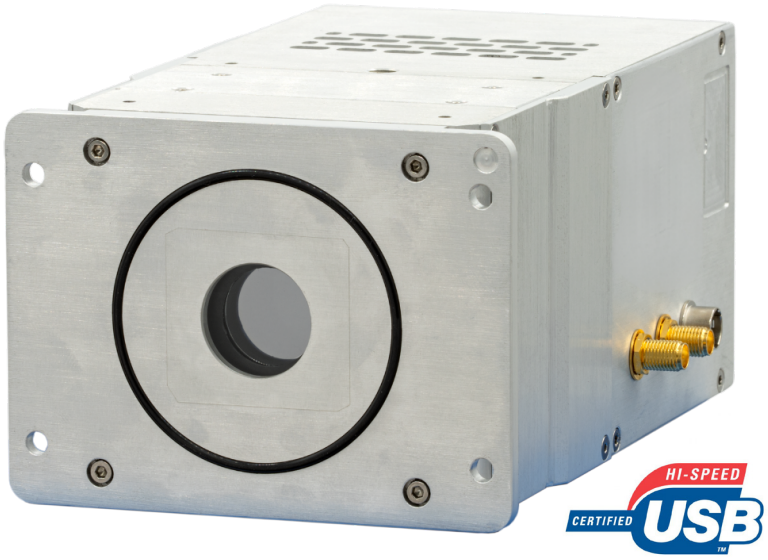
Raptor photonics

Condor 47-10

1024 x 1024, Intensified GEN II Gated CCD

Preliminary



Key Features and Benefits

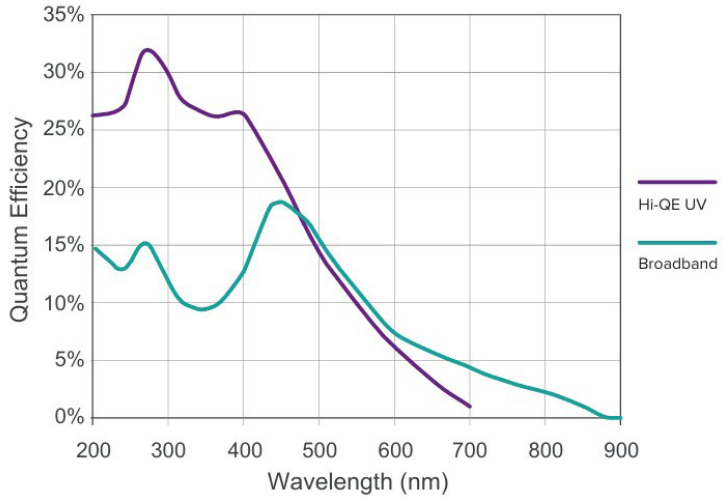
- **1024 x 1024,13µm pitch CCD**
  Enables high resolution imaging and spectroscopy
- **True Optical Gating**
  10ns time-resolution for accurate experiments
- **Fibre-Optic Coupling**
  Highest throughput with no vignetting
- **High QE/ Gen II Image Intensifiers**
  Superior photon capture, with Peak QE up to 32% at 270nm
- **USB 3.0 Interface**
  Seamless connectivity to laptop

Resolution	1024 x 1024
Optical Gating	10ns
USB 3.0	14 bit
High QE Gen II	>32%

Specification for Condor 47-10

Sensor	E2V CCD47-10 Back Illuminated
Active Pixel	1024 x 1024
Pixel Pitch	13µm × 13µm
Active Area	13.3mm × 13.3mm
Readout Rate	14 bit, 1 MHz/2.5 MHz/3.3 MHz
Frame Rate	0.9 fps
Spectral Rate (FVB)	125 sps
Binning	up to 64x64 pixels
Multi Track Mode	x10 user defined regions
Non-Linearity	< 1%
Readout Noise (RMS)	<18 electrons (12 electrons typical)
Minimum Optical Gate Width (ns)	10
Minimum Cooling Temperature	-10ºC with air
Peak Quantum Efficeny[2]	33% @ 270nm (UV Tube) / 18% @450nm (Broadband Tube)
Spectral Response [3]	200nm - 950nm
External Trigger	Single trigger input for sensor and gate
Dark Current (e/p/s)	<5 @-10˚C
Cooling Method	TEC with air cooling
Synchronization	Trigger IN and OUT - TTL compatible
Digital Output Format	USB 3.0
Power Supply	12V DC ±10%
Camera Power Consumption	< 24 W (TEC ON, Steady State)
Operating Temperature[1]	-20˚C to +55˚C
Storage Temperature	-30˚C to +60˚C
Dimensons (excluding standard mounting)	162mm x 76mm x 102mm
Weight	TBD
Gen II Image Intensifiers	
Input Window	Quartz
Photocathode Type	Hi-QE UV/Broadband
Gate Pulse Delay	Adjustable from 0ns to approx 83ms
Gate Pulse Width	Adjustable from 10ns to approx 83ms
Direct Gate	TTL input for exact external control

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1. At +55˚C, the camera remains operational, although some performance parameters may be subject to minor variation.
2. For Photonis Hi-QE UV or Broadband Photocathode.
3. Spectral response will depend on the image intensifier used.



Data Supplied by Sensor Manufacturer

Specification for Condor 47-10

Camera

Condor 4710 USB 3.0 Broadband ICCD,18mm	CO0.7-VI-U3-1024-18BD
Condor 4710 USB 3.0 Hi-QE UV ICCD,18mm	CO0.7-VI-U3-1024-18UV
Power Supply Cable	RPL-HR4-K

Applications

- High Resolution, Narrowband Spectroscopy
- Plasma Studies & LIBS
- Time-Resolved Fluorescence/ Photoluminescence
- Time-Solved Raman

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