

SmartEngine™ Series

Display Panel or Semiconductor Inspection/ Raman System/ Biomedical Detection
Environmental Monitoring Analysis



SmartEngine Series Lineup

Model Name	Detector Type	Characteristic
SE-3	CMOS with Fast Exposure	Shortest Exposure Time (0.2ms)
SE-4	Front-illuminated CCD	Excellent Cost Performance Value
SE-5	CCD with NIR-enhancement	NIR Range with High SNR
SE-6	CCD with UV-enhancement	UV Range & Full Wavelength Range with High SNR
SE-7	High Pixel-Resolution CCD	High Pixel-Resolution
SE-8	CMOS with Fast Exposure	Short Exposure Time (0.4ms) & High Pixel-Resolution
SE-9	CCD with Fast Exposure	Full Wavelength Range with Fast Exposure Time (1.5ms)
SE-10	CCD with High Sensitivity	Excellent Sensitivity

- Excellent Thermal, Humidity, Vibration and Shock Stability
- Support Continuous High-Speed & Multiple Exposures Mode
- Proprietary Stray Light Calibration Algorithm (Stray light can be eliminated to 0.01%)
- On-board CPU Supports Optical and Color Parameters Calculation
- Optimised Configuration - Select from Sensors & >30 Gratings
- Extremely Low (near-zero) Coefficient of Thermal Expansion of Gratings, Dual-Wavelength Grating option
- Optional Built-in Wifi Module
- Full Wavelength Range Versions: 180~1100 nm
- High SNR Version: SNR=500
- Short Exposure Time Version: 0.2ms
- High Resolution Version: 0.2nm

Recommended Models

Application	Model Name	Wavelength Range	Resolution	SNR	Exposure Time	Dark Noise	Dynamic Range	Thermal Stability
LED Test	SE-3/9	350-1020 nm	1.9 nm	330/500	0.2/1.5 ms	22/29	3000/3120	0.027 nm/°C
Display Detection	SE-3	380-780 nm	1.3 nm	330	0.2 ms	22	3000	0.027 nm/°C
Water Quality Analysis	SE-3/6	180-850 nm	1.9 nm	330/500	0.2 /5 ms	22/20	3000/4700	0.027 nm/°C
Air Analysis	SE-3/9	180-500 nm	0.2-0.6 nm	330/500	0.2/1.5 ms	22/29	3000/3120	0.015 nm/°C
Raman Detection	SE-3/5	790-1090 nm	1.1 nm	330/500	0.2/10 ms	22/20	3000/4400	0.015 nm/°C
Educational Requirement	SE-4	350-1020 nm	1.9 nm	200	1 ms	34	2220	0.027 nm/°C
Film Thickness Measurement	SE-3/9	180-1100 nm	3.2 nm	330/500	0.2/1.5 ms	22/29	3000/3120	0.039 nm/°C
Solar Panel Measurement	SE-6	180-1100 nm	3.2 nm	500	5 ms	20	4700	0.039 nm/°C
Gem Stone Examination	SE-3	400-500 nm	0.5 nm	330	0.2 ms	22	3000	0.015 nm/°C
Food Analysis	SE-3	180-1100 nm	3.2 nm	330	0.2 ms	22	3000	0.039 nm/°C
Blood Analysis	SE-3	300-850 nm	1.9 nm	330	0.2 ms	22	3000	0.027 nm/°C
Fluorescence Detection	SE-3/8	340-850 nm	1.9 nm	330/350	0.2 /0.42 ms	22/50	3000/2200	0.027 nm/°C
OCT Application	SE-3/8	790-1010 nm	0.9 nm	330/350	0.2 /0.42 ms	22/50	3000/2200	0.027 nm/°C

Specially Selected Models

Types	Model Name	Wavelength Range	Resolution	SNR	Exposure Time	Thermal Stability
Best-Sold Model	SE-3	350-1020 nm	1.9 nm	330	0.2 ms	0.027 nm/°C
Best CP Value Model	SE-4	350-1020 nm	1.9 nm	200	1 ms	0.027 nm/°C
Full Wavelength Range Model	SE-3/6/9	180-1100 nm	3.2 nm	330/500/500	0.2/5/1.5 ms	0.039 nm/°C
High SNR Model	SE-5/6/9	180-1100 nm	3.2 nm	500/500/500	10/5/1.5 ms	0.039 nm/°C
Short Exposure Time Model	SE-3/8/9	180-1100 nm	3.2 nm	330/350/500	0.2/0.42/1.5 ms	0.027 nm/°C
High Resolution Model	SE-7/8	400-500 nm	0.5 nm	400/350	4/0.42 ms	0.007 nm/°C

Make A Spectrometer for Your Own Special Need

Groove Density (g/mm)	Best Efficiency Wavelength (nm)	Bandwidth	Selectable Band	Resolutions (nm) Under Different Slit Sizes					
				10um	25um	50um	100um	200um	300um
2400	240/VIS	100nm UV 150nm	180-520 nm	0.2	0.3	0.4	0.8	1.2	-
1800	180/250/500	150nm UV 210nm	180-700 nm	0.3	0.4	0.6	1.0	1.8	-
1600	200	160nm UV 240nm	180-780 nm	0.4	0.5	0.7	1.2	2.0	-
1200	200/300/500/600/750/850	220nm UV 320nm	180-1010 nm	0.5	0.6	0.9	1.7	3.4	4.5
1000	250/900	300nm UV 400nm	180-1100 nm	0.6	0.7	1.1	1.9	3.0	-
900	500	360nm UV 450nm	180-1100 nm	0.6	0.8	1.3	2.3	4.6	-
830	800	410nm	180-1100 nm	0.9	1.0	1.5	2.5	4.5	-
600	300/400/500/800/1000	670nm	180-1100 nm	1.0	1.2	1.9	3.3	6.7	10.0
500	300/560/770	825nm	180-1100 nm	1.1	1.4	2.4	3.5	7.5	11.5
300	230/300/500/422	920nm	180-1100 nm	1.7	2.3	3.2	6.0	12.8	20.0