SSEG DETAILS

SSEG Type reference: Powador 2002 Powador 3002		
SSEG Technology (as per Annex): Photovoltaik (Annex C)		
Manufacturer:	Tel: +49 7132 3818-0	Adress: 74172 Neckarsulm Carl-Zeiss-Straße 1
KACO new energy GmbH	Fax: +49 7132 3818-703	
Technical file reference No: 08TH0280-G83-0		
Maximum export capability (SSEG rating less parasitic load) 1650 VA / 2500 VA		

TEST HOUSE DETAILS

Name and adress of test house	Bureau Veritas Consumer Product Service GmbH Duismesspark A96, 86842 Türkheim, Germany
Telephone number	+49 8245 968100
Facsimile number	+49 8245 9681099
E-mail adress	cps-tuerkheim@de.bureauveritas.com

POWER QUALITY

Harmonic current emissions (A)								
Harmonic	2nd	3rd	5th	7th	9th	11th	13th	15th ≤ n ≤ 39th
Limit *	1.08	2.3	1.14	0.77	0.4	0.33	0.21	0.15 x (15/n)
Test value	0.04	0.24	0.08	0.07	0.06	0.08	0.04	< Limit BS EN 61000-3-2

* Maximum permissible harmonic current As per BS EN 61000-3-2 Class A.

Voltage Fluctuations and Flicker			**PASS**	
	Starting	Stopping	Running	
Limit *	4 %	4 %	P_{st} = 1.0	P_{lt} = 0.65
Test value	2.2 %	0.2 %	0.28 %	0.28 %

* Maximum permissible voltage fluctuacion (expressed as a percentage of nomonal voltage at 100 % power) and flicker. As per BS EN 61000-3-3.

	DC injection			Power factor		
G83/1-1 Limit	20 mA, tested at three power levels *			0.95 lag - 0.95 lead at three voltage levels		
Test level	10 %	55 %	100 %	212 V	230 V	248 V
Test value #	0 mA	5 mA	5 mA	0.998	0.997	0.997

* Indicative values are shown for minimum, medium and maximum power levels.
\# insert maximum value of dc injection and worst case pf value recorded during testing

UNDER / OVER FREQUENCY TESTS

	Under Frequency		Over Frequency	
Parameter	Frequency	Time	Frequency	Time
G83/1-1 Limit	47 Hz	0.5 sec *	50.5 Hz	0.5 sec *
Actual setting	47 Hz	0.5 sec	50.5 Hz	0.5 sec
Trip value	47 Hz	0.45 sec	50.5 Hz	0.46 sec

UNDER / OVER VOLTAGE TESTS

	Under Voltage		Under Voltage	
Parameter	Voltage	Time	Voltage	Time
G83/1-1 Limit	207 V	1.5 sec *	264 V	1.5 sec *
Actual setting	207 V	1.5 sec	264 V	1.5 sec
Trip value	207.3 V	1.499 sec	263.5 V	1.5 sec

Note: * For SSEG units that can withstand being re-energised from a source that is 180 degrees out of phase with the SSEG output, it is permissible to extend the operating time of the interface protection to 5.0 seconds, as described in5.3.1. Table 1.

LOSS OF MAINS TEST

Method used	**Frequency shift**		
Output power level *	10 %	55 %	100 %
Trip setting	-	-	-
Trip value	250 ms	250 ms	250 ms

* Indicative values are shown for minimum, medium and maximum power levels.

RECONNECTION TIMES

Reconnection Time	**Under/Over voltage**	**Under/Over Frequency**	**Loss of mains**
Minimum value	180 seconds	180 seconds	180 seconds
Actual Setting	180 seconds	180 seconds	180 seconds
Recorded value	185 seconds	185 seconds	185 seconds

SELF MONITORING - SOLID STATE SWITCHING

Test	**Yes / No**
It has been verified that in the event of the solid state switching device failing to disconnect the SSEG, the voltage on the output side of the switching device is reduced to a value below 50 volt within 0.5 sec.	

Comment: Units do not provide solid state switching relays.