Intec Industries Co., Ltd.
Room 2703, Well Tech Centre
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Tel : (852) 2885 1100
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SPECIFICATION

Type:	Ni-MH Cylindrical Cell
Model No.:	IMH-1800AAL
Prepared:	HML
Approved:	LFX
Date:	June 18, 2014

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1. PREFACE

This specification applies to the Intec Nickel-Metal Hydride Cylindrical batteries or battery packs. Intec reserves the right to alter the product design or amend this specification without prior notice.

2. SCOPE

This specification applies to nickel metal hydride cylindrical rechargeable single cell with industrial flat hat button.
Type: IMH-1800AAL
Size: 7/5AA

3. CHARACTERISTICS

- Nominal Voltage : 1.2 V
- Nominal Capacity : 1800 mAh
- Standard Charge : 180 mA x 16h
- Quick Charge : 900 mA x 2.4h (-ΔV =5mV detection required)
- Trickle Charge : 54 - 90 mA x permanent
- Discharge cut-off voltage: 1.0 V/unit (20℃)
- Operating Temperature Range: (Max relative Humidity 85%)
  - Standard charge: 0 ～ ＋30℃
  - Quick charge : +10 ～ ＋45℃
  - Trickle charge : +10 ～ ＋45℃
  - Discharge : －20 ～ ＋60℃
- Storage temperature range. (Max relative Humidity 85%)
  - Within two years -20 ～ ＋30℃
  - Within two months -20 ～ ＋45℃
  - Within one month -20 ～ ＋55℃
  - Within one week -20 ～ ＋60℃

4. DIMENSION / WEIGHT

Dimensions: $\Phi 14.0^{\pm 0.5} \times 64.5^{\pm 0.8}$ (mm)

Gross weight: 32 (g)

5. CELL PERFORMANCE

5.1 TEST REQUIREMENTS

The following conditions are for new batteries (within one month after delivery under the test method of 5.2.2).
Environmental temperature: +15 ~ +25℃. Relative humidity: 45% ~ 85%.

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5.2 TEST METHOD AND PERFORMANCES

5.2.1 APPEARANCE
The battery should be free from stretches, dirt, dents, and rusts.

5.2.2 CAPACITY
Charge with 0.1C for 16 hours then discharge with 0.2C to the end-voltage 1.0 V/unit, the capacity shall be more than 1800 mAh.

5.2.3 OPEN-CIRCUIT VOLTAGE
The open-circuit voltage within one hour after full charge shall be more than 1.25V/unit.

5.2.4 INTERNAL IMPEDANCE
Within one hour after full charge, the internal impedance shall be less than 30 mΩ/cell.

5.2.5 HIGH RATE DISCHARGE
The capacity shall be more than 1530 mAh with the constant discharge current of 1800mA to the end voltage of 1.0V/unit after the battery is fully charged.

5.2.6 SELF-DISCHARGE
The capacity shall be more than 1080 mAh after the storage of 28 days for the fully charged battery.

5.2.7 OVER-CHARGE I
The battery shall not cause salting, leakage or reformation when charged at 180 mA for 48 hours and the capacity shall be more than 1800 mAh.

5.2.8 OVER DISCHARGE
The battery shall not cause reformation when it is discharged for 24 hours with the external resistance at 10Ω

5.2.9 LIFE-SPAN(CUSTOM)
The capacity shall be more than 1080 mAh after 500 cycles with the test conditions as follow:

TEST CONDITION

Cycle-th	Charge	Rest	Discharge
1	Charge at 0.1C/5 f or 14 hours	None	Discharge at 0.25C/5 for 2.33 h
2 ~ 48	Charge at 0.25C/5 for 3.17 hours	None	Discharge at 0.25C/5 for 2.33 h
49	Charge at 0.25C/5 for 3.17 hours	None	Discharge at 0.25C/5 to 1.0V/unit
50	Charge at 0.1C/5 for 14 hours	1 ~ 4 hours	Discharge at 0.2C/5 to 1.0V/unit

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5.2.10 STORAGE

Within 14 days, the battery shall not cause leakage at 30-60℃ with the relative humidity at 75%-85%.

5.2.11 VIBRATION

The battery shall not cause damage to its performances when tested with the amplitude at 4 mm (0.158 inch) and the frequency at 1000Hz.

5.2.12 DROP TEST

The battery shall keep normal when dropped from a height of 450 mm (17.716 inch) to the wooden board.

5.2.13 SHORT CIRCUIT

The fully charged battery shall not explode when shorted directly by wires.

5.2.14 INCORRECT POLARITY CHARGE

The battery shall not explode when charged for 5 hours with the polarity being reverse.

5.2.15 OVER CHARGE II

The battery shall not explode when charged at 1C for 1 hour.

6 CAUTION

A. The end-voltage is recommended at 1.0±0.1V/cell.

B. The battery may go fail when shorted, over-charged or charged with incorrect polarity.

C. Avoid soldering directly to the battery.

D. Do not dispose of in fire and keep away from damage.

7 REFERENCE

Please refer to Intec's Customer Service if there is any question on using batteries.

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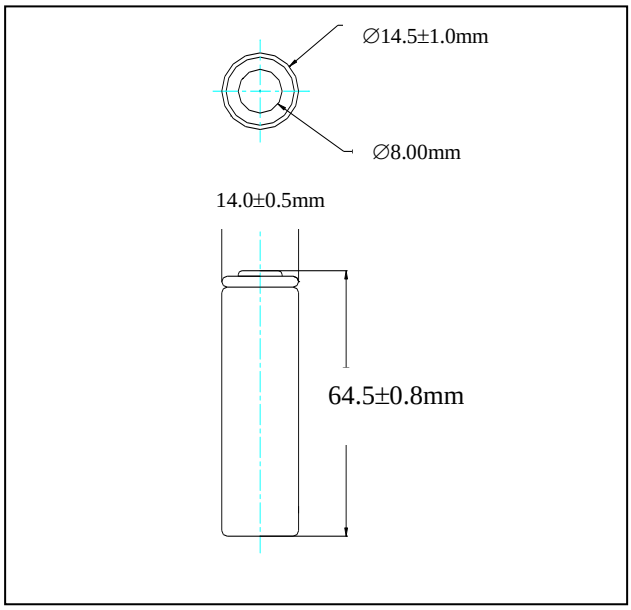
Specifications

Nominal voltage			**1.2V**	
Capacity (mAh)			**C/5**	**C**
	Nominal		**1800**	**1530**
	Typical		**1830**	**1555**
Diameter			**0.55±0.02 in** **14.0±0.5 mm**	
Height			**2.54±0.03 in** **64.5 ±0.8 mm**	
Weight			**32g**	
Internal impedance at 1000Hz.			**30mΩ** **(After charge)**	
Charge	**Standard**		**180mA×16hrs.**	
	Quick		**900mA×2.4hrs.** **-ΔV = 5mV**	
	Trickle	**Max.**	**90mA**	
		Min.	**54mA**	
Ambient temperature	**Charge**	**Standard**	**0℃ ~ 30℃**	
		Quick	**10℃ ~ 45℃**	
	Discharge		**-20℃ ~ 60℃**	
	Storage		**-20℃ ~ 30℃**	

Note:

1. **Nominal capacity, rated at C/5, 20℃.**
2. **Other capacities are for reference.**
3. **Weight and internal impedance are for reference.**



Typical characteristics