

ModuLight



Programmable lightsource

- Photo-electrical devices
- Solar cells
- Absorption
- Biotechnology

The ModuLight: add-on module for Ivium potentiostats

- Especially designed for solar cell research
- Intensity modulation: 10 μ Hz – 2 MHz
- 7 LEDs in each ModuLight, choose any one at a time

Led Specifications @ 100% Nominal Current

Mode	Color	Wavelength [nm]	Power	Digital Code
1	Cool White	6500 K	250lm	IIO
2	Blue	460	40lm	IOI
3	Green	523	200lm	IOO
4	Amber	590	105lm	OII
5	Red	623	160lm	OIO
6	Deep Red	660	900mW	OOI
7	Far Red	740	705lm	OOO
	<i>Cool White</i>	<i>5500K</i>	<i>250lm</i>	<i>Optional</i>
	<i>Violet</i>	<i>405</i>	<i>1400mW</i>	<i>Optional</i>
	<i>UV</i>	<i>365</i>	<i>1470mW</i>	<i>Optional</i>
	<i>IR</i>	<i>940</i>	<i>1150mW</i>	<i>Optional</i>
	<i>IR</i>	<i>850</i>	<i>800mW</i>	<i>Optional</i>
	<i>Dental Blue</i>	<i>460</i>	<i>1100mW</i>	<i>Optional</i>



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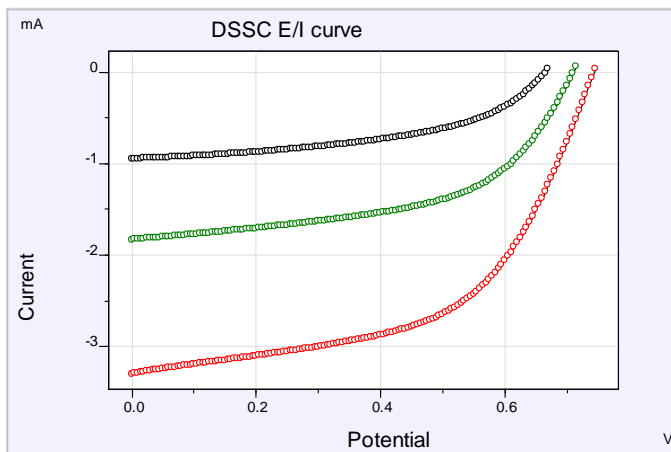
U.S.A.:

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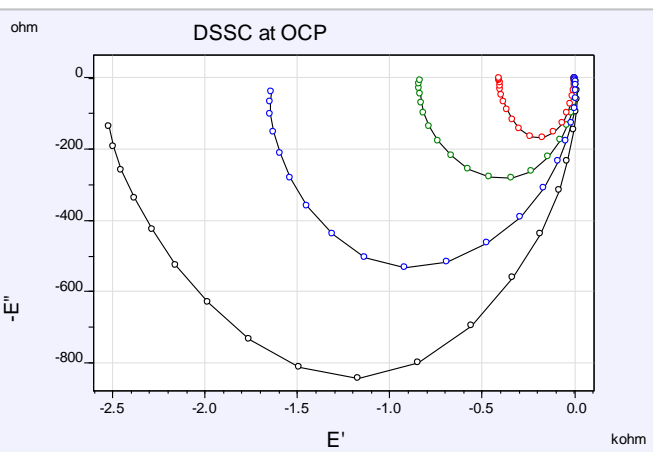
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Solar cell testing

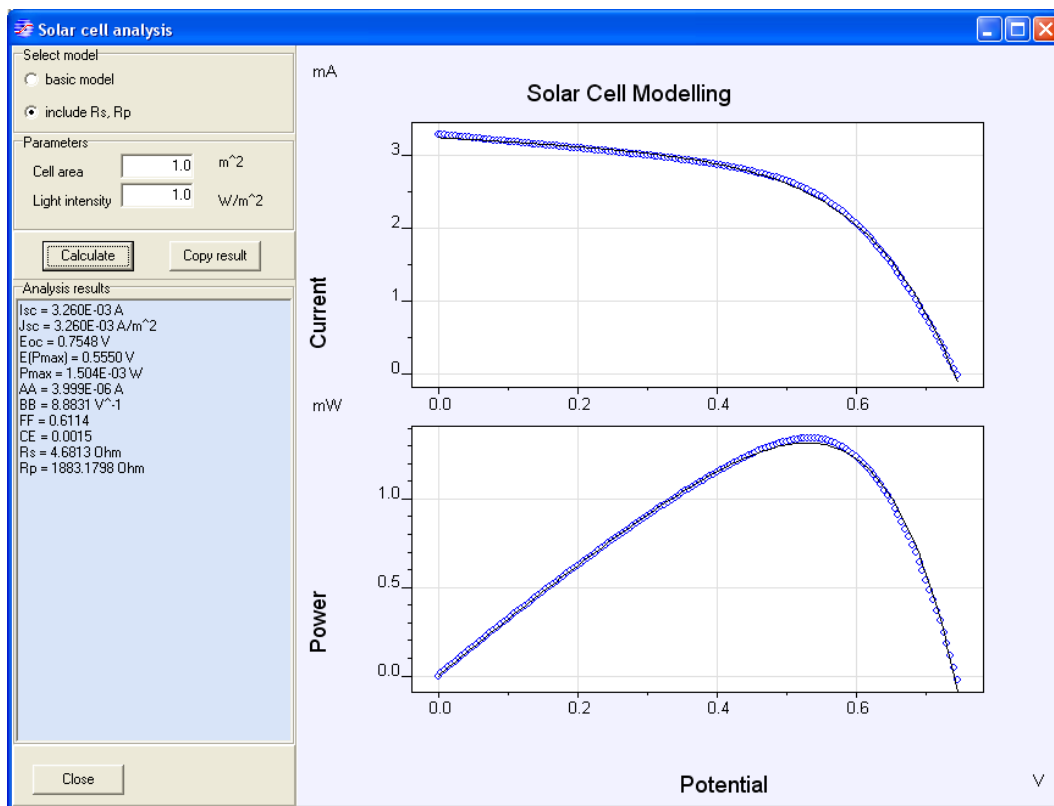
E/I curves at various light intensities:
 o 15 lm, o 30 lm, o 60 lm



IMVS photo-electric-impedance at OCP, at various light intensities: o 15 lm, o 18 lm, o 23 lm, o 30 lm



Screenshot of the solar cell modelling circuit, using the 60 lm intensity curve:



Specifications

Light intensity	Can be modulated with the FRA-output of the Ivium potentiostat; Range: 10 μ Hz to 2 MHz
Bias resolution	16 bit, 0.0015%
Wavelength	Programmable in seven steps: 460-740 nm (standard model)
Bandwidth	> 2 MHz
Light aperture	Circular; d=34mm; area = 9.08cm ²

Power requirements	External adapter: 100-240 V, 45-65 Hz at DC connector: 5 V, 1A
Size	w x d x h = 12 x 13 x 2.5 cm
Weight	0.5 kg
Interfacing/connectivity	HD37, connects to the potentiostat peripheral port
Use	Only i.c.w. Ivium potentiostats

