



px SERIES



- Large format full frame sensor
- Exceptionally high dynamic range
- High quantum efficiency
- No amp glow



Apx Series Overview



The Apx series are our most advanced CMOS cameras to date. The Apx series boasts up to an incredible 61 megapixel large format sensor, providing up to 16-bit image depth. With high full well depth and low noise, it is possible to bin and take advantage of the large pixels and speeds. These sensors offer up to 65,536 grey levels.

Robust cooling (-35°C) and no amp glow make these cameras ideal for very long exposures. The Apx series will be perfect for a vast amount of demanding applications such as microscopy, spectroscopy, PCB screening, flat panel screening, colourimetry, neutron imaging, luminescence and

astrophotography. Additionally, these cameras can be supplied with either a commercial or industrial grade back illuminated sensor, guaranteed for continuous use and an in/out trigger as standard.

Technical Specifications

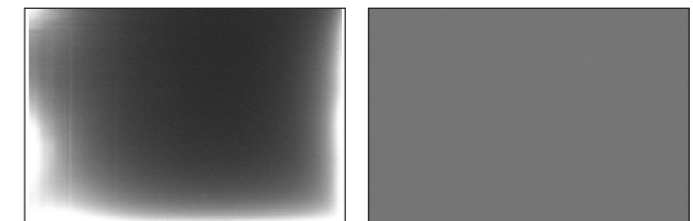
	Apx60	Apx26	Apx9
Image sensor	Sony IMX455 CMOS sensor	Sony IMX571 CMOS sensor	Sony IMX533 CMOS sensor
Resolution	9576 x 6388	6244 x 4168	3011 x 3011
Sensor size	43.3mm diagonal (36mm x 24mm)	28.3mm diagonal (23.5mm x 15.7 mm)	16mm diagonal (11.3mm x 11.3mm)
Pixel size (µm)	3.76 x 3.76	3.76 x 3.76	3.76 x 3.76
ADC	16 bit	16 bit	14 bit
Full well	51,000e ⁻	51,000e ⁻	51,000e ⁻
Read noise	1.2e ⁻	1.2e ⁻	1.2e ⁻
Set point cooling at ambient of 20°C	-20°C	-15°C	-20°C
Dark current	0.005e ⁻ /s/px	0.002e ⁻ /s/px	0.0005e ⁻ /s/px (Provisional)
Frame rate	2 fps	4 fps	16 fps
Max. exposure	24 hours	24 hours	24 hours
Min. exposure	0.01s	0.01s	0.01s
Reading mode	Electronic rolling shutter with gloabl reset	Electronic rolling shutter with gloabl reset	Electronic rolling shutter with gloabl reset
PC interface	USB3.2 gen 1 Other on request	USB3.2 gen 1 Other on request	USB3.2 gen 1 Other on request
Backfocus distance	17mm ±0.5; (without levelling plate = 9.5mm ±0.5)	17mm ±0.5; (without levelling plate = 9.5mm ±0.5)	17mm ±0.5; (without levelling plate = 9.5mm ±0.5)
Mount type	M54 x 0.75	M54 x 0.75	M54 x 0.75
Weight	1kg	1kg	1kg
Mono or Colour	Either	Either	Either

Key Features for Long Exposure Applications

1. Long format sensor - The APX Series can handle sensor sizes with up to a 43mm diagonal (full frame) whilst still maintaining good sized pixels of 3.76 µm. For maximum field of view, a 60MP sensor is used but there are also options with 26MP (APS-C) or 9MP (1" sensor).



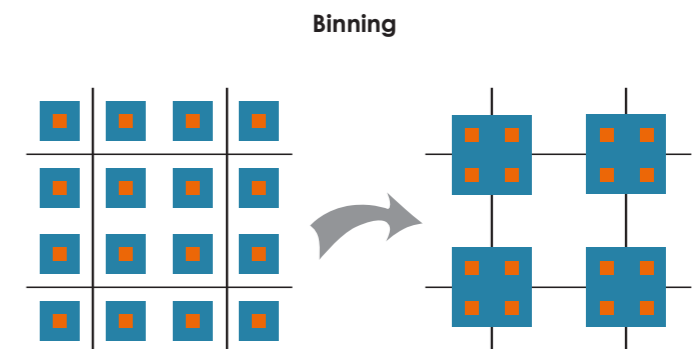
2. No Amp Glow - The use of the absolute latest generation of Sony IMX Sensors allows for the readout electronics on the sensor to be turned off / quietened meaning that the Apx camera does not suffer from amp glow. Although amp glow can be 'calibrated' or dark subtracted out, at long exposures there is still a residual noise affect and a detrimental effect on the achievable dynamic range of the cameras. Atik Cameras worked from the premise that starting from a cleaner sensor is always preferable.



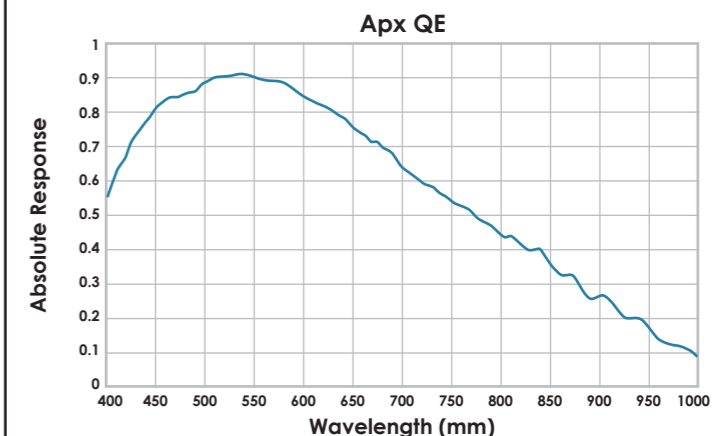
Above left:
Raw (scaled for viewing) image of the IMX428 at 1000s

Above right:
Raw (scaled for viewing) image of the IMX455 at 1000s

3. Low Read Noise - Due to the fact that each pixel is read independently, CMOS cameras cannot bin in hardware to get the same signal to noise improvements as a CCD. However, with a read noise many times lower than CCD (1.2 e⁻ vs ~6 e⁻) additive software binning can realistically be considered. There is an added advantage that this also increases the full well by adding the single pixel full well capacities.



4. High Quantum Efficiency - Using a back illuminated sensor means that in situations where there is a limited number of photons, Apx converts as many as possible into readable signal in the sensor.

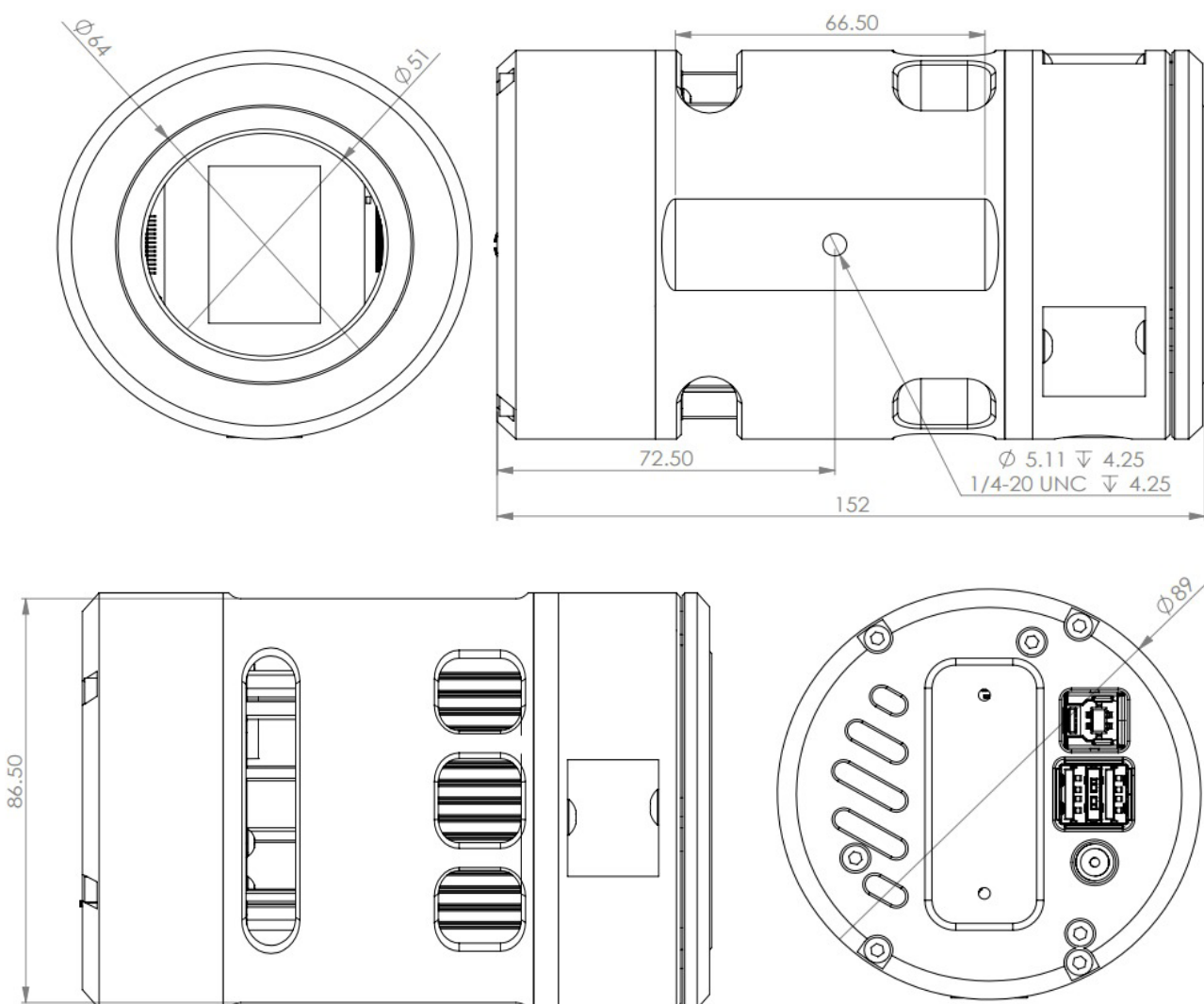


Integration

Our cameras run from a standard SDK library that is fully transferable between PC, Mac and Linux operating systems. With full example files and a dedicated support team, integrating and supporting the Apx in your system is made easy.

OEM Supply

Atik Cameras is a reliable OEM supplier with over 15 years' experience in this field. Since moving to a larger state-of-the-art facility in January 2020 to increase production capacity, Atik Cameras have shipped over 10,000 cameras per year to integrators all around the world. With industry leading quality standards and robust batch tracking, you can be sure that cameras shipped from our European production facility in Portugal, will be of the highest quality and will work for your customers for many years to come.



Atik Cameras

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