



D A T A S H E E T

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

SpectruMM:100B
 Acton Research
 1340 x 100 imaging array
 20 x 20- μ m pixels

The SpectruMM:100B is a high-performance digital camera system featuring a back-illuminated, spectroscopic-format CCD designed exclusively for Roper Scientific™. The 1340 x 100 imaging array is ideal for spectroscopy applications, providing small height for fast spectral rates and full 26-mm spectral coverage. Back-illumination gives SpectruMM:100B the superior sensitivity necessary for photon-starved applications. The 100B sensor is available in the SpectruMM HP and SpectruMM LN series systems.

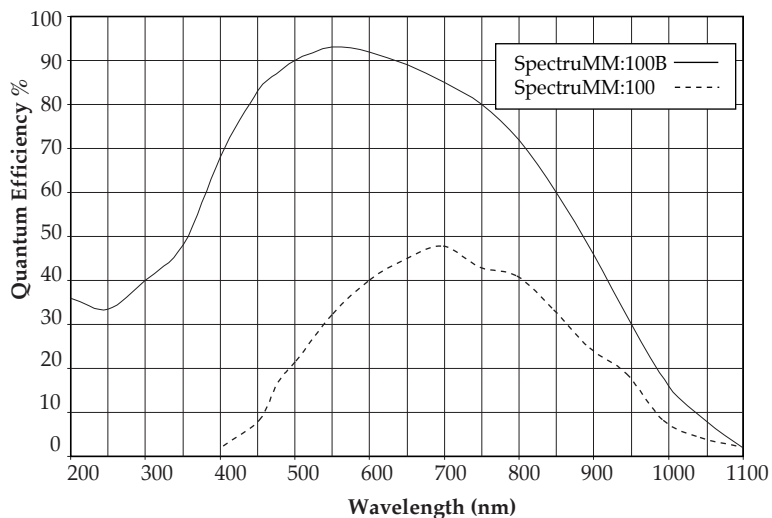
| F E A T U R E S | B E N E F I T S |
|---|--|
| Roper Scientific exclusive CCD | Designed expressly for spectroscopy |
| 1340 x 100 imaging array | Ideal spectroscopy format Delivers 30% more coverage than 1024-pixel CCDs |
| 20 x 20- μ m pixels | Optimal pixel size for best resolution and full well capacity |
| 2-mm-tall imaging area | Ideal for rapid, single-stripe spectroscopy and fiberoptics |
| Back-illuminated CCD | Provides unparalleled sensitivity and quantum efficiency |
| Custom AR coating Proprietary surface treatment | Reduces etaloning and lowers reflection losses |
| Lowest noise CCD available in back-illuminated format | Ideal for extreme low-light measurements |





D A T A D E S H E E T

S P E C T R O M M U N I T Y S E N S I T I V E M O D U L E



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

| | |
|-----------------------------|---|
| CCD image sensor | Roper Scientific exclusive; scientific grade1; MPP; back-illuminated, available with Unichrome UV-enhancement coating |
| CCD format | 1340 x 100 imaging pixels; 20 x 20- μ m pixels; 100% fill factor; 26.8 x 2.0-mm imaging area |
| Spectrometric well capacity | 250,000 e ⁻ |
| System read noise | <2 ADC counts @ 100 kHz; <4 ADC counts @ 1 MHz |
| Nonuniformity | <4% over entire CCD (excluding blemishes) |
| Dynamic range | 16 bits @ 100 kHz and 1 MHz |
| Scan rate | 100 kHz or 1 MHz |
| Spectral rate | 65 Hz full-vertical binning @ 100 kHz; 390 Hz full-vertical binning @ 1 MHz |
| Dark current | <0.1 e ⁻ /p/s @ -45°C in SpectruMM HP; <1 e ⁻ /p/hr @ -100°C in SpectruMM LN |

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



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