



D A T A S H E E T

S P E C T R U M M S Y S T E M



The SpectruMM:256B is a high-performance digital camera system featuring the industry-standard CCD for spectroscopy. With its back-illuminated CCD, this detector has high quantum efficiency from the UV to the NIR. The 256B sensor, available in the SpectruMM HP series system, offers deep thermoelectric cooling to below -70°C, ensuring that dark current is effectively nonexistent for most analyses. The SpectruMM:256B delivers sufficient sensitivity and dynamic range to be an excellent workhorse detector in a variety of single- and multistripe spectroscopy applications.

F E A T U R E S

B E N E F I T S

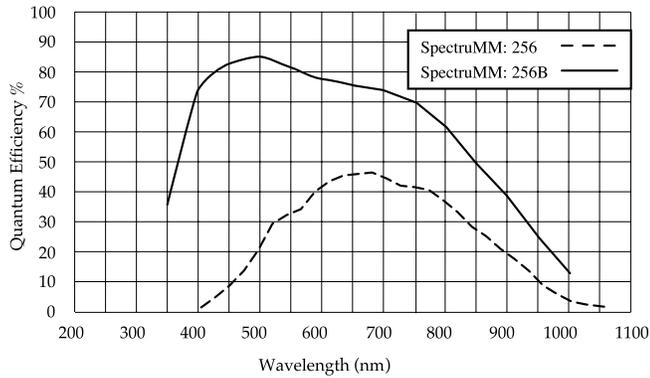
Industry-standard 1024 x 256 imaging array	Spectroscopic format Provides full coverage of spectrometer focal plane
26 x 26-µm pixels	Large pixels with high full well for high signal-to-noise ratio
6.7-mm-tall imaging area	Performs well for both single- and multistripe spectroscopy
Back-illuminated CCD	Provides unparalleled sensitivity and quantum efficiency
Optional dual digitizers	High speed delivers rapid spectral acquisition Low noise provides the best signal-to-noise ratio
Deep thermoelectric cooling	Provides cooling to below -70°C Dark current effectively minimized
Lowest noise CCD available in back-illuminated format	Ideal for extreme low-light measurements





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S P E C I F I C A T I O N S

CCD image sensor	Marconi CCD30-11; scientific grade 1; AIMO; MPP; back-illuminated; available with Unichrome UV-enhancement coating
CCD format	1024 x 256 imaging pixels; 26 x 26- μ m pixels; 100% fill factor; 26.6 x 6.7-mm imaging area
Spectrometric well capacity	300,000 e ⁻ ; 800,000 e ⁻ with binning
CCD read noise	<1 ADC count
System read noise	<2 ADC counts @ 100 kHz; <4 ADC counts @ 1 MHz
Nonuniformity	< \pm 4% over entire CCD area (excluding blemish regions)
Dynamic range	16 bits @ 100 kHz and 1 MHz
Scan rate	100 kHz or 1 MHz
Spectral rate	70 Hz, full-vertical binning, 100-kHz digitization; 200 Hz, full-vertical binning, 1-MHz digitization
Dark current	<0.01 e ⁻ /p/s @ -70°C
Operating temperature	<-70°C

Note: Specifications are typical and subject to change.

Roper Scientific / Acton Research

Product Literature

Data sheets

Brochures

SpectraPro monochromators

Spectrum Acquisition Systems

Spectroscopy accessories

Guide to system configuration



ROPER SCIENTIFIC™
ACTON RESEARCH

Gratings

CCD Chips

GS 1024 x 128 Front

GS 1024 x 128 Back

GS 1024 x 256 Front

GS 1024 x 256 Back

S 1340 x 100 Front

S 1340 x 100 Back

S 1340 x 100 Red

S 1340 x 100 Back Red

S 1340 x 400 Front

S 1340 x 400 Back

S 1340 x 400 Red

S 1340 x 400 Back Red

S 1024 x 256 Front

S 1024 x 256 Open Elect.

S 1024 x 256 Back