TEST REPORT

On Behalf of

Prepared For :	**DISTRIBUCIONES SOLARES DEL PRINCIPADO SL** POLIGONO LA ROZA.33199. (GRANDA-SIERO).ASTURIAS.SPAIN
Trade Mark :	ELEKSOL
Product Name :	**SOLAR BATTERY/GEL BATTERY/LEAD ACID BATTERY/AGM DEEP CYCLE BATTERY**
Model :	**OPzV-3000,** 6-GFM-33G, 6-GFM-38G, 6-GFM-40G, 6-GFM-55G, 6-GFM-65G, 6-GFM-75G, 6-GFM-90G, 6-GFM-100G, 6-GFM-120G, 6-GFM-150G, 6-GFM-180G, 6-GFM-200G, 6-GFM-250G, 6-GFM-300G, OPzS-200, OPzS-250, OPzS-300, OPzS-350, OPzS-420, OPzS-500, OPzS-600, OPzS-800, OPzS-1000, OPzS-1200, OPzS-1500, OPzS-2000, OPzS-2500, OPzS-3000, OPzV-150, OPzV-200, OPzV-250, OPzV-300, OPzV-350, OPzV-420, OPzV-500, OPzV-600, OPzV-800, OPzV-1000, OPzV-1200, OPzV-1500, OPzV-2000, OPzV-2500, 3GFM550, 3GFM300
Prepared By:	**Shenzhen ZTS Testing Service Co., Ltd.** 808, Building 1, 7th Industrial Zone, Yulv Community, Yutang Street, Guangming District, Shenzhen, Guangdong, China Tel: 400-8788-298 Tel:0755-23245950 Email: zts@zts-test.com Web: www.zts-test.com
Test Date:	**May 14, 2021- May 20, 2021**
Date of Report:	**May 20, 2021**
Report No. :	**ZTS21051902DRS**

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior written consent of Shenzhen ZTS Testing Service Co., Ltd.

TEST REPORT

EN 60896-21:2004& EN 60896-22:2004

Reference No. :	ZTS21051902DRS
Contents :	12 pages
Date of issue :	May 20, 2021

Testing laboratory

Name :	Shenzhen ZTS Testing Service Co., Ltd.
Address……..……..:	808, Building 1, 7th Industrial Zone, Yulv Community, Yutang Street, Guangming District, Shenzhen, Guangdong, China
Testing location :	Same as above

Client

Name.....:	DISTRIBUCIONES SOLARES DEL PRINCIPADO SL
Address…….. ..:	POLIGONO LA ROZA.33199. (GRANDA-SIERO).ASTURIAS.SPAIN

Test specification

Standard :	EN 60896-21:2004&EN 60896-22:2004
Test procedure :	Type Approval
Non-standard test method :	N.A.

Test item

Description :	SOLAR BATTERY/GEL BATTERY/LEAD ACID BATTERY/AGM DEEP CYCLE BATTERY
Trademark :	ELEKSOL
Model and/or type reference :	OPzV-3000
Manufacturer :	YINGDE AOKLY POWER CO.,LTD
Address……..:	HUAQIAO INDUSTRIAL ZONE,DONGHUA TOWN,YINGDE CITY, GUANGDONG PROVINCE,CHINA
Rating(s) :	2V, 3000AH, and refer to Table 1

Testing procedure and testing location

Laboratory name……	:	Shenzhen ZTS Testing Service Co., Ltd.
Testing location/address:	:	808, Building 1, 7th Industrial Zone, Yulv Community, Yutang Street, Guangming District, Shenzhen, Guangdong, China
Testing lprocedure	:	TL ☒ RMT ☐ SMT ☐ WMT ☐ TMP ☐
Prepared by (Engineer)	:	Jeffrey Wang
Reviewer by (Quality Manager)	:	Tony mo
Approved by (Manager)	:	Bert Yang

POSSIBLE TEST CASE VERDICTS:	
- test case does not apply to the test object.....	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
TESTING:	
Date of receipt of test item.....	May 14, 2021
Date (s) of performance of tests.....	May 14, 2021- May 20, 2021
General product information: The equipment is a Vault C-Smart Wireless Powerpack for the general use in Audio/video, information and communication technology equipment.	

GENERAL REMARKS:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
"(see Enclosure #)" refers to additional information appended to the report.
"(see appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

When determining the test result, measurement uncertainty has been considered.

Name and address of factory (ies) .....:	Same as manufacturer

List of Attachments:
ATTACHMENTS 1: Photograph.

Summary of testing:

Tests performed:
The submitted samples were found to comply with the requirements of:
EN 60896-21:2004&EN 60896-22:2004

Label

SOLAR BATTERY/GEL BATTERY/LEAD ACID BATTERY/AGM DEEP CYCLE BATTERY
Model : OPzV-3000
Rating : 2V, 3000AH

YINGDE AOKLY POWER CO.,LTD
Made in China

Remark:

- Size of CE mark must be in correct ratio and ≥ 5mm in height, and size of WEEE mark must be in correct ratio and ≥ 7mm in height,
- The product was submitted and tested for use at the manufacturer's recommended ambient temperature (Tma) of 25°C.
- All models are identical to the main test model OPzV-3000., there are same electronic circuit and constru, except the sizes and rated power. Unless otherwise specified, the model OPzV-3000. was chosen asrepresentative model to perform all test.

Table 1: Parameters of the application model.			
Serial number	model	Rated voltage (V)	Rated Capacity (AH)
1	6-GFM-33G	12	33
2	6-GFM-38G	12	38
3	6-GFM-40G	12	40
4	6-GFM-55G	12	55
5	6-GFM-65G	12	65
6	6-GFM-75G	12	75
7	6-GFM-90G	12	90
8	6-GFM-100G	12	100
9	6-GFM-120G	12	120
10	6-GFM-150G	12	150
11	6-GFM-180G	12	180
12	6-GFM-200G	12	200
13	6-GFM-250G	12	250
14	6-GFM-300G	12	300
15	OPzS-200	2	200
16	OPzS-250	2	250
17	OPzS-300	2	300
18	OPzS-350	2	350
19	OPzS-420	2	420
20	OPzS-500	2	500
21	OPzS-600	2	600
22	OPzS-800	2	800
23	OPzS-1000	2	1000
24	OPzS-1200	2	1200
25	OPzS-1500	2	1500
26	OPzS-2000	2	2000
27	OPzS-2500	2	2500
28	OPzS-3000	2	3000
29	OPzV-150	2	150
30	OPzV-200	2	200
31	OPzV-250	2	250
32	OPzV-300	2	300
33	OPzV-350	2	350
34	OPzV-420	2	420
35	OPzV-500	2	500
36	OPzV-600	2	600
37	OPzV-800	2	800
38	OPzV-1000	2	1000
39	OPzV-1200	2	1200

Table 1: Parameters of the application model.			
Serial number	model	Rated voltage (V)	Rated Capacity (AH)
40	OPzV-1500	2	1500
41	OPzV-2000	2	2000
42	OPzV-2500	2	2500
43	OPzV-3000	2	3000
44	3GFM550	6	550
45	3GFM300	6	300

Test item		
6.1	Gas emission	To determine the emitted gas volume
6.2	High current tolerance	To verify the adequacy of current conduction cross-sections
6.3	Short circuit current and d.c. Internal resistance	To provide data for the sizing of fuses in the exterior circuit
6.4	Protection against internal ignition from external spark sources	To evaluate the adequacy of protective features
6.5	Protection against ground short propensity	To evaluate the adequacy of design features
6.6	Content and durability of required markings	To evaluate the quality of the markings and the content of the information
6.7	Material identification	To ensure the presence of material identification markings
6.8	Valve operation	To ensure the correct opening of safety valves
6.9	Flammability rating of materials	To verify the fire hazard class of Lead-Acid Battery material
6.10	Inter cell connector performance	To verify the maximum surface temperatures of the connectors during high rate discharges
6.11	Discharge capacity	To verify the available capacities at selected discharge rates or discharge durations.
6.20	Dimensional stability at elevated internal pressures and temperatures	To verify the pressures and temperatures
6.21	Stability against mechanical abuse of units during installation	Authentication security

1	**6.1 Requirements for gas emission information**		
	The test methods are according to clause 6.1.1 to 6.1.14 which are stated in the standard EN 60896-21 Requirement and application: see table 4 in the standard EN 60896-22	OPzV-3000: At the rated float charge voltage U_{flo}=2.25V/(Ah*h*cell) at 25°C: 1#: Ge=0,0018ml/(Ah·h) 2#: Ge=0,0017ml/(Ah·h) 3#: Ge=0,0019ml/(Ah·h) At 2,40 Vpc overcharge voltage conditions at 25°C: 1#: Ge=0,0021ml/(Ah·h) 2#: Ge=0,0020ml/(Ah·h) 3#: Ge=0,0022ml/(Ah·h)	State the value
2	**6.2 Requirement for high current tolerance**		
	The test methods are according to clause 6.2.1 to 6.2.6 which are stated in the standard EN 60896-21 Requirement and application: see table 5 in the standard EN 60896-22	OPzV-3000: It has no any damage after 30 s of high current flow. Voltage after open circuit for 5min: 1#: U=2.61V 2#: U=2.58V 3#: U=2.60V	P
3	**6.3 Requirement for short-circuit current and d. c. internal resistance information**		
	The test methods are according to clause 6.3.1 to 6.3.6 which are stated in the standard EN 60896-21 Requirement and application: see table 6 in the standard EN 60896-22	OPzV-3000: 1#: I_{sc}=2649A R_i =4.53mΩ 2#: I_{sc}=2631A Ri =4.56mΩ 3#: I_{sc}=2661A Ri =4.51mΩ	State the value
4	**6.4 Requirement for protection against internal ignition from external spark sources**		
	The test methods are according to clause 6.4.1 to 6.4.6 which are stated in the standard EN 60896-21 Requirement and application: see table 7 in the standard EN 60896-22	Compliant	P
5	**6.5 Requirement for protection against ground short propensity**		
	The test methods are according to clause 6.5.1 to 6.5.9 which are stated in the standard EN 60896-21 Requirement and application: see table 8 in the standard EN 60896-22	Absence of ground short/leakage phenomena	P
6	**6.6 Requirement for content and durability of required markings**		
	The durability of the marking shall be tested according to clause 1.7.13 of IEC 60950-1 and the content of marking shall meet the requirement of IEC60896-22 Requirement and application: see table 9 and table10 in the standard EN 60896-22	Information remain readable after test and content meet requirement	P
7	**6.7 Requirement for material identification**		
	The test methods are according to clause 6.7.1 to 6.7.4 which are stated in the standard EN 60896-21 Requirement and application: see table 11 in the standard EN 60896-22	All the symbol remain readable	P
8	**6.8 Requirement for the operation of the valve**		
	The test methods are according to clause 6.8.1 to 6.8.3 which are stated in the	The valve adequate opening Gas release detected before and after stress temperature	P

	standard EN 60896-21 Requirement and application: see table 12 in the standard EN 60896-22	impact test	
9	**6.9 Requirement for definition of the flammability rating of the materials**		
	The test methods are according to clause 6.9.1 to 6.9.4 which are stated in the standard EN 60896-21 Requirement and application: see table 13 in the standard EN 60896-22	OPzV-3000: HB 40, V-0	State the value
10	**6.10 Requirement for performance of the intercell connector**		
	The test methods are according to clause 6.9.1 to 6.9.4 which are stated in the standard IEC60896-21 Requirement and application: see table 14 in the standard EN 60896-22	OPzV-3000: The maximum temperature: 56°C	State the value
11	**6.11 Requirement for discharge capacity performance**		
	The test methods are according to clause 6.11.1 to 6.11.12 which are stated in the standard EN 60896-21 Requirement and application: see table 15 in the standard EN 60896-22	OPzV-3000: See the Table 2	P
12	**6.20 Dimensional stability at elevated internal pressures and temperatures**		
	The test methods are according to clause 6.20.1 to 6.20.6 which are stated in the standard EN 60896-21 Requirement and application: see table 24 in the standard EN 60896-22	OPzV-3000: Change in: Length:0,54% +2mm Width:0.71% +2mm Height:0,86% +3mm	State the value
13	**6.21Stability against mechanical abuse of units during installation**		
	The test methods are according to clause 6.21.1 to 6.21.6 which are stated in the standard EN 60896-21	No leakageNo broken	P

Table 2: 6.11-Discharge capacity(OPzV-3000)				
Capacity \ Sample No.		1#	2#	3#
C_{rt}=3000.0 Ah	C10 (Ah)	3063	3078	3051
C_{rt}=3000.0 Ah	%of C_{rt}	3063	3078	3051
C_{rt}=2850.0 Ah	C8 (Ah)	2982	2991	2973
C_{rt}=2850.0 Ah	%of C_{rt}	3138	3147	3129
C_{rt}=2250.0 Ah	C3 (Ah)	2715	2727	2697
C_{rt}=2250.0 Ah	%of C_{rt}	3621	3636	3597
C_{rt}=1650.0 Ah	C1 (Ah)	1995	2001	1977
C_{rt}=1650.0 Ah	%of C_{rt}	3627	3639	3594
C_{rt}=1260.0 Ah	C0.25 (Ah)	1437	1458	1434
C_{rt}=1260.0 Ah	%of C_{rt}	3420	3471	3414
Remark	25°C $C_a \geq 95\%C_{rt}$			

ATTACHMENTS 1: REAL PHOTOS

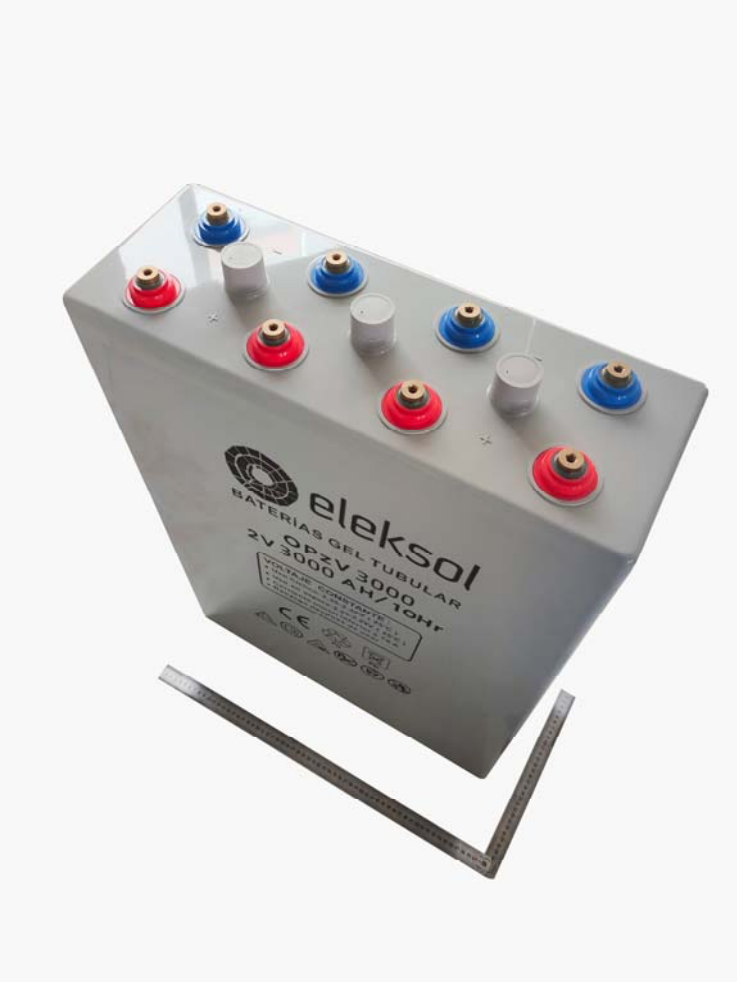

Photo 1

*****End of the report*****