

- Specifications

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| Model | QHY268PRO M |
| COMS Sensor | SONY IMX571 M |
| Mono/Color | Mono Only |
| FSI/BSI | BSI |
| Pixel Size | 3.76um x 3.76um |
| Effective Pixel Area | 6280*4210 (includes the optically black area and overscan area) |
| Effective Pixels | 26MP |
| Sensor Size | APS-C |
| A/D Sample Depth | Native 16-bit (0-65535 greyscale) A/D |
| Full Well Capacity (1×1, 2×2, 3×3) | 51ke- 75ke- or above in extended full well mode |
| Full Frame Rate | USB3.0 Port: Full Resolution: 6.8FPS@8BIT 6FPS @16BIT 2048lines: 13.6FPS@8BIT 11.5FPS@16BIT 1080lines: 25.4FPS@8BIT 19.5FPS@16BIT 768lines: 35FPS@8BIT 25FPS@16BIT 480lines: 50FPS@8BIT 34FPS@16BIT |
| Readout Noise | 1.1e- High Gain, 3.5e- Low Gain (5.3e- to 7.4e- in extended full well mode) |
| Dark Current | -20C, 0.0005e /pixel/sec -10C, 0.001e /pixel/sec |

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| Exposure Time Range | 30us-3600sec |
| Unity Gain* | <p>0* (PH Mode)</p> <p>30 (Extended Fullwell Mode)</p> <p>*With the improvement of the CMOS technology, the 16bit CMOS camera has been released, like QHY600/268/411/461. For these cameras, even in lowest gain it has beyond the requirement of unit gain (less than 1e/ADU due to sufficient samples) So you can directly set gain0 as start. Please note QHY600/268C /411/461 has extend full well mode. In this mode you still need to find out the unit gain position.</p> |
| Amp Control | Zero Amplifier Glow |
| Firmware/FPGA remote Upgrade | Fully support via Camera USB port |
| Shutter Type | Electronic Shutter |
| Computer Interface | USB3.0 and 2*10Gbps Fiber interface |
| Built-in Image Buffer | 2Gbyte DDR3 Memory |
| Cooling System | <p>Two-stage TEC cooler</p> <p>Air Cooling Version</p> <p>Typical -30C below ambient in short exposure time (exposure time < 10sec)</p> <p>Typical -35C below ambient in long exposure time (exposure time > 30sec)</p> <p>(Test temperature +20°)</p> <p>Water Cooling Version</p> <p>Typical -45C below ambient in long exposure time (exposure time > 30sec)</p> |
| Recommended flow rates for water-cooled versions | 1.6ml/s |

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| Optic Window Type | AR+AR High Quality Multi-Layer Anti-Reflection Coating |
| Anti-Dew Heater | Yes |
| Humidity Sensor* | Yes |
| Telescope Interface | Support M54 and M48 (with standard adapters) |
| Back Focal Length | <p>QHY268M: 14.5mm*</p> <p>*If used with the QHY filter wheel, the actual "BFL Consumed" is 12.5mm. Note 14.5mm rear intercept does not include adapter thread, which must be used with adapters if you need a M54 thread.</p> |

- Curves

Multiple Readout Modes is a new function for newer QHY Cameras. Different readout modes have different driver timing, etc., and result in different performance. The QHY268 currently has four readout modes, and more modes will be added in the future. These readout modes are currently supported in the QHY ASCOM Camera Driver, SharpCAP software and the N.I.N.A software.

Readout Mode #0 (Photographic Mode). In this mode there is a drop in the noise between Gain 25 and Gain 26. We recommend setting the Gain to 26 to begin. At this setting the full well is 27ke- and readout noise is 2.7e-. For every long exposures you can lower the gain from this point to increase the full well capacity.

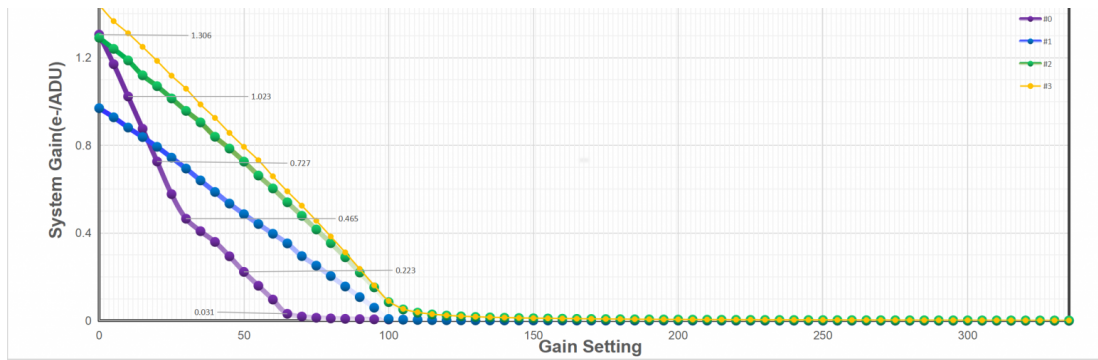
Readout Mode #1 (High Gain Mode). Please note there is a HGC/LGC switch point at gain55 to gain56. Gain0-55 uses LGC and Gain55-100 uses HGC.

Readout Mode #2 (Extended Fullwell Mode).

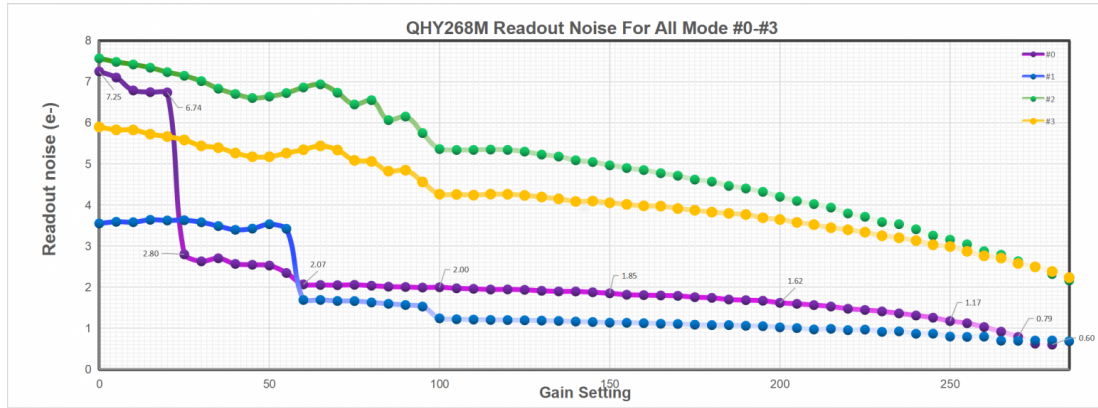
Now QHY268 adds #3 mode Extend Fullwell 2CMSIT (yellow curve). The advantage of this mode is that it has the same full well value and system gain as the #2 mode Extend Fullwell, but the read noise is reduced by about 1.3 times.

This function needs to be used with 2020.6.26 or newer SDK. If your software cannot display this mode, please download the QHYAllInOne installation package to update the SDK in the software.

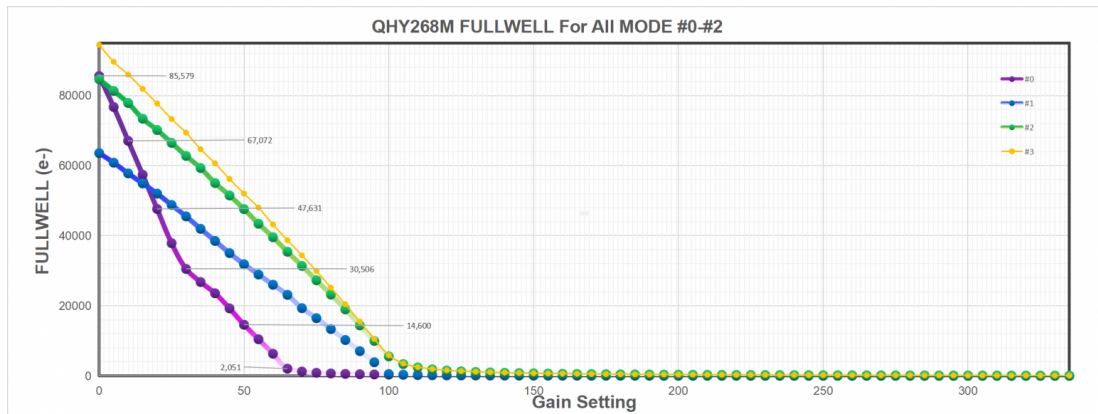




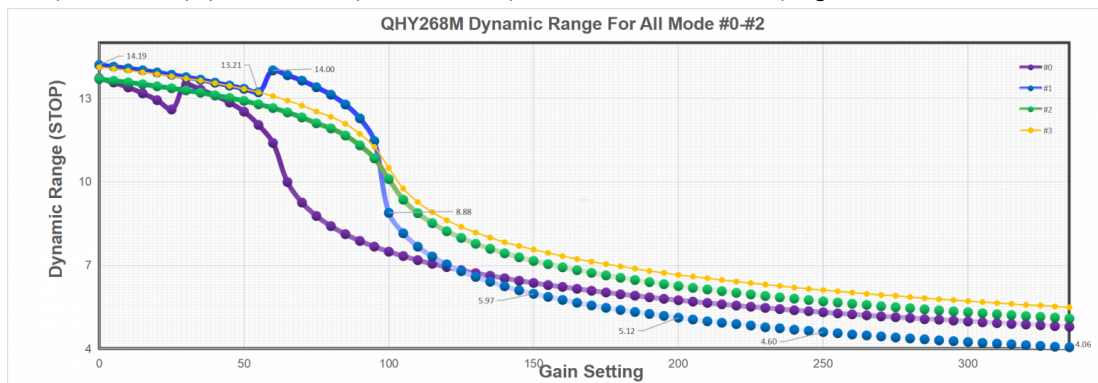
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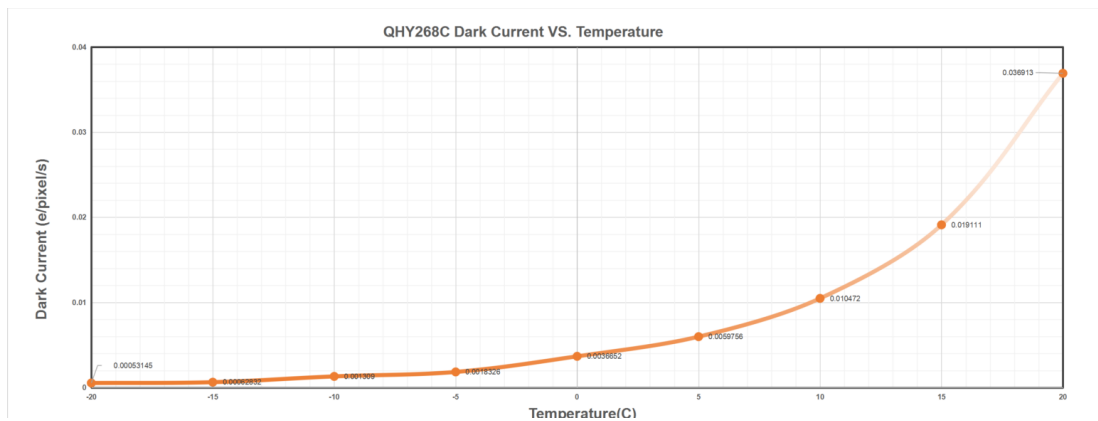
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(<https://www.qhyccd.com/wp-content/uploads/20220407220.png>).

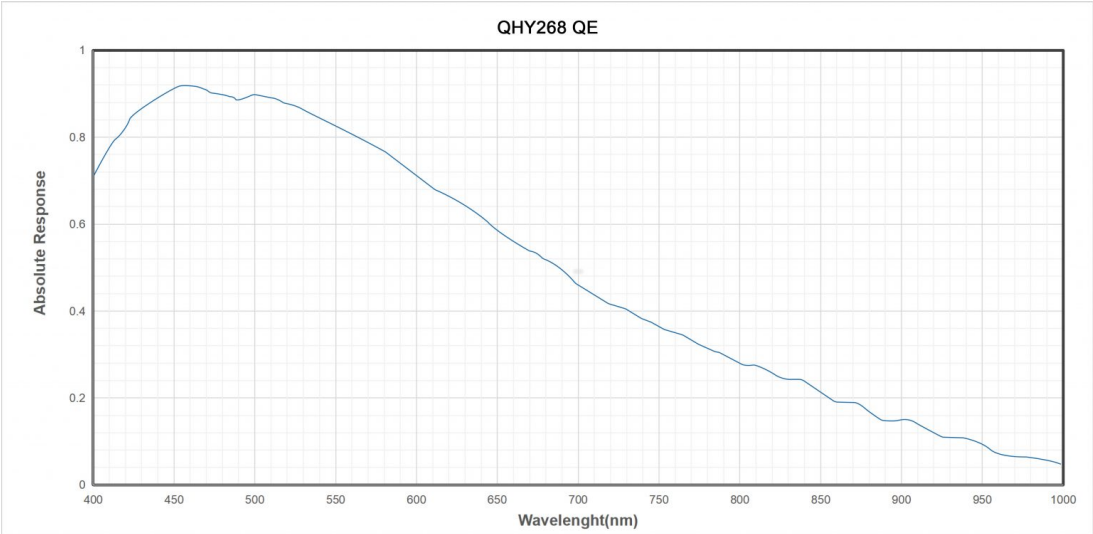


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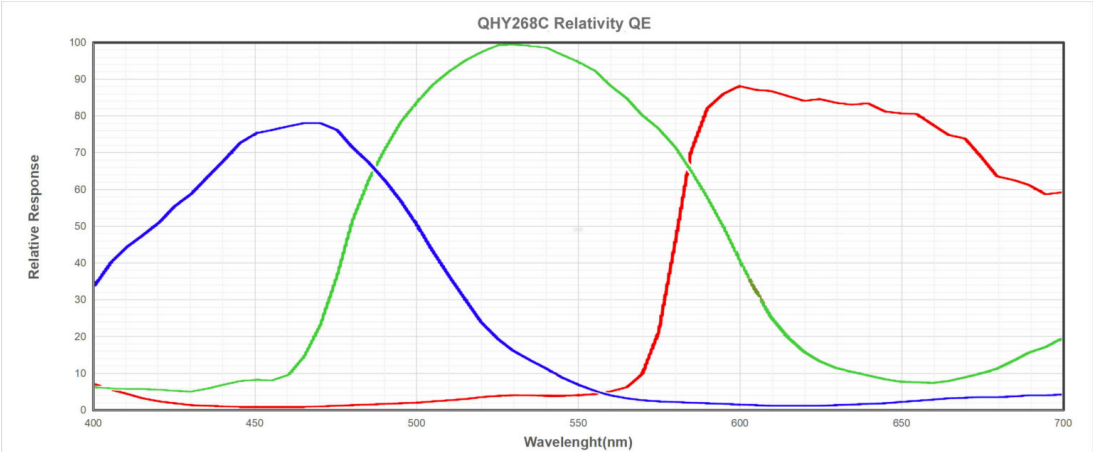
(<https://www.qhyccd.com/wp-content/uploads/20210427262.png>).

Monochrom's Spectrum Response Curve. The curve is based on SONY's datasheet. In the datasheet, it is the normalized curve QHYCCD test it by comparing with an known QE CCD sensor. And get this curve. This curve is only a reference. QHYCCD does not guarantee this curve is correct.



(<https://www.qhyccd.com/wp-content/uploads/20220119507-scaled.jpg> _).

Color version (Normalized Response Curve from SONY datasheet).



(<https://www.qhyccd.com/wp-content/uploads/20210427887-scaled.jpg> _).

