

# Test Report

No.: EM160105006RE003

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**Applicant** : Master Battery, S.L.  
**Address** : La Dehesa Industrial Area, 2 Dehesa Vieja Street  
28052 Madrid, Spain  
**Manufacturer** : Master Battery, S.L.  
**Address** : La Dehesa Industrial Area, 2 Dehesa Vieja Street,  
28052 Madrid, Spain

**Sample Name** : Beta-30K  
**Model/Type** : Beta-20K、Beta-25K、Beta-30K、Beta-36K-HV、Beta-40K-HV

**Received Date** : Mar. 16, 2016  
**Testing Period** : Mar. 17, 2016~ Mar. 24, 2016

**Test Item** : Low Temperature Test; High Temperature Test;  
Thermal Shock Test; Temperature and Humidity Storage Test

**Testing Requested** : IEC60068-2-1-2007; IEC60068-2-2-2007;  
IEC60068-2-14-2005; IEC60068-2-30-2009

**Testing Results** : Please refer to page 3, 6, 9, 12.

Signed for and on behalf of  
EMTEK (Shenzhen) Co., Ltd.

Inspected by: Zuo Luo  
Zuo Luo  
Inspected engineer

Reviewed by: Shine  
Shine  
Reviewed engineer

Approved by: Lewis  
Lewis  
Authorized signatory  
Apr. 08, 2016

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## Tested Sample:

Sample No.	Sample Name	Model/Type	Quantity
EM160105006RE003-001	Beta-30K	Beta-20K、Beta-25K、Beta-30K、 Beta-36K-HV、Beta-40K-HV	1 PC

## Test Sequence:

Test Sequence	Test Item	Sample No.
1	Low Temperature Test	001
2	High Temperature Test	
3	Thermal Shock Test	
4	Temperature and Humidity Storage Test	

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## Test Item 1: Low Temperature Test

### (1) Test Equipment:

Name	Model	Serial No.	Valid Date to
Temperature & Humidity Test Chamber	DSW1440	ER-005	May. 24, 2016

(2) **Environmental Conditions:** Temperature: 23.5°C; Humidity: 56%RH

(3) **Test Sample:** EM160105006RE003-001

(4) **Reference Standard:** IEC60068-2-1-2007

### (5) Test Conditions:

Low Temperature Test:  $-25^{\circ}\text{C} \rightarrow -30^{\circ}\text{C} \rightarrow -35^{\circ}\text{C} \rightarrow -40^{\circ}\text{C} \rightarrow -45^{\circ}\text{C} \rightarrow -50^{\circ}\text{C}$

Each temperature is maintained at 4 hours, and at the end of each temperature point, start the machine, and it is fully loaded with 10mins.

(6) **Acceptance Criteria:** Appearance and function.

(7) **Test Results:** After the test, there was no change on the appearance of sample. Function was normal.

(8) **Test Photos and Curves Refer to Appendix**

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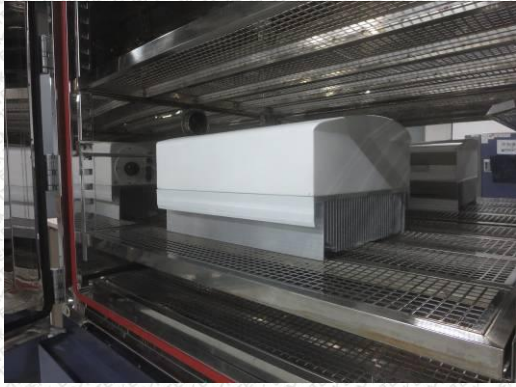



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Appendix: Low Temperature Test Photos

	
Before the test	In the test
	/
After the test	/

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## Appendix: Low Temperature Test Curves



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**Test Item 2: High Temperature Test****(1) Test Equipment:**

Name	Model	Serial No.	Valid Date to
Temperature & Humidity Test Chamber	DSW0240	ER-011	Jul. 09, 2016

**(2) Environmental Conditions:** Temperature: 23.5°C; Humidity: 56%RH**(3) Test Sample:** EM160105006RE003-001**(4) Reference Standard:** IEC60068-2-2-2007**(5) Test Conditions:**

Sample status: Inverter full load working with thermal sensor removed.
High Temperature Test: 60°C, 72 hours

**(6) Acceptance Criteria:** Appearance and function.**(7) Test Results:** After the test, there was no change on the appearance of sample. Function was normal.**(8) Test Photos and Curves Refer to Appendix**

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Appendix: High Temperature Test Photos

	
Before the test	In the test
	/
After the test	/

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## Appendix: High Temperature Test Curves



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## Test Item 3: Thermal Shock Test

### (1) Test Equipment:

Name	Model	Serial No.	Valid Date to
Temperature thermal shock chamber	TS300	ER-007	May. 06, 2016

(2) **Environmental Conditions:** Temperature: 23.5°C; Humidity: 56%RH

(3) **Test Sample:** EM160105006RE003-001

(4) **Reference Standard:** IEC60068-2-14-2005

### (5) Test Conditions:

Sample status: Inverter full load working.
Thermal Shock Test:
a) -25°C, keep 1h → 60°C, keep 1h
b) Cycling 36 times, a total of 72 hours
c) Temperature conversion time: <10s

(6) **Acceptance Criteria:** Appearance and function.

(7) **Test Results:** After the test, there was no change on the appearance of sample. Function was normal.

(8) **Test Photos and Curves Refer to Appendix**

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Appendix: Thermal Shock Test Photos

	
Before the test	In the test
	/
After the test	/

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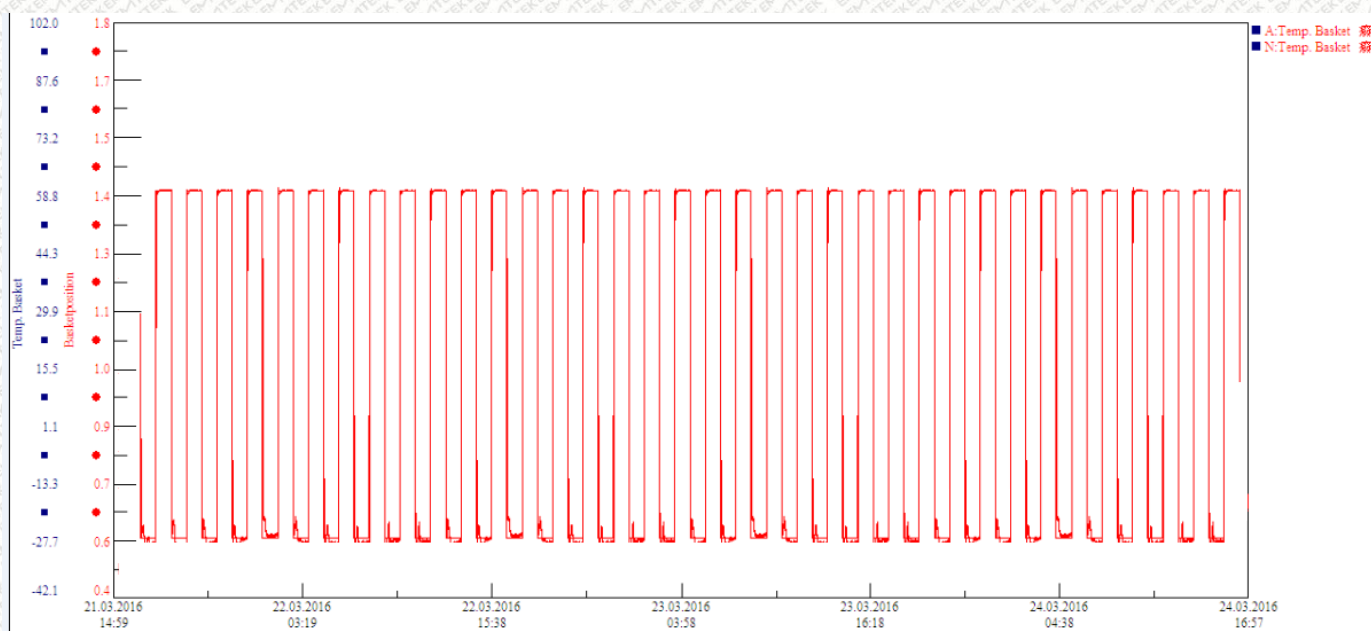


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## Appendix: Thermal Shock Test Curves



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**Test Item 4: Temperature and Humidity Storage Test****(1) Test Equipment:**

Name	Model	Serial No.	Valid Date to
Rapid temperature change test chamber	QW0570P2W10	ER-069	May. 24, 2016

**(2) Environmental Conditions:** Temperature: 23.5°C; Humidity: 56%RH**(3) Test Sample:** EM160105006RE003-001**(4) Reference Standard:** IEC60068-2-30-2009**(5) Test Conditions:**

Sample status: Non working status
Temperature and Humidity Storage Test: 75°C, 98%RH, keep 120 hours

**(6) Acceptance Criteria:** Appearance and function.**(7) Test Results:** After the test, there was no change on the appearance of sample. Function was normal.**(8) Test Photos and Curves Refer to Appendix**

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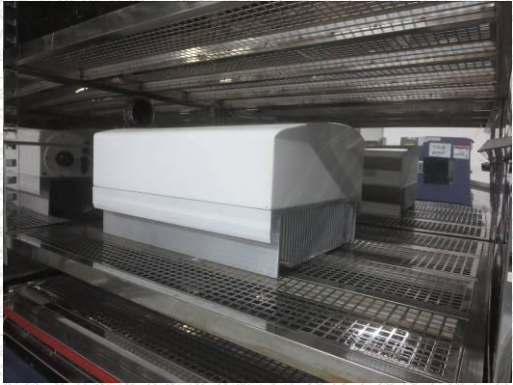




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## Appendix: Temperature and Humidity Storage Test Photos

	
Before the test	In the test
	
After the test	Temperature display

\*\*\* End of Report \*\*\*

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