



D A T A S H E E T

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



The SpectruMM 256E is a high-performance digital camera system featuring the industry-standard CCD for spectroscopy. The SpectruMM:256E has a novel architecture that offers exceptional quantum efficiency for a front-illuminated detector, especially in the ultraviolet (UV). The 256 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. With its excellent response from the vacuum UV to the near infrared (NIR), this workhorse detector is ideal for a variety of single- and multistripe spectroscopy applications.

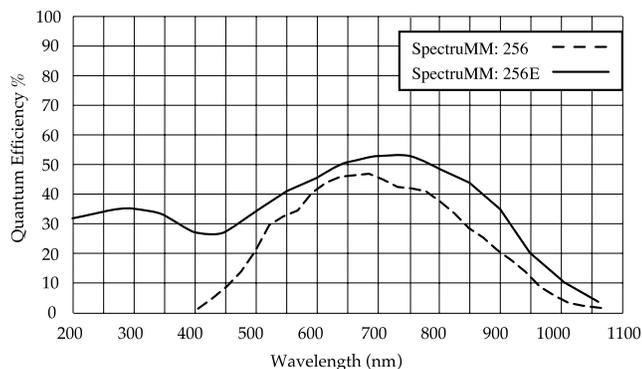
| F E A T U R E S | B E N E F I T S |
|--|---|
| Open-electrode architecture | Delivers high QE and sensitivity from the UV to the NIR with no etaloning |
| Industry-standard 1024 x 256 imaging array | Spectroscopic format Provides full coverage of spectrometer focal plane |
| 26 x 26-µm pixels | Large 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 |
| 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 | Ideal for extreme low-light measurements |





D A T A S H E E T

S P E C I M E N S Y S T E M S



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; open-electrode architecture |
| 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 | 55 Hz, full-vertical binning, 100-kHz digitization; 110 Hz, full-vertical binning, 1-MHz digitization |
| Dark current | <0.003 e ⁻ /p/s (12 e ⁻ /p/hr) @ -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