Spire Solar Simulator
Features and Benefits

Confidence in your own output
Tigther binning and less discussion with customers.

Superior Repeatability
Repeatability ≤ 0.15% provides the foundation for long-term simulator stability.

Broad and High Quality Spectrum
A+ and up to 300nm - 1300nm for all high efficiency PV modules.

Single Long Pulse
Duration up to 230 ms to get every watt from PV modules. No correction method needed.

Low Cost of Ownership
High uptime with guaranteed lamp life >200,000 flashes, proven by prolonged track record.

spire

Spire Solar Simulators
Specifications

Spire Solar Simulator Model	5100SLP Blue 50 ms	5100SLP Blue 100ms	5600SLP Blue 230ms
Maximum Module Dimensions (mm)	2,100 x 1,300	2,100 x 1,300	2,000 x 1,370
Class	$A^+A^+A^+$	$A^+A^+A^+$	$A^+A^+A^+$
Light Source			
Number of Lamps	1	1	2
Lamp Type	SLP filtered Xenon tube	SLP filtered Xenon tube	SLP filtered Xenon tube
Pulse Duration	20 - 50 ms	20 - 100 ms	20 - 230 ms
Spectral Range	300 - 1200 nm	300 - 1200 nm	300nm - 1200nm 1300nm on Request
Irradiance Temporal Instability	≤ 0.15%	≤ 0.15%	≤ 0.15%
Irradiance Spatial Non-Uniformity	≤ 1%	≤ 1%	≤ 1%
Guaranteed Lamp Life	200,000 flashes	200,000 flashes	200,000 flashes
Typical Lamp Life	> 400,000 flashes	> 400,000 flashes	> 400,000 flashes
Measurement Range and Performance			
Range of Light Intensity	200-1,200 W/m²	200-1,200 W/m²	200-1,200 W/m²
Measurement Duration	< 1 second	< 1 second	< 1 second
Power / Module (max)	600 W	600 W	600 W
Voltage Ranges	5 ranges (2.5, 10, 25, 100, 250 V) Custom on Request	5 ranges (2.5, 10, 25, 100, 250 V) Custom on Request	5 ranges (2.5, 10, 25, 100, 250 V) Custom on Request
Current Ranges	4 ranges (3, 6, 12, 25 A) Custom on Request	4 ranges (3, 6, 12, 25 A) Custom on Request	4 ranges (3, 6, 12, 25 A) Custom on Request
I/V Resolution	0.003%	0.003%	0.003%
Software Corrections	Not required	Not required	Not required
Repeatability (P_{max}, V_{oc}/I_{sc}/FF)	≤ 0.15% P_{max}, I_{sc}, V_{oc}, FF	≤ 0.15% P_{max}, I_{sc}, V_{oc}, FF	≤ 0.15% P_{max}, I_{sc}, V_{oc}, FF
Factory Calibration	I_{sc} to NREL ref. module	I_{sc} to NREL ref. module	I_{sc} to NREL ref. module
Temperature Control	Optional	Optional	Optional
Line Integration and Throughput			
Continuous Cycle Time	20 seconds	20 seconds	15 seconds
Conveyor	Manual / Automatic	Manual / Automatic	Manual / Automatic
Probing	Manual / Automatic	Manual / Automatic	Manual / Automatic
Leading Edge	Long Edge / Short Edge	Long Edge / Short Edge	Long Edge / Short Edge
MES Software Integration	Optional	Optional	Optional
Computer Specifications			
Touchscreen	Yes	Yes	Yes
Operating System	Windows 10	Windows 10	Windows 10
Simulator Specifications			
Length x Width x Height (mm)	2,740 x 2,007 x 1,040	2,740 x 2,007 x 1,040	2,740 x 2,066 x 1,040
Net Weight	702 kg	702 kg	721 kg
Control Cabinet Specifications			
Overall Length x Width x Height (mm)	1,716 x 635 x 1,380	1,716 x 635 x 1,380	1,716 x 635 x 1,380
Net Weight	316 kg	316 kg	344 kg
Installation Requirements			
Electricity (no automation)	208 - 240 V (±10%), 30 A, 50/60 Hz, 1 Ph	208 - 240 V (±10%), 30 A, 50/60 Hz, 1 Ph	208 - 240 V (±10%), 30 A, 50/60 Hz, 1 Ph

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