

HYPER SPECTRAL IMAGING TECHNOLOGY

Research-Grade Hyperspectral Camera

RC Series · 200 nm – 12 μ m · VNIR to LWIR

The RC Series delivers research-grade spectral imaging across an unprecedented 200 nm to 12 μ m range. Built on prism-grating dispersion with full-frame optical design, each configuration pairs optimized gratings with matched detectors — CMOS, sCMOS, InGaAs, HgCdTe, and cooled infrared — for maximum sensitivity in every band.

**200 nm – 12 μ m
Full Spectrum Coverage**

UV through thermal infrared in one modular platform

**Prism-Grating
Dispersion**

Sub-pixel spot diameter for highest spectral fidelity

**Multi-Detector
Options**

CMOS, sCMOS, InGaAs, HgCdTe, cooled IR

**Research-Grade
Precision**

C-Mount, compact, SDK + acquisition software included

RELIABLE INSTRUMENT MANUFACTURING & SERVICESCall us: +86 189-6516-4839 Email: sales@nwspec.com Address: Xiongan Pilot Free Trade Zone, Hebei, China

Technical Specifications

Table 1. VNIR Research Hyperspectral Camera — 400 nm to 1000 nm

Parameter	RC-30-01		RC-60-01		RC-60-03	
Disperser Type	Inline Grating	Transmission	Inline Grating	Transmission	Inline Grating	Transmission
Spectral Range	400 – 1000 nm		400 – 1000 nm		400 – 1000 nm	
Spectral Resolution	< 2.8 nm		< 2.3 nm		< 2.3 nm	
Spectral Sampling	2.2 nm		2.8 nm		2.4 nm	
F-Number	F/2.6		F/2.4		F/2.4	
Detector	CMOS		CMOS		sCMOS (TE-Cooled)	
Detector Interface	GigE / USB3.0		GigE		USB3.0	
Detector Power Supply	12-24V DC, 3W		12V DC, 4.2W		12V DC, 4.3W	
Detector Format	1/1.2"		1.1"		1.2"	
Detector Resolution	1920 x 1200		1600 x 1100		2048 x 2048	
Pixel Size	5.86 μm x 5.86 μm		9 μm x 9 μm		6.5 μm x 6.5 μm	
Effective Bit Depth	12 bit		12 bit		12 bit	
Slit Length	11.3 mm		14.2 mm		13.3 mm	
Slit Width	25 μm		30 μm		30 μm	
Binning Mode	4 x 4		4 x 4		4 x 4	
Spatial Pixels	480		390		512	
Spectral Bands	300		228		≥ 300	
Field of View (FOV)	15.6° @ f=35mm		22.9° @ f=35mm		21° @ f=35mm	
Instantaneous FOV (IFOV)	0.71 mrad @ f=35mm		0.85 mrad @ f=35mm		0.74 mrad @ f=35mm	
Frame Rate	50 / 128 fps		68 fps		72 fps	
Lens Mount	C-Mount		C-Mount		C-Mount	
Dimensions	240 x 80 x 70 mm		280 x 80 x 70 mm		350 x 90 x 90 mm	
Weight	< 1.5 kg		< 1.5 kg		< 2 kg	
Operating Temperature	0 – 40 °C		0 – 40 °C		0 – 40 °C	
Storage Temperature	0 – 50 °C		0 – 50 °C		0 – 50 °C	
Software	Acquisition + SDK		Acquisition + SDK		Acquisition + SDK	

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Technical Specifications

Table 2. Extended Range Research Hyperspectral Camera

Parameter	RC-30-02 (UV)		RC-10-05 (NIR)		RC-10-03 (SWIR)	
Disperser Type	Inline Grating	Transmission	Inline Grating	Transmission	Folded Grating	Transmission
Spectral Range	250 – 490 nm		900 – 1700 nm		900 – 2500 nm	
Spectral Resolution	< 2 nm		< 6 nm		< 10 nm	
Spectral Sampling	0.9 nm		1.7 nm		3 nm	
F-Number	F/2.8		F/2.0		F/2.0	
Detector	CMOS		InGaAs (TE-Cooled)		HgCdTe (Stirling)	
Detector Interface	GigE		GigE		GigE	
Detector Power Supply	12V DC, 13.6W		12V DC, 8.4W / 16W		24V DC	
Detector Format	9.47 x 7.58 mm		9.6 x 7.68 mm		9.6 x 7.68 mm	
Detector Resolution	1280 x 1024		640 x 512		640 x 512	
Pixel Size	7.4 μ m x 7.4 μ m		15 μ m x 15 μ m		15 μ m x 15 μ m	
Effective Bit Depth	12 bit		14 bit		14 bit	
Slit Length	8.8 mm		9.6 mm		9.6 mm	
Slit Width	20 μ m		30 μ m		30 μ m	
Binning Mode	2 x 2		1 x 1		1 x 1	
Spatial Pixels	> 560 (2x)		640		640	
Spectral Bands	> 250 (2x)		512		$\geq$ 400	
Field of View (FOV)	18.8° @ f=25mm		15.6° @ f=35mm		21.8° @ f=25mm	
Instantaneous FOV (IFOV)	0.8 mrad @ f=25mm		0.43 mrad @ f=35mm		1.2 mrad @ f=25mm	
Frame Rate	40 / 200 fps		175 fps		$\geq$ 100 fps	
Lens Mount	C-Mount		C-Mount		C-Mount	
Dimensions	335 x 88 x 83 mm		300 x 105 x 90 mm		500 x 150 x 150 mm	
Weight	< 2 kg		< 3 kg		< 8 kg	
Operating Temperature	0 – 40 °C		0 – 40 °C		0 – 40 °C	
Storage Temperature	0 – 50 °C		0 – 50 °C		0 – 50 °C	
Software	Acquisition + SDK		Acquisition + SDK		Acquisition + SDK	

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