charge while recording, 1.5 hours while in standby** (Model 211 only)

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SPECIFICATIONS

i-SPEED® 210|211

IMAGER

Frame rate at full resolution	500 fps (1,750 fps in quad mode)
Shutter	Global electronic shutter: 2 µs to 1 s
Spectral bandwidth	400 - 900 nm
Amplification	Digital gain 1 - 4 in 8 steps
Maximum resolution	1280 x 1024
Maximum frame rate	79,500 fps
Sensor diagonal	Size 22.9 mm
Pixel size	14 µm square
Bit depth	10 bit
Light sensitivity	2,500 mono / 2,000 color

SYNCHRONIZATION and CAPTURE

210 Memory	2 GB / 4 GB
211 Memory	4 GB / 8 GB
Memory segments	16
Video	AVI (JPG, BMP)
Image sequence	TIFF, BMP, JPG, DNG, PNG

PHYSICAL and ENVIRONMENTAL

210 Dimensions inches	2.5 (W) x 2.5 (H) x 2.6 (L)
Dimensions mm	64 (W) x 64 (H) x 66 (L)
Weight	0.66 lbs (300 g) without lens
211 Dimensions inches	3.7 (W) x 2.7 (H) x 3.6 (L)
Dimensions mm	94 (W) x 69 (H) x 92 (L)
Weight	2.00 lbs (900 g) without lens
Input voltage	10 - 30 VDC
Power consumption	210 / 7.5 w max
	211 / 15 w max
Mounting	¼-20
Battery charge	Recording: 1 hr, standby: 1.5 hr*
Lens options	C mount / F mount / FG mount
G shock	Hi-G 100 G shock, 10 G vibration
Temperature °F	41 to 113 operation
Temperature °C	5 to 45 operation
Ethernet	1 Gb
Remote control	via supplied software

CONNECTIVITY

IRIG input	B synchronization*
Network	1 Gb RJ45
Power input	6 pin female connector
Trigger	External signal/switch triggering
Input/output	8 pin female I/O module*
Trigger modes	Video trigger, burst trigger mode

PURCHASING OPTIONS

Sensor	Color / mono
210 Memory	2 GB / 4 GB
211 Memory	4 GB / 8 GB
Package	Standard / Hi-G rated
Warranty	1 yr (std) /2 yr

*Model 211 only

FRAME RATES, RESOLUTION, and DURATION (in seconds)

FPS	Resolution	2GB	4GB	8GB
500	1280x1024	3.3	6.5	13.1
700	1280x720	3.3	6.7	13.3
1,000	1280x512	3.3	6.5	13.1
1,250	800x600	3.6	7.2	14.3
1,850	640x480	3.8	7.6	15.1
2,000	512x512	4.1	8.2	16.4
5,650	320x240	4.9	9.9	19.8
18,500	128x100	9.1	18.1	36.3
79,500	128 x10	21.1	42.2	84.4

Note: Other resolutions and speeds are available.

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The Highest-Resolution Compact High-Speed Cameras on the Market

When Portability and Rapid Deployment Matter

The i-SPEED 220 and i-SPEED 221 represent the first cameras in a class of small footprint, easy-to-use, low-cost and very high-resolution cameras. A high-resolution 1600x1600 CMOS fast-transfer sensor allows the imagery of minute details even when zoomed in. The maximum full frame rate of 600 fps with both a global exposure shutter and optional G-shock housing makes this a true professional high-speed camera ideal for microscopy, robotics, auto-crash testing, graphics inspection, 3-D biomechanics, sports, web inspection, and more.

The i-SPEED 220/221 cameras fit in a briefcase, consume little power and create extremely nice images that can be zoomed and analyzed. Image transfer is simple via Ethernet.

The 1-hour battery that comes standard on the model 221 coupled with a standard laptop make this camera ideal for untethered portable field work. Add a layer of rugged durability with the optional Hi-G shock package.

FEATURES

- **High resolution 1600 x 1600 CMOS sensor**
- **Full resolution to 600 frames per second**
- **Maximum frame rate 204,100 frames per second**
- **Certified to 100 G shock, 10 G vibration**
- **Long recording times with up to 16 GB memory** (Model 221 only)
- **Small package fits on microscopes and in tight spaces**
- **Global exposure shutter**
- **Interchangeable C-mount lenses**

![iX Cameras logo]

ix-cameras.com

SPECIFICATIONS

IMAGER

Frame rate at full resolution	600 fps
Shutter	Global electronic shutter: 2 µs to 1 s
Spectral bandwidth	400 - 900 nm
Amplification	Digital gain 1 - 2 in 3 steps
Maximum resolution	1600 x 1600
Maximum frame rate	204,100 fps
Sensor diagonal	size 18.1 mm
Pixel size	8 µm square
Bit depth	8 bit
Light sensitivity	1,200 mono / 1,000 color

SYNCHRONIZATION and CAPTURE

220 Memory	2 GB / 4 GB
221 Memory	4 GB / 8 GB / 16 GB
Memory segments	16
Video	AVI (JPG, BMP)
Image sequence	TIFF, BMP, JPG, DNG, PNG

PHYSICAL and ENVIRONMENTAL

220 Dimensions inches	2.5 (W) x 2.5 (H) x 2.6 (L)
Dimensions mm	64 (W) x 64 (H) x 66 (L)
Weight	0.66 lbs (300 g) without lens
221 Dimensions inches	3.7 (W) x 2.7 (H) x 3.6 (L)
Dimensions mm	94 (W) x 69 (H) x 92 (L)
Weight	2.00 lbs (900 g) without lens
Input voltage	10 - 30 VDC
Power consumption	220 = 7.5 W max
	221 = 15 W max
Mounting	¼-20
Battery charge	Recording: 1 hr, standby: 1.5 hr*
Lens options	C mount / F mount / FG mount
G shock	Hi-G 100 G shock, 10 G vibration
Temperature °F	41 to 113 operation
Temperature °C	5 to 45 operation
Ethernet	1 Gb
Remote control	via supplied software

CONNECTIVITY

IRIG input	IRIG-B via BNC*
Network	1 Gb RJ45
Power input	6 pin female connector
Trigger	External signal/switch triggering
Input/output	8 pin female I/O module*
Trigger modes	Video trigger, burst trigger mode

PURCHASING OPTIONS

Sensor	Color / mono
220 Memory	2 GB / 4 GB
221 Memory	4 GB / 8 GB / 16 GB
Package	Standard / Hi-G rated
Warranty	1 yr (std) / 2 yr

*Model 221 only

FRAME RATES, RESOLUTION, and DURATION (in seconds)

FPS	Resolution	2GB	4GB	8GB	16GB
600	1600x1600	1.4	2.8	5.6	11.2
1,000	1600x900	1.5	3.0	6.0	11.9
1,150	1280x1024	1.4	2.8	5.7	11.4
1,400	1024x1024	1.5	2.9	5.8	11.7
1,640	1280x720	1.4	2.8	5.7	11.4
2,850	800x600	1.6	3.1	6.3	12.6
4,450	640x480	1.6	3.1	6.3	12.6
5,000	512x512	1.6	3.3	6.5	13.1
14,750	320x240	1.9	3.8	7.6	15.2
43,500	128x128	3.0	6.0	12.0	24.1
204,100	128x10	8.2	16.4	32.9	66.0

Note: Other resolutions and speeds are available.

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High Resolution, Compact High-Speed Camera

When High Performance and Streamlined Form Factor Matter

The i-SPEED 230 is a lightweight, compact high-speed camera suited for a wide range of applications such as automotive crash testing, material strain testing, and scientific research.

The newest addition to the i-SPEED 2 Series from iX Cameras, the 230 offers a small form factor and lightweight body for easy integration into assembly lines and lab testing areas.

Optional Hi-G shock rating ensures excellent performance even when deployed on an automotive impact sled or production line machinery.

FEATURES

- **2,500 fps at 1280 x 864 full resolution**
- **Certified to 100 G shock, 20 G vibration**
- **Maximum frame rate 225,000 frames per second**
- **Multiple triggering capabilities**
- **Outstanding image quality**
- **Easy to use i-SPEED 230 Control software**
- **GenICam compliant**

SPECIFICATIONS

IMAGER

Frame rate at full resolution	2,500 fps
Shutter	1 μs
Spectral bandwidth	420 - 700 nm
Maximum resolution	1280 x 864
Maximum frame rate	225,000 fps
Sensor diagonal	21.15 mm
Pixel size	13.7 μm square
Bit depth	10 bit
Light sensitivity	6,400 mono / 5,000 color

SYNCHRONIZATION and CAPTURE

Memory	8 GB / 16 GB
Video	AVI (compressed or uncompressed)
Image sequence	BMP, JPG, PNG, TIF

PHYSICAL and ENVIRONMENTAL

Dimensions inches	2.6 (W) x 2.6 (H) x 4.7 (L)
Dimensions mm	65 (W) x 65 (H) x 120 (L)
Weight	1.1 lbs (500 g) without lens
Input voltage	10 - 30 VDC
Power consumption	17 W max
Mounting	¼-20
Lens options	C mount / FG mount
G shock	Hi-G 100 G shock, 20 G vibration
Temperature °F	41 to 122 operation
Temperature °C	5 to 50 operation

CONNECTIVITY

Network	1 Gb RJ45
Power input	5 pin female connector
Trigger	External signal / switch triggering
Input/output	16 pin female
Ethernet	1 Gb
Remote control	via supplied software

PURCHASING OPTIONS

Sensor	Color / Mono
Memory	8 GB / 16 GB
Package type	Standard / Hi-G rated
Warranty	1 year standard parts and labor

FRAME RATES, RESOLUTION, and DURATION (in seconds)

Frame Speed	Resolution	8GB	16GB
2,500	1280x864	2.48	4.96
2,813	1280x768	2.48	4.96
3,000	1280x720	2.48	4.96
4,219	1280x512	2.48	4.96
4,501	1280x480	2.48	4.96
9,002	1280x240	2.48	4.96
16,879	1280x128	2.48	4.96

Note: Other resolutions and speeds are available.

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