



D A T A S H E E T

S P E C I A L I Z E D S E N S I T I V E S Y S T E M

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

The SpectruMM:100BR is a high-performance digital camera system featuring a deep-depletion, 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. The combination of deep depletion and back-illumination gives the SpectruMM:100BR unsurpassed sensitivity and superior noise specifications even in the near-infrared (NIR). The 100BR sensor is available in the SpectruMM LN series system.

F E A T U R E S

B E N E F I T S

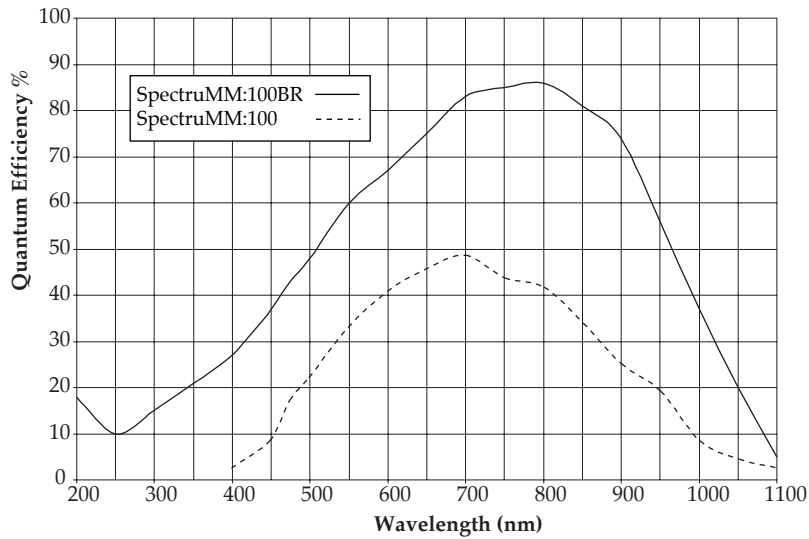
Roper Scientific exclusive CCD	Designed expressly for spectroscopy
Deep-depletion silicon	Optimizes response and quantum efficiency (QE) in the NIR
1340 x 100 imaging array	Ideal spectroscopy format Delivers 30% more coverage than 1024-pixel CCDs
20 x 20- μ m pixel	Optimal pixel size for best resolution and full well capacity
2-mm-tall imaging area	Ideal for rapid, single-stripe spectroscopy
Back-illuminated CCD	Provides unparalleled sensitivity and QE
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 S H E E T

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



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

CCD image sensor	Roper Scientific exclusive; scientific grade 1; non-MPP; back-illuminated, deep-depletion; 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	<0.01 e ⁻ /p/s @ -100°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