

Government of India
 Ministry of Communications and Information Technology
 Department of Electronics & Information Technology, Standardisation Testing & Quality Certification Directorate
ELECTRONICS REGIONAL TEST LABORATORY (EAST)

TEST REPORT ON DIGITAL SOLAR INVERTER

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1.0 SCOPE

1.1 Service Request No. : TE/0090/09-13

1.2 Test Report No. : ERTL(E)/TES/P308/0055/09-13
Date : 22/11/2013

1.3 Requested by : **PPS ENVIRO POWER PVT. LTD.**
(Name & Address of the organisation) D97-A,PHASE-1,ROAD-18
IDA, JEEDIMETIA
HYDERABAD 500055

1.4 Description ,
Identification
of the item
to be tested

Item	:	DIGITAL SOLAR INVERTER
Make	:	PPS ENVIRO POWER P. LTD
Model	:	PV-UP (E-SERIES)
Sl.No.	:	SEP-3
Qty.	:	1

1.4.1 Applicable Spec.of the item(s) tested:

300VA/12V

1.4.2 Characterisation and condition of the item

Characterisation	:	Not applicable /
Condition	:	Satisfactory /

1.5 Date of item receipt of item : 30/09/2013

1.6 Date of start of testing : 13/10/2013

1.6.1 Date of completion of testing : 22/11/2013

1.7 Location where testing performed : In house

1.8 Ambient condition during measurement : 25 +/- 2°C
75% RH. Max.

1.9 Spec. used for testing : IEC:61683

1.9.1 Details of non-standard method followed (if any) : NIL

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TEST REPORT NO.: ERTL(E) / TES / P308 / 0055 / 09 - 13
TEST REPORT ON DIGITAL SOLAR INVERTER
AS PER IEC 61683 & CUSTOMER'S SPECIFICATION
MAKE: PPS ENVIRO POWER PVT. LTD., MODEL: PV-UP (E-SERIES), CAPACITY: 300 VA, 12 V
SL NO : SEP-03

TEST RESULT:

TEST NO.	TEST / ENVIRONMENT	CL. NO.	QUANTITY		SPECIFICATION LIMITS	TEST RESULTS	MEASUREMENT UNCERTAINTY
			TESTED	FAILED			
1.0	Output Voltage:- (At 100% Resistive Load)	4.3	1	-	Not Specified.	231.5 Vac	± 0.1964 Vac
2.0	Output Frequency:- (At 100% Resistive Load)	4.3	1	-	Not Specified.	50.02 Hz.	± 0.0001 Hz.
3.0	Ripple & Distortion:-	4.5					
3.1	THD _v at 100% Resistive Load		1	-	Not Specified.	2.202 %	± 0.2425 %
3.2	THD _i at 100% Resistive Load		1	-	Not Specified.	4.83 %	± 0.2425 %
4.0	Loss Measurement:-	7.0					
4.1	No Load Loss:-		1	-	Not Specified.	8.17 W.	± 0.0250 W.
4.2	Standby Loss:-		1	-	Not Specified.	0.95 W.	± 0.0250 W.
5.0	Efficiency Test:-	IEC 61683 Table1					
5.1	For unity power factor:-						
5.1.1	At 5% of load ie. 15 W (Actually Tested at 16.1 W)		1	-	Not specified.	62.50 %	± 0.0500 W.
5.1.2	At 10% of load ie. 30 W (Actually Tested at 29.8 W)		1	-	Not specified.	73.93 %	± 0.0500 W.
5.1.3	At 25% of load ie. 75 W (Actually Tested at 76.37 W)		1	-	Not specified.	83.14 %	± 0.4846 W.
5.1.4	At 50% of load ie. 150 W (Actually Tested at 149.57 W)		1	-	Not specified.	87.52 %	± 0.4846 W.
5.1.5	At 75% of load ie. 225 W (Actually Tested at 227.2 W)		1	-	Not specified.	85.69 %	± 0.0024 KW
5.1.6	At 100% of load ie. 300 W (Actually Tested at 307.2 W)	1	-	Not specified.	86.15 %	± 0.0024 KW	

Notes: Measurement Uncertainty at 95% Confidence Level.


(A.K.Dhar.)
SCIENTIST 'F'

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MAKE: PPS ENVIRO POWER PVT. LTD., MODEL: PV-UP (E-SERIES), CAPACITY: 300 VA, 12 V
SL NO : SEP-03

TEST RESULT:

TEST NO.	TEST / ENVIRONMENT	CL. NO.	QUANTITY		SPECIFICATION LIMITS	TEST RESULTS	MEASUREMENT UNCERTAINTY
			TESTED	FAILED			
5.2	For 0.25 power factor:-	- do -					
5.2.1	At 25% of load ie. 18.75 W		1	-	Not specified.	-	See Note (ii)
5.2.2	At 50% of load ie. 37.5 W		1	-	Not specified.	-	See Note (ii)
5.2.3	At 100% of load ie. 75 W (Actually Tested at 76.84 W)		1	-	Not specified.	67.81 %	± 0.4846 W.
5.3	For 0.50 power factor:-	- do -					
5.3.1	At 25% of load ie. 37.5 W		1	-	Not specified.	-	See Note (iii)
5.3.2	At 50% of load ie. 75 W (Actually Tested at 76.56 W)		1	-	Not specified.	74.72 %	± 0.4846 W.
5.3.3	At 100% of load ie. 150 W (Actually Tested at 154.85 W)		1	-	Not specified.	75.17 %	± 0.0024 KW
5.4	For 0.75 power factor:-	- do -					
5.4.1	At 25% of load ie. 56.25 W (Actually Tested at 53.75 W)		1	-	Not specified.	77.04 %	± 0.4846 W.
5.4.2	At 50% of load ie. 112.5 W (Actually Tested at 115.25 W)		1	-	Not specified.	78.84 %	± 0.4846 W.
5.4.3	At 100% of load ie. 225 W (Actually Tested at 232.2 W)		1	-	Not specified.	80.06 %	± 0.0024 KW
5.5	For 80% THDi with 0.5 pf:-	- do -					
5.5.1	At 50% of load ie. 75 W (Actually Tested at 75.82 W)		1	-	Not specified.	70.50 %	± 0.4846 W.
5.5.2	At 100% of load ie. 150 W (Actually Tested at 155.62 W)		1	-	Not specified.	71.17 %	± 0.4846 W.
5.6	Over Load Test At 120% of load ie. 360 W for 30 secs.		-	-	Should withstood	Complied	

Note:- i) The Inverter capacity is 300 VA, so Full Load Power is 300 KW at unity pf.
ii) Test at 25% & 50% load at 0.25 pf could not be carried out due to facility limitation.
iii) Test at 25% load at 0.5 pf could not be carried out due to facility limitation.



(A.K.Dhar.)
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Notes: Measurement Uncertainty at 95% Confidence Level.

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3.0 Equipment used

EQPT_NO	NAME	MAKE	MODEL	CAL.	VALID UPTO
1203	UNIVERSAL POWER ANALYSER	VOLTECH, UK	PM3300		07/02/2014
1232	DIGITAL MULTIMETER	AGILENT TECHNOLO	34401A		01/08/2014

Note: All tests were conducted within the validity period of respective equipment shown above.

4.0 Remarks (if any)

NIL

RELEASED BY
 (signature & date)

Sonali Jana
 22.11.13
SONALI JANA
 Scientist: 'C'
 Electronics Regional Test Laboratory (East)
 STQC Directorate, Deptt. of Electronics & IT
 Ministry of Comm. & Info. Technology
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