TEN PAO INTERNATIONAL LTD.

SPECIFICATION FOR APPROVAL

CUSTOMER:	DIGIMAX	TEN PAO MODEL NO.:	S012WV1200100
CUSTOMER P/N:		TEN PAO P/N:	R019615V-V
CUSTOMER MAINFRAME MODEL:		REV. NO.:	0 a
		DATE:	Jul. 05,2013

DESCRIPTION: Input:100-240Vac ;Output: 12.0Vdc 1.0A, SMPS Adaptor

Dear Customer:

Please send one copy of this specification back after you sign and approve for production

Approved By: _____

Date: _____

ISSUED BY		CHECKED BY		APPROVED BY	

E0-3-011 B/3

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Design Revision History

Rev.	Mark	Release Date	Description of Change		Revised By	Approved By
			Before	After		
0		Jun. 28,2013	Creation		杜普兵	张志光
0	a	Jul. 05,2013		Packing: page 12 of 16	杜普兵	

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Sample Delivery Information

1. Sample Background

Circuit Diagram Revision No: **0** PCB Layout Revision No: **4** BOM Revision No: **0** Transformer Revision No.: **0**

2. Sample Purpose:

A. Function Sample ☐ B. Final sample ☐ C. Other Sample ☑

3. Samples material instead of information

No.	Position No	Original design materials	The sample use material	Change Reason
1	none	none	none	none
2				
3				
4				
5				

4. The Change List Compare To Last Time Samples was:

The(**First**)Samples,This Time Samples' Tracking Number was:(**A01-A03**) , Delivery Date:(**Jun. 28,2013**).

No.	What is At Last Time Samples	What Is At This Time Samples	Change Reason
1	none	none	none
2			
3			
4			
5			

Remark:

TEN PAO P/N	ISSUED BY	APPROVED BY	DATE	REV.	SHEET
R019615V-V	杜普兵	张志光	Jun. 28,2013	0	Page 3 of 16

1. SCOPE

This document details the electrical, mechanical and environmental specifications of a switching power supply.

1.1 Description

☑ Wall Mount ☐ Desk-Top

☐ Open Frame ☐ Others

2. INPUT REQUIREMENTS

2.1 Input Voltage & Frequency

The range of input voltage is from **90Vac** to **264Vac**

	Min.	Normal	Max.
Input Voltage	90Vac	100-240Vac	264Vac
Input Frequency	47Hz	50/60Hz	63Hz

2.2 Input Current

The maximum input current is **400mA** max. at **100-240Vac** .

Inrush Current

The inrush current will not exceed **70A** at **100-240Vac** input and Max load for a cold start at 25℃.

2.4 Stand-By Power

The input power should be less than ＿ with No-Load.

3. OUTPUT FEATURES

3.1 Output Parameters

	Output Data	Spec. Limit			Test Condition
3.1.1	12.0Vdc	Min. Value	Typical	Max. Value	
3.1.2	Output Voltage	11.4Vdc	12.0Vdc	12.6Vdc	0 ～ 1.0A Loading
3.1.3	Output Load	0.0A	—	1.0A	
3.1.4	Ripple and Noise	—	—	200mVp-p	20MHz Bandwidth 10uF Ele. Cap.0.1uF Cer. Cap. (at 100-240Vac)
3.1.5	Output Overshoot	—	—	10%	MAX. load(1.0A) & 100-240Vac

3.2 Turn On Delay

During turn on and turn off, no output voltage shall exceed its nominal voltage by more than **10%** and no output shall change its polarity with respect to its return line. All outputs shall reach their steady state values within **3** seconds of turn on.

3.3 Hold Up Time

10 ms minimum at **115Vac/60Hz** input at maximum load, and **20** ms minimum at **230Vac/50Hz** input at maximum load.

3.4 Typical Efficiency

The efficiency (watts out / watts in) shall be higher than ____ typical while measuring at nominal line and maximum load condition, test in 1 minute after power on.

3.5 Output Transient Response

The power supply shall maintain output transient response time within **10ms** with a loading current change from 20% to 80% of maximum current and 0.5A/μs rise up /drop down test at end of output terminal.

4. PROTECTION REQUIREMENT

4.1 Over-Voltage Protection

Over-voltage protection shall be included in the adaptor circuit. A single component failure must not cause an over voltage.

4.2 Over-Current Protection

The adaptor must have a current limiting function on the output voltage. in overload mode, the output must drop to a low voltage.

4.3 Short-Circuit Protection

The adaptor must withstand a continuous short circuit on the output without damage.

5. ENVIRONMENTAL CONDITIONS

5.1 Operating

The power supply shall be capable of operating normally in any mode without malfunction happens in the following environmental conditions.

5.1.1 Operating Temperature: 0℃ ～40℃ (Can operate normally safety certificated ambient temperature at 25℃)

Relative Humidity: 10% ～ 90%

Altitude: Sea level to 2,000 m.

5.1.2 Vibration: 1.0mm, 10 –55Hz, 15 minutes per cycle for each axis (X, Y, Z).

5.1.3 Cooling: Natural convection cooling

5.2 Non - Operating

The power supply shall be capable of withstanding the following environmental conditions extended periods of time, without sustaining electrical or mechanical damage and subsequent operational deficiencies.

5.2.1 Storage Temperature: -30℃ ～ 70℃

5.2.2 Relative Humidity: 10% ～ 90%

5.2.3 Altitude: Sea level to 2,000 m.

5.2.4 Vibration and Shock:

The power supply shall be designed to withstand normal transportation vibration per MIL–STD-810D, method 514 and procedures X, as it is mounted in the chassis assembly and packed for shipping.

6. RELIABILITY AND QUALITY CONTROL

6.1 MTBF

When the power supply is operating within the limits of this specification the MTBF shall be at least **50,000** hours at 25℃ (MIL-HDBK-217F).

6.2 Burn-In

The power supply shall withstand a minimum of **4** hours Burn-In test under full load at 35℃ ~40℃ room temperatures, after test, product shall operate normally.

6.3 Component Derating

Semiconductor junction temperatures shall not exceed the manufacturer's maximum thermal rating.

7. MECHANICAL CHARACTERISTICS

7.1 Physical Dimensions

The detail dimension of the power supply is drawed on APPENDIX A.

7.2 Nameplate

The label of the power supply, please see APPENDIX C.

7.3 Drop test

Dropped freely from 1 m (for wall mount product) height onto the surface is consisted of hardwood 13 mm thick, mounted on two layers of plywood each 19-20 mm thick, all supported on concrete floor 1 time from 3 different surface, after test, it's no safety damage for product.

8. SAFETY

8.1 Safety Standard

The power supply shall be certified under the following international regulatory standards

Item	Country	Certified	Standard
GS	Germany	Approved	EN60950-1
CE	Europe	Approved	EN60950-1

8.2 Insulation Resistance

Input to output: **10 MΩ** min. at **500 VDC**.

8.3 Dielectric Strength (Hi-Pot)

Primary to Secondary **DC4242V,3.5mA** 1 minute for type test,

DC4500V,3.5mA 2 seconds for product.

8.4 Leakage Current

The leakage current shall be less than **0.25mA** for **Class II** when the power supply is operated maximum input voltage and maximum frequency.

9. EMC STANDARDS

9.1 EMI Standards

The power supply shall meet the radiated and conducted emission requirements for **EN55022.**

9.2 EMS Standards**(EN55024)**

The power supply shall meet the following EMS standards

9.2.1 IEC61000-4-2 Electrostatic Discharge (ESD)

Static – discharge test by contact or air should be conducted with Static – discharge tester, energy storage capacitance of 150pF, and discharge resistance of 330Ω.

8KV air discharge, **4KV** contact discharge, Performance Criterion B.

9.2.2 IEC61000-4-3 Radiated Electromagnetic Fields(RS)

Radio- frequency Electromagnetic Field Susceptibility Test, RS, 80-1000MHz,3V/m, 80%AM(1KHz), Performance Criterion A.

9.2.3 IEC61000-4-4 Electrical Fast Transient / Burst (EFT)

Power Line to Line: **1KV**

Performance Criterion B.

9.2.4 IEC61000-4-5 Lightning Surge Attachment
Lightning Surge voltage of differential and common modes shall be applied across AC input lines and across input and frame ground.
Power Line to Line: **1KV**
Performance Criterion B.

9.2.5 IEC61000-4-6 Conducted Radio Frequency Disturbances (CS)
Conducted Radio Frequency Disturbances Test, CS, 0.15-80 MHz, 3V/m, 80%AM, 1KHz, Performance Criterion A.

9.2.6 IEC61000-4-11 Voltage Dips/Short Interruption/Variations
Voltage Dips, 30% reduction- 10ms, Performance Criterion B, 60% Reduction – 100ms, Performance Criterion C, Voltage Interruptions>95% Reduction- 5000ms, Performance Criterion C.

10. OTHER REQUIREMENTS

10.1 Hazardous Substances
The components and used materials shall be in compliance with

- [√] EU Directive 2011/65/EU "RoHS"
- [√] EU Directive 2012/19/EU "WEEE"
- [ ] Halogen Free
- [√] REACH

10.2 Energy Efficiency

10.2.1 The No-Load power consumption shall be less than **0.3W** at input **115/230Vac 60/50Hz.**

10.2.2 The average active mode efficiency shall be higher than **77.85%** at input **115/230Vac 60/50Hz.**

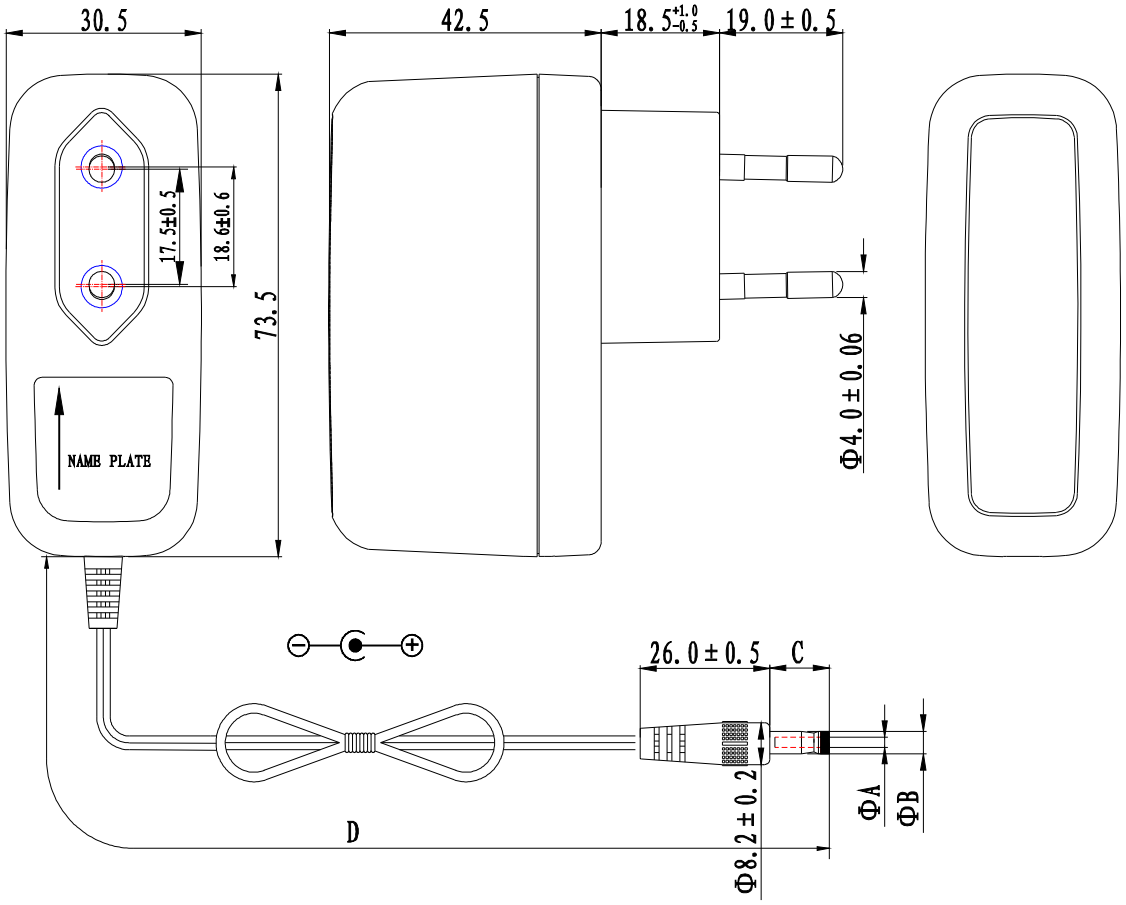
10.2.3 [√] International Efficiency Level V .
[ ] Korea Energy Efficiency Label

10.2.4 This power supply is therefore in compliance with the requirements of

- [ ] California Energy Commission Energy Efficiency requirements for external power supplies (CEC)
- [ ] Energy Star Energy Efficiency requirements for external power supplies (EPS Version 2.0)
- [ ] EU Code of Conduct on Energy Efficiency of External Power Supplies((Version 4)
- [ ] Australian and New Zealand Energy Performance Requirements for external power supplies (MEPS,AS/NZS 4665.1,AS/NZS 4665.2)
- [ ] China Energy Efficiency requirements for external power supplies (GB20943-2007)
- [ ] Korea regulation on Energy Efficiency Labeling and Standards for external power supplies (MKE's Notification 2008-99)
- [√] Implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies (No 278/2009, Stage 2)

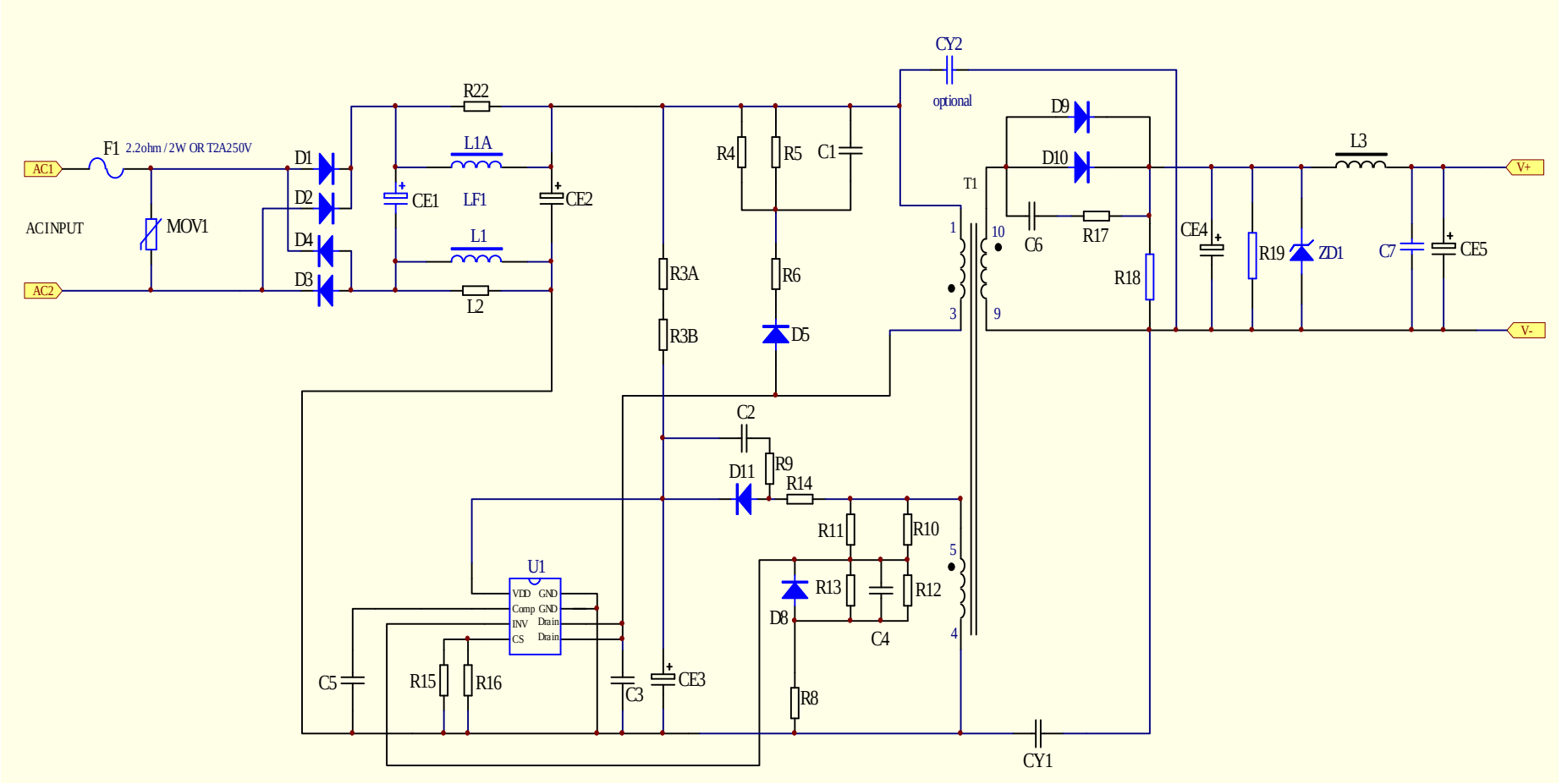
APPENDIX A

Mechanical Dimensions(Unit: mm) Tolerance Of unspecified Parts:±1.5mm



	ΦA	ΦB	C	D
DIMENSION	2.1	5.5	10.0	1500
TOLERANCE	+0.1/-0	±0.1	±0.5	min.
REMARK	AWG22#/2C UL2468 BLACK			

APPENDIX B



CIRCUIT DIAGRAM	DATE	Jun. 28,2013	REV.	0
	DESIGN	杜普兵	APPROVE	张志光

TEN PAO P/N	REV.	DATE	SHEET
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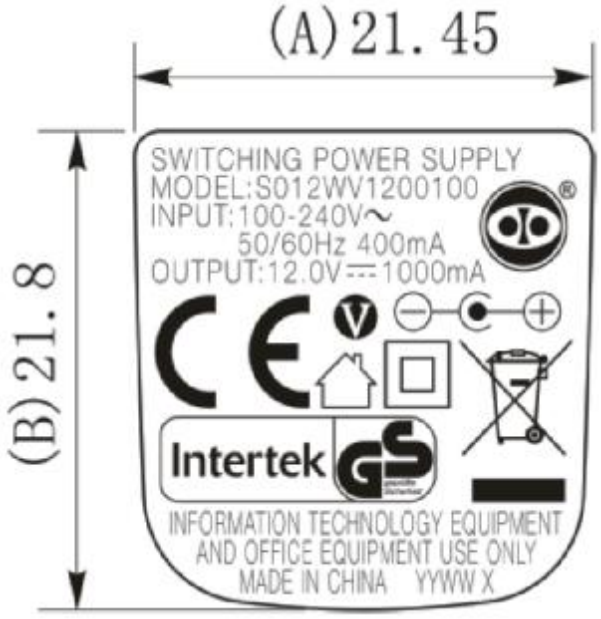
APPENDIX C

Name Plate:



DATE CODE:

YYWW X

PRODUCTION LINE	X stands for Production Line. (Remark: one digit or two digits, using English letters or numbers.)
WEEK	01 – 53
YEAR	00 – 99

Unit: mm

Word Color: **Grey (Laser Print)**

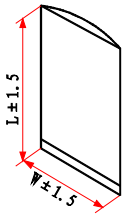
* Please Advise If Any Comments About The Name Plate Information.
Otherwise, This Information Is Defaulted As Customer Approval,
And Will Be Applied To Production .

APPENDIX D

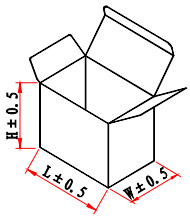
a

PRODUCT:

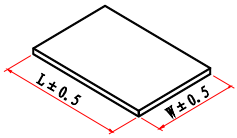
PLASTIC BAG:



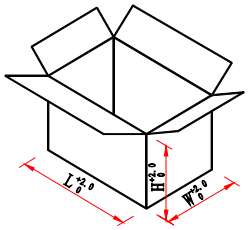
WHITE BOX:



PAPERBOARD:



CARTON:



DIMENSION(UNIT IN cm):

	L	W	H
PLASTIC BAG	22.0	12.0	
WHITE BOX	9.5	4.1	8.3
PAPERBOARD	48.0	34.0	
CARTON	49.5	35.5	19.5

PACKING METHOD:

PAPERBOARD PLACEMENT METHOD	PUT A PAPERBOARD BETWEEN THE TOP AND BOTTOM,TOTAL 2PCS.
PACKING METHOD	20PCS/LAYER X 4 LAYERS
QTY	80PCS
N.W./PC	95g
G.W./CARTON	10.1Kg

REMARK:

1. STORAGE CONDITION
   TEMPERATURE: -10℃ ~ +60℃
   RELATIVE HUMIDITY: 30% ~ 80%
2. STORAGE PERIOD: 6 MONTHES
3. ANLISTATIG: NO REQUIREMENT
4. PLEASE ADVISE IF ANY COMMENTS ABOUT THE PACKING INFORMATION.
   OTHERWISE,THIS INFORMATION IS DEFAULTED AS CUSTOMER APPROVAL,
   AND WILL BE APPLIED TO PRODUCTION.

APPENDIX E

SAMPLE PRIMARY TEST REPORT

CUSTOMER	**DIGIMAX**		
MODEL NO.	**S012WV1200100**	**TEN PAO P/N**	**R019615V-V**

Test Items.	Test Condition	Unit	Sample Number and Test Result										Pass/Fail
			1#	2#	3#								
Unload output voltage/ (0.0A) 11.4Vdc - 12.6Vdc	90Vac	V	11.82	11.78	11.85								Pass
	132Vac	V	11.81	11.76	11.85								Pass
	180Vac	V	11.80	11.75	11.85								Pass
	264Vac	V	11.78	11.75	11.84								Pass
Rated load output voltage/ (1.0A) 11.4Vdc - 12.6Vdc	90Vac	V	11.89	11.82	12.01								Pass
	132Vac	V	11.90	11.84	12.02								Pass
	180Vac	V	11.91	11.84	12.03								Pass
	264Vac	V	11.91	11.85	12.03								Pass
Output ripple & noise voltage ⩽ 200mV (at 100-240Vac)	90Vac	mV	62	60	73								Pass
	132Vac	mV	60	56	64								Pass
	180Vac	mV	62	57	67								Pass
	264Vac	mV	57	54	60								Pass
Short-circuit protection test (Short at end of DC plug)	90Vac	W	0.16	0.13	0.18								_
	264Vac	W	0.57	0.51	0.57								_
Over current protection (Ocp:A)	90Vac	A	1.19	1.19	1.19								Pass
	264Vac	A	1.28	1.25	1.27								Pass
Hi-pot test	4242Vdc/3.5mA/ 1Minute		OK	OK	OK								Pass

APPENDIX F

SAMPLE TEST REPORT

CUSTOMER:		DIGIMAX								
TEN PAO MODEL NO.:		**S012WV1200100**			**TEN PAO P/N:**			**R019615V-V**		
Items No.	Test Items	Unit	Test condition & result						Spec. Limit	Pass/ Fail
			90Vac	115Vac	132Vac	180Vac	230Vac	264Vac		
1	Unload input current	mA	7.16	6.32	5.95	5.08	4.98	4.71	-	-
2	Unload input power	W	0.19	0.19	0.20	0.21	0.23	0.25	≤0.3W (115V/230Vac)	Pass
3	Rated load input current	mA	293.2	245.4	226.2	213.6	172.4	152.4	≤400mA (100 - 240Vac)	Pass
4	Rated load input power	W	15.19	14.92	14.78	14.80	14.86	14.98	-	-
5	Unload output voltage(0.0A)	V	11.85	11.84	11.83	11.82	11.82	11.81	11.4V -12.6V	Pass
6	Rated load output voltage(1.0A)	V	11.92	11.93	11.94	11.94	11.95	11.95	11.4V -12.6V	Pass
7	Output ripple&noise voltage(1.0-0A)	mV	74.5	71.7	76.5	74.6	68.2	68.5	≤200.0mVp-p (100-240Vac)	Pass
8	Output transient response(20-80%)	mS	6.79	6.79	6.79	6.79	6.79	6.79	≤10mS	Pass
9	Short-circuit test (Pin&Iout)	W	0.90	1.10	1.50	1.70	2.10	2.30	-	-
		A	hiccup	hiccup	hiccup	hiccup	hiccup	hiccup	-	-
10	Over current protection	A	1.16	1.17	1.17	1.20	1.23	1.23	-	-
11	Over voltage protection	V	18.38	18.32	18.28	18.17	18.06	17.99	-	-
12	Output overshoot/Max load	%	3.50%	3.00%	3.00%	4.10%	5.70%	5.40%	≤10.0% (100-240Vac)	Pass
13	Turn on delay time	mS	2689.0	2127.0	1462.0	895.5	796.3	737.6	≤3000.0mS	Pass
14	Hold up time	mS	5.10	14.50	17.90	40.00	70.60	91.88	≥10mS/(115Vac) ≥20mS/(230Vac)	Pass
15	Efficiency(Full load)	%	78.47%	79.96%	80.78%	80.68%	80.42%	79.77%	-	-
16	Mech. Dimension	mm	73.7			30.2			**L**:73.5±1.5; **W**:30.5±1.5	Pass
			43.0			-			**H**:42.5±1.5	Pass
			19.0			-			AC PIN:19.0±0.5	Pass
17	DC cord and DC connector	mm	**DC cord**:AWG22#/2C UL2468,**LENGTH**:1540mm.						1500mm Min.	Pass
			DC conn.:Inside(+) Outside(-),Dimension conform with spec. limit.							Pass
18	Hi-pot test		**Pri. to Sec**:4242Vdc,1Minute, Cut off current≤3.5mA(**Test result: 0.06mA**)							Pass
19	Drop test		Drop test 3 Times (High: 1000mm), The sample OK							
20	Max. and Light load change test		Max. load to Light load：OK Light load to max. load: OK (90-264Vac)							
21	Appe. label and fusion		Appearance: OK, Label: OK, Fusion: OK							
22	Mosfet(IC)/Vds(normal:95% ,other:100%)	V	563.0	592.0	588.0	588.0	585.0	Mosfet spec. 620V	Derating≤95% &100% Max. Volt.	Pass
			normal	start up	short	ocp	max/min			
23	Diode /Vrr(normal:90% ,other:100%)	V	87.8	88.4	87.8	88.4	87.8	Diode spec. 100V	Derating≤90% &100% Max. Volt.	Pass
			normal	start up	short	ocp	max/min			

TEST BY	CHECKED BY	APPROVED BY	DATE	REV	SHEET
杜红秀	张丹	杜普兵	Jun. 28，2013	0	Page14 of16

APPENDIX F

SAMPLE TEST REPORT

CUSTOMER:	DIGIMAX		
TEN PAO MODEL NO.:	**S012WV1200100**	**TEN PAO P/N:**	**R019615V-V**

1.TEST STANDARD: Implementing Directive 2009/125/EC of the European Parliament and of the Council

2. Product Specification:

Input voltage, frequency, current: 100-240VAC 50/60HZ 400mA Output voltage, current: 12.0VDC/1.0A

3.TEST METHOD:

3.1. Under input 230VAC / 50Hz, output normal load, the EUT continuous operating for 30 minutes .

3.2. Under input 115VAC / 60Hz and 230VAC / 50Hz, the EUT is measured at 100%, 75%, 50% and 25% of rated output current.Record values are output voltage, output current, input power, input current. Then calculating average efficiency at four active mode load conditions.

3.3. Input 115VAC / 60Hz and 230VAC / 50Hz, test the input power, input current, output voltage in the no-load condition.

4.TEST DATA: (Room temperature: 25-30℃, relative humidity : 10-90%).

4.1 Input voltage, frequency 115V,60Hz:

Sample No.	Item		Unload	25%*I_L	50%*I_L	75%*I_L	100%*I_L	Average
1#	Output	Current(mA)	0	250	500	750	1000	/
		Voltage(V)	11.83	12.07	12.07	12.05	11.95	/
		Power(W)	/	/	/	/	/	/
	Input	Power(W)	0.18	3.8	7.43	11.14	14.88	/
		THD_V (%)	/	/	/	/	/	/
		True PF	0.2601	0.3953	0.4410	0.4888	0.5219	/
		Current(mA)	6.06	82.99	145.68	196.92	246.70	/
	Efficiency(%)		/	79.41%	81.22%	81.13%	80.31%	80.52%
2#	Output	Current(mA)	0	250	500	750	1000	/
		Voltage(V)	11.81	12.10	12.11	12.09	11.98	/
		Power(W)	/	/	/	/	/	/
	Input	Power(W)	0.18	3.8	7.43	11.11	14.85	/
		THD_V (%)	/	/	/	/	/	/
		True PF	0.2624	0.3968	0.4433	0.4911	0.5231	/
		Current(mA)	6.00	82.68	144.77	195.51	245.28	/
	Efficiency(%)		/	79.61%	81.49%	81.62%	80.67%	80.85%
3#	Output	Current(mA)	0	250	500	750	1000	/
		Voltage(V)	11.90	12.16	12.17	12.17	12.08	/
		Power(W)	/	/	/	/	/	/
	Input	Power(W)	0.18	3.82	7.5	11.25	15.06	/
		THD_V (%)	/	/	/	/	/	/
		True PF	0.2413	0.3924	0.4403	0.4885	0.5211	/
		Current(mA)	6.54	84.13	147.27	199.17	249.98	/
	Efficiency(%)		/	79.58%	81.13%	81.13%	80.21%	80.52%
Energy Efficiency (Min.) : 80.52%			Efficient Level V: 77.85%			JUDGEMENT	Pass/Fail	Pass

APPENDIX F

SAMPLE TEST REPORT

CUSTOMER:	DIGIMAX		
TEN PAO MODEL NO.:	**S012WV1200100**	**TEN PAO P/N:**	**R019615V-V**

4.2 Input voltage, frequency 230V,50Hz：

Sample No.	Item		Unload	25%*I_L	50%*I_L	75%*I_L	100%*I_L	Average
1#	Output	Current(mA)	0	250	500	750	1000	/
		Voltage(V)	11.80	12.04	12.04	12.03	11.95	/
		Power(W)	/	/	/	/	/	/
	Input	Power(W)	0.24	3.93	7.53	11.18	14.78	/
		THD_V (%)	/	/	/	/	/	/
		True PF	0.2216	0.3456	0.3636	0.3704	0.3711	/
		Current(mA)	4.58	49.15	89.54	130.65	172.12	/
	Efficiency(%)		/	76.59%	79.95%	80.70%	80.85%	79.52%
2#	Output	Current(mA)	0	250	500	750	1000	/
		Voltage(V)	11.78	12.06	12.08	12.08	11.98	/
		Power(W)	/	/	/	/	/	/
	Input	Power(W)	0.23	3.94	7.54	11.08	14.72	/
		THD_V (%)	/	/	/	/	/	/
		True PF	0.2228	0.3455	0.3627	0.3657	0.3690	/
		Current(mA)	4.52	49.31	89.91	130.94	172.11	/
	Efficiency(%)		/	76.52%	80.11%	81.77%	81.39%	79.95%
3#	Output	Current(mA)	0	250	500	750	1000	/
		Voltage(V)	11.89	12.13	12.15	12.15	12.09	/
		Power(W)	/	/	/	/	/	/
	Input	Power(W)	0.23	3.93	7.573	11.33	14.95	/
		THD_V (%)	/	/	/	/	/	/
		True PF	0.2139	0.3444	0.3623	0.3715	0.3723	/
		Current(mA)	4.60	49.38	90.35	131.88	174.54	/
	Efficiency(%)		/	77.16%	80.22%	80.43%	80.87%	79.67%
Energy Efficiency (Min.) : 79.52%			Efficient Level V: 77.85%			JUDGEMENT	Pass/Fail	Pass

5.EQUIPMENTS LIST：

Power meter: WT210 **AC source: AFC-500W** **Electronic load: Prodigit 3311F**

6.REMARK：

First Function Sample

Certificate

Prüfbescheinigung nach dem Produktsicherheitsgesetz

Test Certificate in compliance with the Product Safety Law

Bescheinigungs-Nr. (Certificate No.): **10GZO2802-02**

Ersetzt (Replaces): 10GZO2802-01

Das Produkt entspricht den Anforderungen des Produktsicherheitsgesetzes (ProdSG) § 21 (1) hinsichtlich der Gewährleistung von Sicherheit und Gesundheit und entspricht den derzeit anerkannten Regeln der Technik.
(The product is in compliance with the judicial requirements of the Product Safety Law (ProdSG) § 21 (1) and the currently accepted rules of technology.)

Die Kennzeichnungspflichten des Produktes gemäß §6 ProdSG sind einzuhalten.
(The marking requirements of the product based on §6 ProdSG have to be observed.)

Bescheinigungsinhaber (Certificate Holder)
Ten Pao Industrial Co., Ltd.
Room 10-11, 6/F., Kwong Sang Hong Centre, 151-153 Hoi Bun Road, Kwun Tong
Kowloon
Hong Kong

Markenname (Brandname)
Ten Pao (logo)

Fertigungsstätte (Manufacturing Site)
Ten Pao Electronics (Huizhou) Co.,Ltd.
Dongjiang Industrial Area, Shuikou Town
Huizhou City, Guangdong Province
P. R. China

Produkt (Product)
Schaltnetzteil für IT-Geräte
Switching mode power supply for IT equipment(Switching Power Supply)

Typbezeichnung (Type)
S012WZxxxyyyy
Einzelheiten siehe Anhang (Details see attachment)

Beschreibung (Description)
Eingang (Input): 100-240 Vac, 50/60 Hz, 400 mA, Schutzklasse (Class) II, IP20
Ausgang (Output): 5,0 – 24,0 Vdc, 100 - 2000 mA , 12 W Max

Prüfbericht-Nr. (Test Report No.)
GZ10090429-2:2010-10-01
Einzelheiten siehe Anhang (Details see attachment)

Geprüft nach (Tested according to)
EN 60950-1:2006+A11:09+A1:10+A12:11

Gültig bis (valid until)
2017-12-27
Erstellt am (Issued on)
2012-12-28

64892
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Dipl.-Ing. Klaus-Jürgen Herrmann

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Intertek Legal Entity: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Address: Block E, No.7-2 Guang Dong Software Science Park, Caipin Road,
Guangzhou Science City, GETDD Guangzhou, China
Tel / Fax: 86-20-8213 9688/86-20-3205 7538

Test Verification of Conformity

On the basis of the referenced test report(s), the sample(s) of the below product has been found to comply with the relevant harmonized standard(s) to the directive(s) listed on this verification at the time the tests were carried out.
The manufacturer may indicate compliance to only the said directives by signing a DoC himself and may affix the CE marking to products identical to the tested sample(s) if the product complies with all CE marking directives that has the product in their scope. In addition, the manufacturer shall file and keep the documentation according to the rules of the applicable directive(s) and shall consider changes of the standards as they may occur. Additional requirements, additional directives and local laws may be applicable.

Applicant Name & Address	:	Ten Pao Industrial Co.,Ltd Room 10-11, 6/F., Kwong Sang Hong Centre, 151-153 Hoi Bun Road, Kwun Tong, Kowloon, Hong Kong
Product(s) Tested	:	Switching Power Supply
Ratings and principal characteristics	:	Input: 100-240 Vac, 50/60 Hz, 400 mA, Class II Output: 5,0 – 24,0 Vdc, 100 - 2000 mA , 12 W Max
Model(s)	:	Refer to Annex to Test Verification of Conformity
Brand name	:	or Ten Pao
Relevant Standard(s) / Specification(s) / Directive(s)	:	EN 55022: 2010/ Information technology equipment — Radio disturbance characteristics — Limits and methods of measurement EN 61000-3-2: 2006+ A1: 2009+ A2: 2009/ Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions (equipment input current ≤ 16 A per phase) EN 61000-3-3: 2008/ Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection EN 55024: 2010/ Information technology equipment — Immunity characteristics — Limits and methods of measurement EMC Directive 2004/108/EC
Verification Issuing Office Name & Address	:	Same as Legal Entity
Verification/Report Number(s)	:	GZ10090740-1R1/ GZ10090740-1R1

Note 1 : This verification is part of the full test report(s) and should be read in conjunction with it.

Note 2: This verification supersedes previous verification with Verification number GZ10090740-1 dated 26 October, 2010.

CE

Signature

Name: Carrie Chen
Position: Technical Supervisor
Date: 06 July 2012

Intertek Legal Entity: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Address: Block E, No,7-2 Guang Dong Software Science Park, Caipin Road,
Guangzhou Science City, GETDD Guangzhou
Tel / Fax: 86-20-8213 9688/86-20-3205 7538

Annex to Test Verification of Conformity

This is an Annex to Test Verification of Conformity with Verification/Report Number(s): GZ10090740-1R1/ GZ10090740-1R1. The issuing office is Intertek Testing Services Shenzhen Ltd. Guangzhou Branch (Address: Block E, No, 7-2 Guang Dong Software Science Park, Caipin Road Guangzhou Science City, GETDD Guangzhou).

Model(s)	:	**S012WZxxxyyyy** **The "Z" of S012WZxxxyyyy can be replaced by:** **"U" represents United States plug comply with ANSI/UL 1310, or "V" represents European plug comply with EN 50075, or "B" represents UK plug comply with BS 1363-3, or "C" represents China plug comply with GB1002, or "S" represents Australia plug comply with AS/NZS 3112. "T" represents Japan plug comply with appendix 4 of METI ordinance** **The "xxx" represents output voltage from 050(5,0Vdc) to 240(24,0Vdc)," yyyy" represents the output current from 0010(0,1A) to 0200(2,0A).**

Note 1: This annex is part of the Test Verification of Conformity and should be read in conjunction with it.

Signature

Name: Carrie Chen
Position: Technical Supervisor
Date: 06 July 2012

Intertek Legal Entity: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Block E, No.7-2 Guang Dong Software Science Park, Caipin Road,
Guangzhou Science City, GETDD, Guangzhou, China
Tel: (86 20) 8213 9688 Fax: (86 20) 3205 7538
Website: www.china.intertek-etlsemko.com

Test Verification of Conformity

On the basis of the referenced test report(s), the sample(s) of the below product has been found to comply with the relevant harmonized standard(s) to the directive(s) listed on this verification at the time the tests were carried out.
The manufacturer may indicate compliance to only the said directives by signing a DoC himself and may affix the CE marking to products identical to the tested sample(s) if the product complies with all CE marking directives that has the product in their scope. In addition, the manufacturer shall file and keep the documentation according to the rules of the applicable directive(s) and shall consider changes of the standards as they may occur. Additional requirements, additional directives and local laws may be applicable.

Applicant Name & Address	:	Ten Pao Industrial Co.,Ltd Room 10-11, 6/F., Kwong Sang Hong Centre, 151-153 Hoi Bun Road, Kwun Tong, Kowloon, Hong Kong
Manufacturing Site & Address	:	Ten Pao Electronics (Huizhou) Co., Ltd Dongjiang Industrial Area, Shuikou Town, Huizhou City, Guangdong Province, P.R.China
Product(s) Tested	:	Switching Power Supply
Ratings and principal characteristics	:	Input: 100-240 Vac, 50/60 Hz, 400 mA, Class II Output: 5,0 – 24,0 Vdc, 100 - 2000 mA , 12 W Max
Model(s)	:	S012WZxxxyyyy (The "Z" can be replaced by "V" or "B", "V" represents European plug comply with EN 50075, "B" represents UK plug comply with BS1363, The "xxx" represents output voltage from 050(5,0Vdc) to 240(24,0Vdc)," yyyy" represents the output current from 0010(0,1A) to 0200(2,0A)
Brand name	:	® or Ten Pao
Relevant Standard(s) / Specification(s) / Directive(s)	:	EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 Information technology equipment – Safety – Part1:Gerneral requirements Low Voltage Directive 2006/95/EC
Verification Issuing Office Name & Address	:	Same as Intertek Legal Entity
Date of Test(s)	:	15 Oct 2012 – 14 Nov 2012
Verification/Report Number(s)	:	GZ12100030-A / GZ10090429-2, GZ10090429-2R1

NOTE1: This verification is part of the full test report(s) and should be read in conjunction with it.

CE

Signature

Name: Peter Lu
Position: Team Leader
Date: 11 Dec 2012

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