



We help ideas meet the real world

## Test of solar panels.

Task reference: T201294

Solarventi  
**Hans Jørgen Christensen**  
Fabriksvej 8  
8881 Thorsø

### Subject

Following samples have been subjected to testing to find differences of efficiency of the solar collectors.

### Samples

Solar collector 1 Solarventi  
Solar collector 2 Dansolar  
Solar collector 3 Scanheat



### Applied method

Each solar collector was exposed to sunlight with a intensity of  $550 \text{ W/m}^2$ .  
The test time (5 min.) started when the air temperature at the air outtake was constant.  
Following parameters were measured:  
Air outtake volume.  
Temperature at the ventilator.  
Temperature behind the solar collector.  
Noise level 10cm above air outtake .

### Results

**Report by:** Christian Lausen, Telefonnr.: +45 2940 4818  
Test Engineer, Centre of Test Excellence

**Report date:** 2011-11-24

**Number of pages:** 21

**Report no.:** 201170064-6

### DELTA

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark  
Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00  
[www.madebydelta.com](http://www.madebydelta.com)

This report may not be reproduced other than in full, except with prior permission.



We help ideas meet the real world

201294

Vendor	Air flow	Temperature raise	Power	Power	Efficiency	Noise from air flow
	m <sup>3</sup> /h	°C	W	W/m <sup>2</sup>	%	dBA
Solarventi	60,1	11	237	340	62	66
Dansolar	33	12,1	144	274	50	72
Scanheat	25,5	17,3	159	243	44	63

The measurements were performed at Saturday the 12/11 - 2011 between noon and 13.00

The panels are exposed to the sun.

Angel to the horizon 60°. Facing south.

Air density 0,00129 Kg/L

Specific heat of air 1005 J/ (kg \* Kelvin )

Total panel surface. Solarventi 0,7m<sup>2</sup>  
 Dansolar 0,525m<sup>2</sup>  
 Scanheat 0,653m<sup>2</sup>

Measurement 4	Temp.			Efficiency	Power (1m <sup>2</sup> )	Sun intensity	Air flow /Unit
	Out °C	In °C	Difference °C				
Solarventi	17,2	6,2	11	62	340	550	60,1
Dansolar	18,3	6,2	12,1	50	274	550	33,0
Scanheat	23,5	6,2	17,3	44	243	550	25,5

Measurement No	Air flow			Sun intensity w/m <sup>2</sup>
	m <sup>3</sup> /h	m <sup>3</sup> /h	m <sup>3</sup> /h	
	Solarventi	Dansolar	Scanheat	
4	60,1	33	25,5	550
5	59,8	33,7	25,2	550
6	57,3	28,6	24,7	
7	58,3	30,6	24,9	

## DELTA

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark

Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00

www.madebydelta.com



We help ideas meet the real world

201294

Målingerne er udført lørdag d. 12/11 - 2011 mellem kl.12 og 13.

Panelerne er i solen (550W/m<sup>2</sup>)

Hældning 60° Pegende stik syd.

Luft vægtylde 0,00129 Kg/L

Luft varmfylde 1005 J/ (kg \* Kelvin )

Bruttoflade af solfanger Solarven 0,7m<sup>2</sup>

Dansolar 0,525m<sup>2</sup>

Scanheat 0,653m<sup>2</sup>

Temperaturføler sat i rør 5 cm efter blæser .

Measurement 4	Temp.			Virkningsgrad	Effekt (1m <sup>2</sup> )	Sol	Luft flow
	Ud	d	Forskel			intensitet	
	°C	°C	°C	%	w/m <sup>2</sup>	w/m <sup>2</sup>	m <sup>3</sup> /h
Solarventi	17,2	6,2	11	62	340	550	60,1
Dansolar	18,3	6,2	12,1	50	274	550	33,0
Scanheat	23,5	6,2	17,3	44	243	550	25,5

Temperature sensor 1 is Solarventi.

Temperature sensor 2 is Dansolar.

Temperature sensor 3 is Scanheat.

Temperature sensor 4 is the ambient air.

Measurement 4

## DELTA

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark

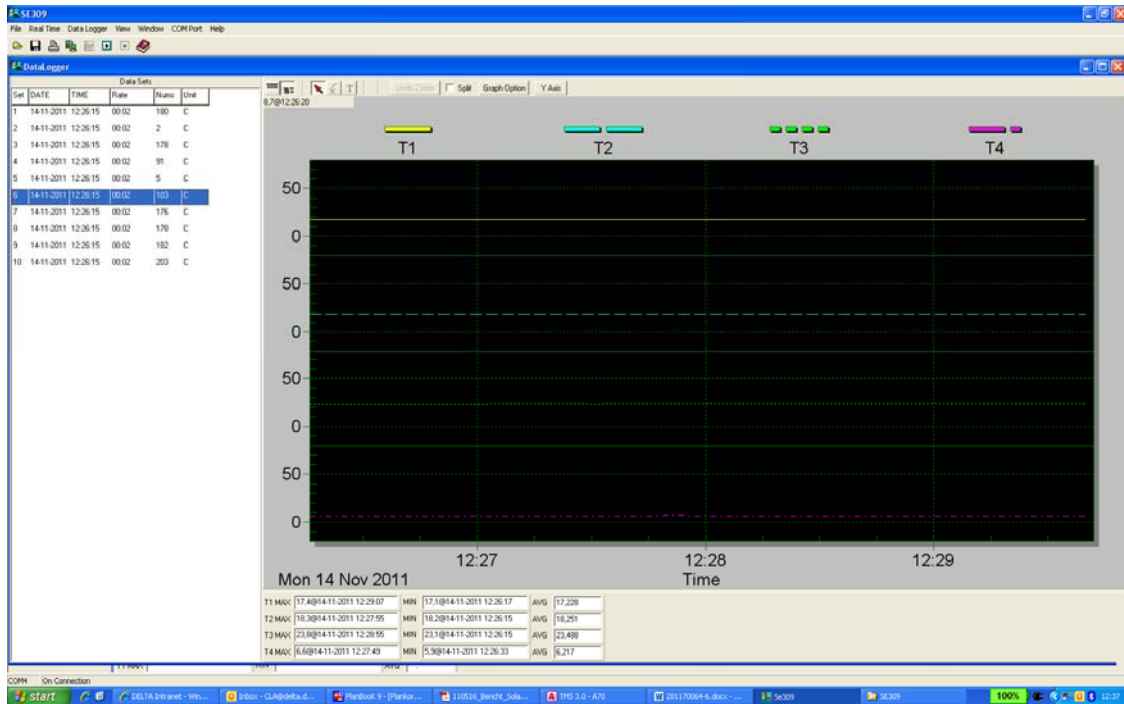
Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00

www.madebydelta.com



We help ideas meet the real world

201294



12:29:31	17,3	18,3	23,5	6,1		
12:29:33	17,3	18,3	23,5	6,1		
12:29:35	17,3	18,3	23,6	6,4		
12:29:37	17,3	18,3	23,6	6,4		
12:29:39	17,3	18,3	23,6	6,1		
	1774,5	1879,9	2419,3	640,4		
	17,22816	18,25146	23,48835	6,217476		
	11,01068	12,03398	17,27087	0		

## Measurement 5

### DELTA

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark

Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00

www.madebydelta.com



We help ideas meet the real world

201294



14-11-2011	12:31:49	16,8	18,1	23,4	5,7
14-11-2011	12:31:51	16,8	18,1	23,4	5,8
14-11-2011	12:31:53	16,8	18,1	23,4	5,8
14-11-2011	12:31:55	16,8	18,1	23,3	5,8
14-11-2011	12:31:57	16,8	18,1	23,3	5,8
14-11-2011	12:31:59	16,8	18,1	23,3	5,8
14-11-2011	12:32:01	16,8	18,1	23,3	6
14-11-2011	12:32:03	16,8	18,1	23,3	6
14-11-2011	12:32:05	16,8	18,1	23,3	6,1
		17,01364	18,16761	23,33864	5,834659

## Measurement 6

### DELTA

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark

Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00

www.madebydelta.com



We help ideas meet the real world

201294



14-11-2011	12:31:55	17,1	18,5	23,1	6,2
14-11-2011	12:31:57	17,1	18,5	23,1	6,1
14-11-2011	12:31:59	17,1	18,5	23,1	6,1
14-11-2011	12:32:01	17,2	18,5	23,1	5,9
14-11-2011	12:32:03	17,2	18,5	23,2	5,9
14-11-2011	12:32:05	17,2	18,5	23,2	5,9
14-11-2011	12:32:07	17,2	18,5	23,2	5,9
14-11-2011	12:32:09	17,2	18,5	23,2	5,9
		17,18977	18,425	23,60341	6,026136

## DELTA

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark

Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00

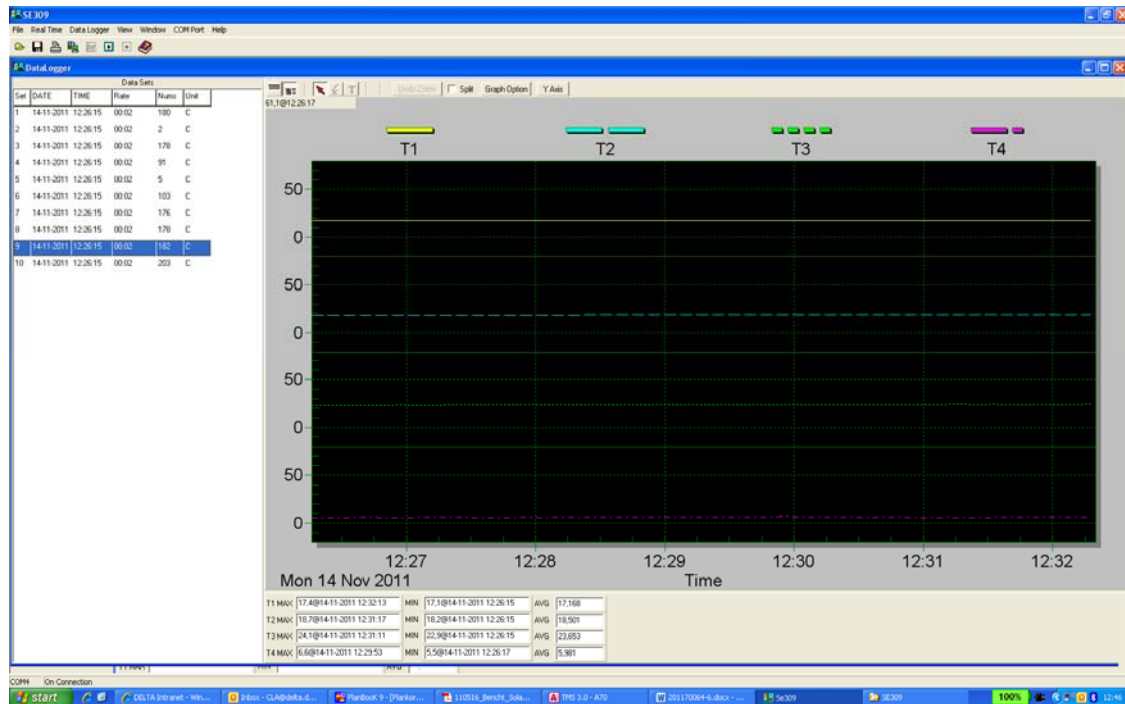
www.madebydelta.com



We help ideas meet the real world

201294

## Measurement 7



14-11-2011	12:32:03	17,3	18,7	24	6,4
14-11-2011	12:32:05	17,3	18,7	24	6,4
14-11-2011	12:32:07	17,3	18,7	24	6,4
14-11-2011	12:32:09	17,3	18,7	24	6,5
14-11-2011	12:32:11	17,3	18,7	24	6,5
14-11-2011	12:32:13	17,4	18,7	24	6,2
14-11-2011	12:32:15	17,4	18,7	24,1	6,2
14-11-2011	12:32:17	17,3	18,7	24,1	6
		17,16989	18,5108	23,67727	5,992614

## DELTA

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark

Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00

www.madebydelta.com



We help ideas meet the real world

201294



**DELTA**

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark  
Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00  
[www.madebydelta.com](http://www.madebydelta.com)





We help ideas meet the real world

201294



**DELTA**

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark  
Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00  
[www.madebydelta.com](http://www.madebydelta.com)

We help ideas meet the real world



201294

**DELTA**

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark

Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00

[www.madebydelta.com](http://www.madebydelta.com)



We help ideas meet the real world

201294



Dansolar

**DELTA**

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark  
Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00  
[www.madebydelta.com](http://www.madebydelta.com)



## DELTA

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark  
Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00  
[www.madebydelta.com](http://www.madebydelta.com)



**DELTA**

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark  
Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00  
[www.madebydelta.com](http://www.madebydelta.com)



We help ideas meet the real world

201294



## **DELTA**

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark

Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00

[www.madebydelta.com](http://www.madebydelta.com)



We help ideas meet the real world

201294



## **DELTA**

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark  
Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00  
[www.madebydelta.com](http://www.madebydelta.com)

Page 15 of 21

This report may not be reproduced other than in full, except with prior permission.



We help ideas meet the real world

201294



**DELTA**

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark  
Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00  
[www.madebydelta.com](http://www.madebydelta.com)





**DELTA**

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark  
Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00  
[www.madebydelta.com](http://www.madebydelta.com)



We help ideas meet the real world

201294



**DELTA**

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark  
Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00  
[www.madebydelta.com](http://www.madebydelta.com)



We help ideas meet the real world

201294



**DELTA**

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark  
Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00  
[www.madebydelta.com](http://www.madebydelta.com)



We help ideas meet the real world

201294



## DELTA

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark  
Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00  
[www.madebydelta.com](http://www.madebydelta.com)

Page 20 of 21

This report may not be reproduced other than in full, except with prior permission.



We help ideas meet the real world

201294



**DELTA**

L7-S14, Nordborgvej 81, 6430 Nordborg, Danmark  
Telefon: +45 72 19 40 00, Fax: +45 72 19 40 00  
www.madebydelta.com