



# RT sCMOS™ Camera

All SPOT RT CMOS cameras are compatible with:



Take a closer look.



First Cooled SONY Pregius CMOS Sensor

## New SPOT RT sCMOS Camera is a game changer.

The SPOT RT sCMOS uses Sony's breakthrough Pregius™ CMOS sensor.

Now you can experience unprecedented speed and sensitivity in a CMOS camera. Deep cooling allows dim images to be seen without becoming obscured by dark current. A global shutter ensures undistorted images of moving specimens. The RT sCMOS is optimal for fluorescence microscopy, FISH, GFP imaging, immunofluorescence and 3D deconvolution applications.

### Cooling

Deep-cooling of the image sensor to -25°C supports long exposure times. *How cool is that?*

- Lower dark current
- Long exposure capability
- Software enable/disable cooler and fan



The suggested applications for this camera include:

#### Cell Biology

- Spinning Disk Confocal
- High Speed Multicolor Fluorescence
- FRAP

#### Intrinsic Imaging

- Ion Transport Physiology
- Electrophysiology
- Calcium Imaging
- Ratiometrics Imaging
- Voltage Sensitive Dyes

### Sensitivity

Step up to a new level of sensitivity: 8x more sensitive than the previous RT3.

- Back-illuminated sensor increases sensitivity
- 1/8 the read noise
- Enhanced Near-IR

### Resolution

2 and 1/2 times the resolution of the RT3.

- 5 MP live and captured image resolution
- High resolution picture quality

### Speed

Our RT3 camera was fast. This one's over seven times as fast. *Why wait?*

- Super fast USB3
- 36 frames per second at full resolution
- 70 frames per second with 2 x 2 binning



SPOT IMAGING™  
Take a closer look

# SPOT RT Cooled Camera with Sony Pregius™ CMOS Sensor

Sensor	
Sensor Type	Monochrome
Resolution	5 MP
Live Image Resolution, No Binning	5 MP
Live Image Frame Rate	36 f/s
Live Image Resolution, 2 x 2 Binning	1.25 MP
Live Image Frame Rate, 2 x 2 Binning	70 f/s
Sensor	Sony Pregius™ CMOS, Back Illuminated Enhanced Near-IR, 6 <sup>th</sup> Generation
Sensor P/N	Sony IMX250
Active Pixels	2448 x 2048
Sensor Size	8.47mm x 7.07mm
Pixel Size	3.45µm
Aspect Ratio	6:5
Sensor Diagonal	11.0mm
Optical Format	2/3"
Electronic Shutter	Global
Peak QE	66% at 520nm
QE in NIR	26% at 800nm

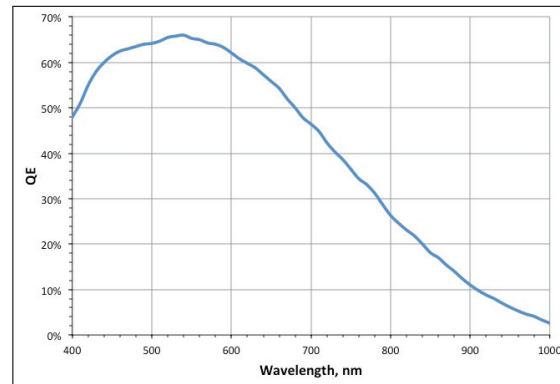
Camera	
Lens Mount	C-mount
Computer Interface	USB 3.0
Full Well	11,000 e
Read Noise	2.1e
Dynamic Range	74 dB
A-D Bit Depth	12-bit
Analog Gain	0.85, 1, 2, 4, 8
Analog + Digital Gain	16, 32, 64, 128, 213
Binning	2 x 2
Cooling Technology	Thermoelectric cooler, fan-cooled heatsink, <b>software fan/cooler disable</b>
Cooling	-25°C (-45°C differential from 20°C ambient)
Temperature Readout	In SPOT software
Dark Current	0.18 e/pixel/sec
Exposure Time Range	28µs to 60 min
Exposure while Downloading	Automatic
ROI (Region of Interest)	User selectable (50 x 50 min)

Live/Captured Image Frame Rates (frames/second)*					
Binning level	Region of Interest				
	2448 x 2048	1224 x 1024	612 x 512	306 x 256	153 x 128
No Binning	36	69	132	242	321
2x2 Binning	69	132	242	321	321

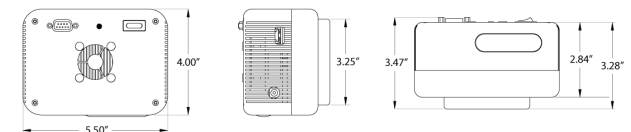
\*1ms manual exposure time on a computer with an Intel i5-4590s CPU (4-core processor running at 3.00 GHz).

Trigger I/O	Trigger Ready Out Trigger In Synch Out 0 Synch Out 1 Synch Out 2 Synch Out 3 (optically isolated, requires external power supply)
Trigger I/O Cable (optional)	Catalog: TRIG6DSUB
Power Supply (Included)	External Brick Power Supply Input: AC 100-240V, 50Hz-60Hz Output: +5V
Power Consumption	20.5W
ON-OFF Switch	Yes
Tripod Mount (optional)	Catalog: QUARTER20AP
Camera USB Connector	USB 3.0 micro-B (locking)
Camera USB Cable (included)	USB 3.0, 2m (6.5 ft), Type-A to Micro-B (locking) cable
Regulatory	CE, FCC Class A, EN60950, RoHS
SPOT Software Application	Windows / Mac
SDK Support	Windows / Mac / Linux
Wide Field Adapter (optional)	0.55X C-Mount Adapter Catalog: DE55 Series
Model	RT39M5
Weight	2.35 lbs (1.65 kg)

## Quantum Efficiency

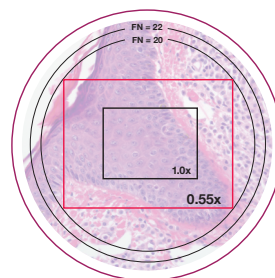


## Dimensions



## .55x Adapter Magnification FOV

Sony IMX250



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