



QHYCCD

New Product Announcement

QHY294C 11.6 Megapixel 4/3-Inch Back-Illuminated Color CMOS Camera



The QHY294C is now available

Based on the Sony IMX294C, the QHY294C camera has an 11.6 Megapixel, 4/3-inch, back-illuminated, cooled, color CMOS sensor with 14-bit A/D, 1.6e- read noise near unity gain and 1e- read noise at highest gain. At lowest gain the read noise is 6.8e-. The QHY294C full well capacity is nearly 65,000 electrons with 4.63um x 4.63um pixels, almost the same as an interline CCD camera with 9um pixels.

High Sensitivity

The QHY294C has high QE, with a peak QE in the green estimated at 75% or more and nearly 70% at H-alpha. The high QE, medium sized pixels and extraordinary low read noise and low dark current all combine to produce a camera with very high sensitivity, perfect for astronomical imaging. In addition, the back-illuminated structure provides greater full well capacity and therefore greater dynamic range than front illuminated sensors with similar architecture.

Dual Gain Auto Switch - HGC/LGC MODE Boosts Low Light Performance

The QHY294C's CMOS sensor has a dual gain mode, HGC (high gain) and LGC (Low gain). The QHY294C will switch the two modes automatically when the gain is set to 1600 you will get the benefits of the ultra-low read noise (1e- to 1.6e-) of the HGC mode and a full well capacity of about 14.5ke- at the switch point setting.

Super Low Dark Current 0.005e-/p/s @ -20C

The QHY294C uses QHYCCD's proprietary low dark current control technology. This technology significantly reduces the dark current noise in our CMOS cameras. The QHY294C has super low dark current as a result, lower than many CCD cameras, allowing for very long exposure times

High Resolution 14-bit Frame Rates

The QHY294C produces 16.5 frames per second at high resolution (11.6 MP) with 14-bit A/D. Higher rates are achieved for regions of interest, for example, 21 FPS at 4K resolution, 41 FPS at 1080 lines, 87 FPS at VGA, 156 FPS at 240 lines, etc.

256MB DDR3 Image Buffer

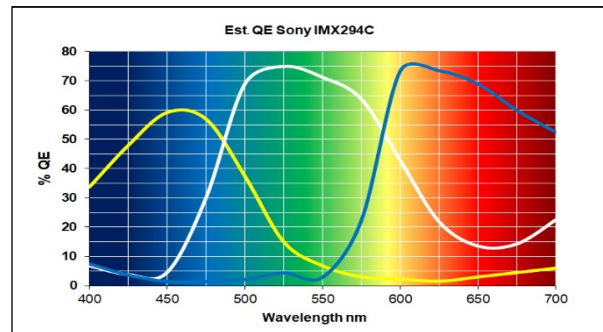
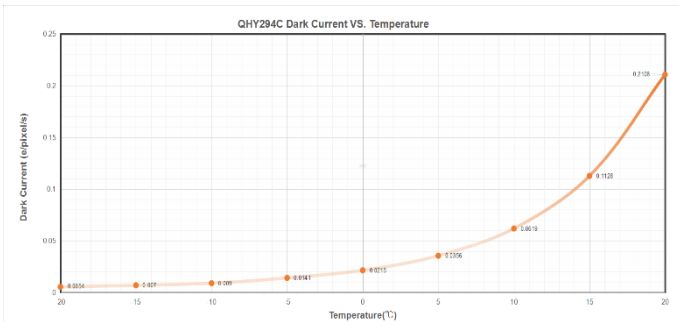
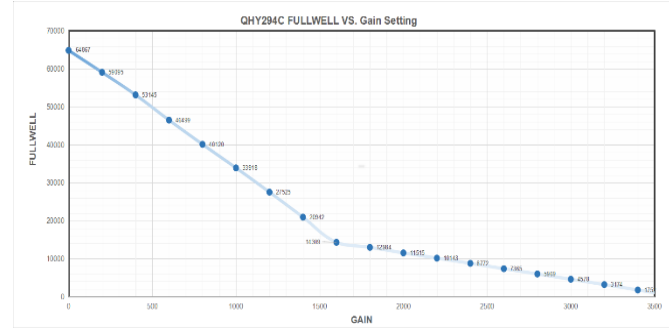
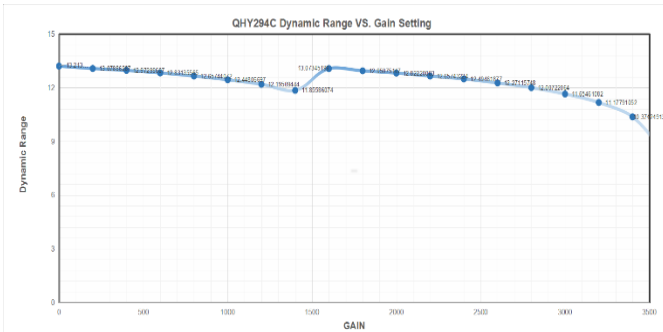
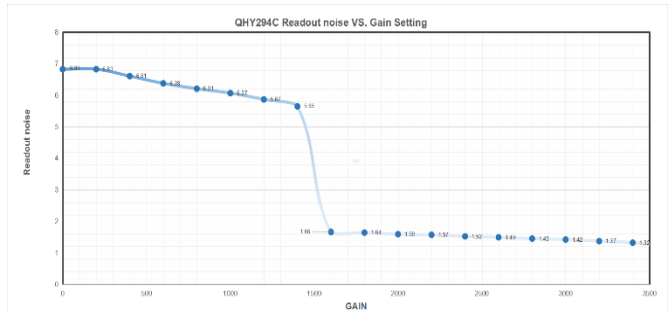
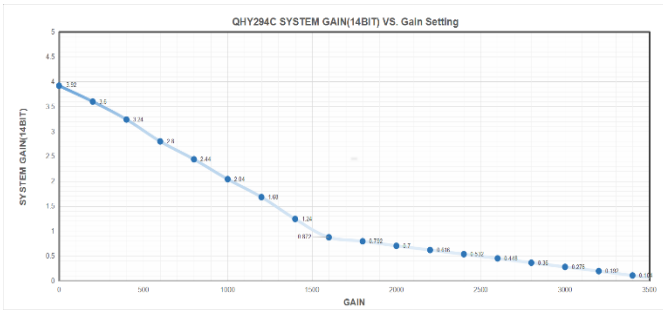
The QHY294C has an internal 256MByte high speed DDR3 image buffer. This is more than enough for one frame and it significantly reduces any issue of lost frames due to a busy computer CPU or slow USB communication packet errors.

Anti-Dew Technology

The QHY294C benefits from more than a decade of cooled camera design experience. QHYCCD has implemented full dew control solutions. The optical window has a built-in dew heater and the sealed CMOS chamber is protected from internal humidity condensation.

Flexible Adapters

The QHY294C has the same body design and mechanical interface and the QHY163. It has a short back focal distance allowing the use of QHYCCD's 0.5mm-27mm spacers (step size 0.5mm) for flexibility in setting up your optical train.



| QHY294C | | | |
|------------------|--|-----------------|---|
| Sensor | Sony IMX294C Back-Illuminated CMOS | Peak QE | 75% (Est.) |
| Optical Format | Typical 4/3-inch | Read Noise | 1.0 - 1.6e-@high gain, 4.2 - 6.8e-@Low gain |
| Sensor Size | 19.3mm x 12.6mm | Dark Current | 0.005e-/p/s@-20C |
| Pixel Size | 4.63um x 4.63um | Cooling Delta T | 2-stage TEC, -35C |
| Effective Pixels | 4164 x 2796, 11.6 Megapixels | Anti-Dew | Yes |
| Full Well | 65ke- | Image Buffer | 256 Mbyte DDR3 |
| A/D | 14-bits (output as 16-bit and 8-bit) | Computer | USB3.0 |
| Shutter | Electronic Shutter | Mechanical | M42/0.75 female thread |
| Exposure Time | 60us - 3600 sec | Weight | 650g |
| Frame Rate | 16.5FPS@11.6Mp 14-bits, up to 290FPS @ ROI | Power | 30W @ 100% TEC, 13W @ 50%TEC |
| List Price | \$999.00 | | |

For more information visit <http://www.qhyccd.com>