

SUNFLOWER

“Sustainable Novel Flexible Organic Watts Efficiently Reliable”

Grant agreement No.: 287594 (Integrated Project)

Deliverable D6.2 : Demonstration Kit Report

Due date of deliverable: 31 January 2012

Actual submission date: 24 February 2012

Start date of project: 1st October 2011

Duration: 48 months

Coordinator	CSEM
Deliverable Leading Partner	Konarka

Project co-funded by the European Commission under the Seventh Framework Programme (FP7)		
Dissemination Level		
PU	Public	PU
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

Deliverable	Elements
6.2 Demonstration Kit	OPV semitransparent module, encapsulated in flexible barrier films
	OPV module performance data sheet
	Product information
	Connectors and LED to demonstrate the functionality of the OPV module

State-of-the-art Konarka OPV modules are used to prepare a demonstration kit to raise the awareness of the Sunflower project. The demonstration kit consists of a semitransparent organic photovoltaic module encapsulated between transparent flexible barrier films, a datasheet which highlights the OPV module performance and a variety of product information sheets. The OPV module is supplied with contact pads, leads, connectors and clamps. To demonstrate the functionality of the OPV module, a light emitting diode is operated. An illustration of the demonstrator is shown in Figure 1.

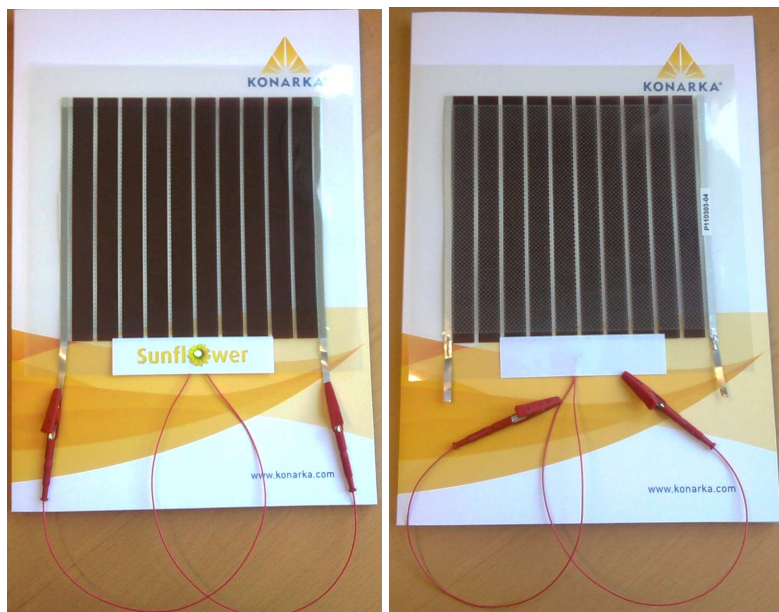


Figure 1: Semitransparent OPV demonstrator with contact pads, leads, connectors and clamps

The performance values of exemplarily OPV demonstrators are summarized in Table 1. Both 10-stripe modules show power conversion efficiencies in the range of 2.6% on large area of 175cm².

	P110303-03	P110303-09
Voc (V)	5.57	5.55
Isc (A)	0.143	0.139
Jsc/seg (mA/cm²)	8.2	8.0
Vmax (V)	3.95	3.94
I_{max} (mA)	115	115
Voc/seg (V)	0.66	0.66
Eff (%)	2.6	2.6
FF (%)	57.2	58.7
P_{max} (W)	0.45	0.45

Table 1: Performance values of the 10-stripe OPV demonstrators P110303-03 and P110303-09

The functionality is demonstrated in Figure 2, where an LED is operated by the OPV module in indoor conditions.



Figure 2: Konarka OPV demonstrator operates an LED in indoor conditions

The demonstration kits will be continuously upgraded with progress of the project. At this stage of the project, there are 19 demonstration kits available. Two demonstration kits will be sent to the project officers to raise the public awareness of the project topic. More demonstration kits are under development and will be provided to the consortium members soon. A first public utilisation of the kit will be at the Large Area Organic & Printed Electronics Convention (LOPE-C, June 2012 in Munich).