Prüfbericht - Nr.: 16064278 004

Test Report No.:

Auftraggeber: *Client:*	**MPL POWER ELEKTRO Sp. z o.o** **ul. Wschodnia 4044-119 GLIWICE POLAND**
Gegenstand der Prüfung: *Test item:*	**LED POWER SUPPLY**
Bezeichnung: *Identification:*	**GPV-12-12,** **GPV-12-24**
Serien-Nr.: *Serial No.:*	**Engineering samples without serial numbers**
Wareneingangs-Nr.: *Receipt No.:*	**174037713**
Eingangsdatum: *Date of receipt:*	**July 21, 2015**
Zustand des Prüfgegenstandes bei Anlieferung: *Condition of test item at delivery:*	**The sample is OK for testing and not damaged.**
Prüfort: *Testing location:*	**TÜV Rheinland (Guangdong) Ltd.** *No.199 Kezhu Road, Guangzhou Science City 510663 Guangzhou China*
Prüfgrundlage: *Test specification:*	**EN 61347-1:2008 (Second Edition) + A1: 2011 + A2: 2013** **EN 61347-2-13: 2014**
Prüfergebnis: *Test Result:*	**Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n).** *The test item passed the test specification(s).*
Prüflaboratorium: *Testing Laboratory:*	**TÜV Rheinland (Guangdong) Ltd.** *No.199 Kezhu Road, Guangzhou Science City 510663 Guangzhou China*

geprüft/ *tested by:*

Datum *Date*	**Name/Stellung** *Name/Position*	**Unterschrift** *Signature*
Sep.08.2015	Ben Zeng	

kontrolliert/ *reviewed by:*

Datum *Date*	**Name/Stellung** *Name/Position*	**Unterschrift** *Signature*
Sep.8.2015	Pony Xiong	

Sonstiges/ *Other Aspects:*

- Details refer to next page.

Abkürzungen:				*Abbreviations:*			
P(ass)	=	*entspricht Prüfgrundlage*		*P(ass)*	=	*passed*	
F(ail)	=	*entspricht nicht Prüfgrundlage*		*F(ail)*	=	*failed*	
N/A	=	*nicht anwendbar*		*N/A*	=	*not applicable*	
N/T	=	*nicht getestet*		*N/T*	=	*not tested*	

Prüfbericht-Nr.: *Test Report No.:*	**16064278 004**	**Auftrags-Nr.:** *Order No.:*	174037713	Seite 2 von 12 *Page 2 of 12*

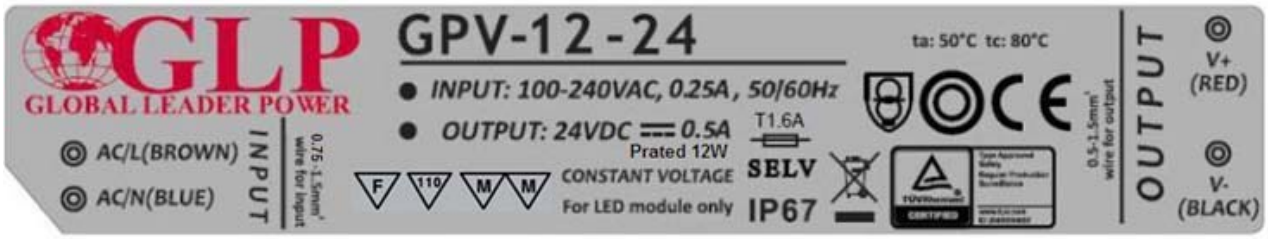
Sonstiges/ *Other Aspects:*

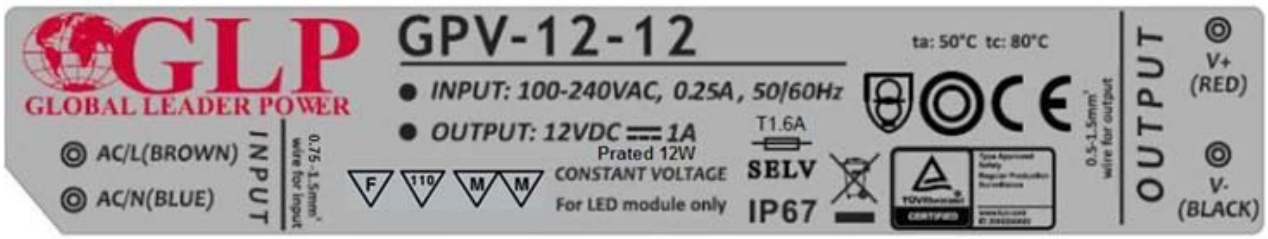
- This report is based on TUV Bauart-mark report **16064278 002**, and upgrade the standard from '**EN 61347-1:2008 (Second Edition) + A1: 2011 + A2: 2013, EN 61347-2-13: 2006**' to '**EN 61347-1:2008 (Second Edition) + A1: 2011 + A2: 2013, EN 61347-2-13: 2014**'. No additionally test needed.
- Add heating test for "MM" mark according to DIN VDE 0710-14.
- Add ANNEX C

Test item description .....:	LED POWER SUPPLY
Trade Mark .....:	GLP GLOBAL LEADER POWER
Manufacturer.....:	Same as applicant
Model/Type reference .....:	1) GPV-12-12, 2) GPV-12-24
Ratings .....:	Input: 100-240Vac, 50/60Hz, 0.25A; Output: 1) 12Vdc, 1A; 2) 24Vdc,0.5A Rated 12W ta=50°C, tc=80°C

Copy of marking plate(s):

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.





Note:

The product shall be evaluated with end product for the M M mark.

Name and address of factory (ies) ..... :	**Changzhou Wujin Hong Guang Radio Co., Ltd.** No.1 Guiyang Road Qingyang Road Wujin Changzhou Jiangsu P.R. China
General product information: Reference original report 16064278 002	

According to DIN VDE 0710-14, the relevant difference are considered:
1. For VDE 0710-14, sub-clause 4.1: The min. cross section of input wire need to be considered.
2. For VDE 0710-14, sub-clause 6.3: The normal and abnormal heating need to be re-evaluated. Details see appended table.
3. Add the MM mark on the label
4. Add ANNEX C

For the above described change(s) the following was considered to be necessary:

Change	Testing	Comments	Verdict
1.	- Sub-clause 4.1	See report on pages 5.	P
2.	- Sub-clause 6.3	See report on pages 5 to 10.	P
3.	- See page 2 on label	See marketing plate and appended table for detail.	P
4.	- ANNEX C	See report on pages 11 to 12	P

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

4.1	The min. cross section of input wire	Min. 0.75mm^2	**P**

6.3	**HEATING TEST for MM mark**

HEATING TEST NORMAL CONDITION for MM mark (VDE 0710-14)							**P**
Check the most unfavourable condition Model: GPV-12-12							
VOLTAGE (V)	1.05 x 240 = 252		INPUT (W)	15.77			
CURRENT (A)	0.119		FREQ. (Hz)	60			
CONDITION/INSTALLATION (voltage, power input, test corner, load, other conditions specified in part 2) The appliance is supplied at 1.05 times rated voltage, mounted as normal use, loaded with rated output, test was stopped until steady condition was established. Test at ta condition							
DURATION Test until steady condition – temperature change not more than +/-1K/hour							
OBSERVATION Operated device: ☐ thermostat ☐temperature limiter ☒others:							
AMB. TEMP.	t1 =50.1°C (before test)		t2 =50.4°C (after test)				
Ch. No.	**Location / Part (by thermocouple)**		**Temp. (°C)**	**Temp. rise (K)**	**Limit (℃)**	**Pass**	**Fail**
1	Enclosure external surface 1		68.2	--	95	Pass	
2	Enclosure external surface 2		74.6	--	95	Pass	
3	Enclosure external surface 3		69.7	--	95	Pass	
4	Enclosure external surface 4		70.5	--	95	Pass	
5	Ambient		50.0	--	--	Pass	
Note:--							

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

HEATING TEST NORMAL CONDITION for MM mark (VDE 0710-14)							**P**
Check the most unfavourable condition Model: GPV-12-24							
VOLTAGE (V)	1.05 x 240 = 252		INPUT (W)	15.46			
CURRENT (A)	0.121		FREQ. (Hz)	60			
CONDITION/INSTALLATION (voltage, power input, test corner, load, other conditions specified in part 2) The appliance is supplied at 1.05 times rated voltage, mounted as normal use, loaded with rated output, test was stopped until steady condition was established. Test at ta condition							
DURATION Test until steady condition – temperature change not more than +/-1K/hour							
OBSERVATION Operated device: ☐ thermostat ☐temperature limiter ☒others:							
AMB. TEMP.	t1 =50.2°C (before test)		t2 =50.7°C (after test)				
Ch. No.	**Location / Part (by thermocouple)**		**Temp. (°C)**	**Temp. rise (K)**	**Limit (℃)**	**Pass**	**Fail**
1	Enclosure external surface 1		67.4	--	95	Pass	
2	Enclosure external surface 2		69.7	--	95	Pass	
3	Enclosure external surface 3		66.6	--	95	Pass	
4	Enclosure external surface 4		71.2	--	95	Pass	
5	Ambient		50.0	--	--	Pass	
Note:--							

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

HEATING TEST NORMAL CONDITION for MM mark (VDE 0710-14)							**P**
Check the most unfavourable condition Model: GPV-12-12							
VOLTAGE (V)	1.1 x 240 = 264		INPUT (W)	15.88			
CURRENT (A)	0.117		FREQ. (Hz)	60			
CONDITION/INSTALLATION (voltage, power input, test corner, load, other conditions specified in part 2) The appliance is supplied at 1.1 times rated voltage, mounted as normal use, loaded with rated output, test was stopped until steady condition was established. Test at ta condition							
DURATION Test until steady condition – temperature change not more than +/-1K/hour							
OBSERVATION Operated device: ☐ thermostat ☐temperature limiter ☒others:							
AMB. TEMP.	t1 =68.4°C (before test)		t2 =69.2°C (after test)				
Ch. No.	**Location / Part (by thermocouple)**		**Temp. (°C)**	**Temp. rise (K)**	**Limit (℃)**	**Pass**	**Fail**
1	Enclosure external surface 1		68.7	--	95	Pass	
2	Enclosure external surface 2		75.5	--	95	Pass	
3	Enclosure external surface 3		70.5	--	95	Pass	
4	Enclosure external surface 4		70.7	--	95	Pass	
5	Ambient		50.0	--	--	Pass	
Note:--							

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

HEATING TEST NORMAL CONDITION for MM mark (VDE 0710-14)							**P**
Check the most unfavourable condition Model: GPV-12-24							
VOLTAGE (V)	1.1 x 240 = 264		INPUT (W)	15.50			
CURRENT (A)	0.112		FREQ. (Hz)	60			
CONDITION/INSTALLATION (voltage, power input, test corner, load, other conditions specified in part 2) The appliance is supplied at 1.1 times rated voltage, mounted as normal use, loaded with rated output, test was stopped until steady condition was established. Test at ta condition							
DURATION Test until steady condition – temperature change not more than +/-1K/hour							
OBSERVATION Operated device: ☐ thermostat ☐temperature limiter ☒others:							
AMB. TEMP.	t1 =50.3°C (before test)		t2 =50.3°C (after test)				
Ch. No.	**Location / Part (by thermocouple)**		**Temp. (°C)**	**Temp. rise (K)**	**Limit (℃)**	**Pass**	**Fail**
1	Enclosure external surface 1		67.8	--	95	Pass	
2	Enclosure external surface 2		70.1	--	95	Pass	
3	Enclosure external surface 3		67.1	--	95	Pass	
4	Enclosure external surface 4		71.2	--	95	Pass	
5	Ambient		50.0	--	--	Pass	
Note:--							

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

HEATING TEST ABNORMAL CONDITION for MM mark (VDE 0710-14)							**P**
Check the most unfavourable condition Model: GPV-12-12							
VOLTAGE (V)	1.1 x 240 = 264		INPUT (W)	0.52			
CURRENT (A)	0.02		FREQ. (Hz)	60			
CONDITION/INSTALLATION (voltage, power input, test corner, load, other conditions specified in part 2) The appliance is supplied at 1.1 times rated voltage, mounted as normal use, loaded with rated output, test was stopped until steady condition was established. Then the output terminal was short-circuited. Test at ta condition							
DURATION Test until steady condition – temperature change not more than +/-1K/hour							
OBSERVATION Operated device: ☐ thermostat ☐temperature limiter ☒others:							
AMB. TEMP.	t1 =50.9°C (before test)		t2 =50.2°C (after test)				
Ch. No.	**Location / Part (by thermocouple)**		**Temp. (°C)**	**Temp. rise (K)**	**Limit (℃)**	**Pass**	**Fail**
1	Enclosure external surface 1		53.3	--	115	Pass	
2	Enclosure external surface 2		55.2	--	115	Pass	
3	Enclosure external surface 3		54.1	--	115	Pass	
4	Enclosure external surface 4		54.2	--	115	Pass	
5	Ambient		50.0	--	--	Pass	
Note:--							

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

HEATING TEST ABNORMAL CONDITION for MM mark (VDE 0710-14)							**P**
Check the most unfavourable condition Model: GPV-12-24							
VOLTAGE (V)	1.1 x 240 = 264		INPUT (W)	0.68			
CURRENT (A)	0.02		FREQ. (Hz)	50			
CONDITION/INSTALLATION (voltage, power input, test corner, load, other conditions specified in part 2) The appliance is supplied at 1.1 times rated voltage, mounted as normal use, loaded with rated output, test was stopped until steady condition was established. Then the output terminal was short-circuited. Test at ta condition							
DURATION Test until steady condition – temperature change not more than +/-1K/hour							
OBSERVATION Operated device: ☐ thermostat ☐temperature limiter ☒others:							
AMB. TEMP.	t1 =50.8°C (before test)		t2 =50.3°C (after test)				
Ch. No.	**Location / Part (by thermocouple)**		**Temp. (°C)**	**Temp. rise (K)**	**Limit (℃)**	**Pass**	**Fail**
1	Enclosure external surface 1		55.1	--	115	Pass	
2	Enclosure external surface 2		56.0	--	115	Pass	
3	Enclosure external surface 3		55.2	--	115	Pass	
4	Enclosure external surface 4		56.5	--	115	Pass	
5	Ambient		50.0	--	--	Pass	
Note:--							

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
C	**ANNEX C – PARTICULAR REQUIREMENTS FOR ELECTRONIC LAMP CONTROLGEAR WITH MEANS OF PROTECTION AGAINST OVERHEATING**		P
C3	**GENERAL REQUIREMENTS**		N/A
C3.1	Thermal protection means integral with the convertor, protected against mechanical damage	No such marking	N/A
	Renewable only by means of a tool		N/A
	If function depending on polarity, for cord-connected equipment protection means in both leads		N/A
	Thermal links comply with IEC 60691		N/A
	Electrical controls comply with IEC 60730-2-3		N/A
C3.2	No risk of fire by breaking (clause C7)		N/A
C5	**CLASSIFICATION**		P
	a) automatic resetting type		—
	b) manual resetting type		—
	c) non-renewable, non-resetting type		—
	d) renewable, non-resetting type		—
	e) other type of thermal protection; description .. :	The EUT protected by electronic circuit	P
C6	**MARKING**		P
C6.1	Symbol for temperature declared thermally protected ballasts		P
C6.2	Declaration of the type of protection provided	Provided on user manual	P
C7	**LIMITATION OF HEATING**		P
C7.1	Preselection test:		P
	Test sample placed for at least 12 h in an oven having temperature (t_c - 5) K		P
	No operation of the protection device		P
C7.2	Functioning of protection means:		P
	Normal operation of the sample in a test enclosure according to Annex D at an ambient temperature such that (t_c +0; -5) °C is obtained		P
	No operation of the protection device		P
	Introducing of the most onerous test condition determined during test of clause 14		P
	Output of windings connected to the mains supply short-circuited, and other part of the convertor operated under normal conditions		N/A

IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	Increasing of the current through the windings continuously until operation of the protection means		N/A
	Continuous measuring of the highest surface temperature		N/A
	Ballasts according to C5 a) or C5 e) operated until stable conditions are achieved		N/A
	Automatic-resetting thermal protectors working 3 times		N/A
	Ballasts according to C5 b) working 6 times		N/A
	Ballasts according to C5 c) and C5) d) working once		N/A
	Highest temperature does not exceed the marked value		P
	Any overshoot of 10% over the marked value within 15 min		P