



Intec Industries Co., Ltd.
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SPECIFICATION

Type:	Ni-CD Cylindrical Cell
Model No.:	IF-800Cs
Prepared:	HML
Approved:	LFX
Date:	Nov 10, 2006



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1. PREFACE

This specification applies to the Intec Nickel Cadmium 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 a Nickel Cadmium cylindrical rechargeable single cell with INTEC designation IF-800Cs

3. REFERENCE DOCUMENT

IEC60285 Edition 3.2 1999-06: Sealed Ni-Cd cylindrical rechargeable single cells.

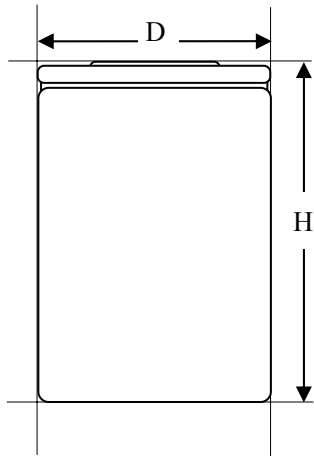
4. GENERAL ELECTRICAL SPECIFICATION

ITEM	SPECIFICATION	UNITS	NOTES
INTEC cell designation	IF-800Cs		
Nominal Voltage	1.2	Volt	
IEC Rated Capacity	800	mAh	at C/5
Typical Capacity	840	mAh	at C/5, to 1.0V
Typical Capacity	750	mAh	at C, to 1.0V
Typical Impedance	20	mΩ	at 1000 Hz, fully charged
CHARGE CURRENT			
Standard (16 hrs)	80	mA	C/10
Quick (3 - 4 hrs)	240	mA	-ΔV=10mV / cell temp < 50°C
Trickle (after fast charge)	25 – 40	mA	
MAX. DISCHARGE CURRENT			
Continuous	2.4	A	
Pulse (1 second)	10	A	
TEMPERATURE RANGE			
In Standard Charge	+10 to +45	°C	
In Quick Charge	+5 to +45	°C	
In Discharge	-20 to +60	°C	
In Recommended Storage.	+5 to +25	°C	
In Extended Storage.	-20 to +40	°C	< 1 month



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5. GENERAL MECHANICAL SPECIFICATION



CELL DIMENSIONS (with PVC Sleeve)

Height (H): 25.5 ± 0.5 mm
 Diameter (D): 22.5 ± 0.5 mm

Typical weight: 30 g

6. CAPACITY

6.1 IEC capacity

IEC Capacity is defined as follows:

- Temperature: $+20 \pm 5^\circ\text{C}$
- Charge current: $C/10=80\text{mA}$ constant current
- Charge duration: 16 hours
- Period of rest: 1 to 4 hours
- Discharge current: $C/5=160$ mA constant current

The operating time until the voltage drops to 1.0 volt/cell must not be less than 300 minutes (3 cycles are permitted). Therefore, the IEC Capacity is minimum 800 mAh.

6.2 AVAILABLE CAPACITY

The following table gives the available capacity of an IF-800Cs battery under various charge and discharge conditions. The temperature is $20 \pm 5^\circ\text{C}$. Deviation depending on test conditions may be observed.

CHARGE RATE	Current (mA)	Duration (hour)	Rest after charge (hour)
0.05C	40	>32	No rest
0.1C	80	16	1

DISCHARGE RATE	Current (mA)	Capacity (mAh)
0.2C	160	840
1.0C	800	760
3.0C*	2400	640

*Cutoff voltage 0.8 Volts per cell



7. CHARGE RETENTION

After a 28 day storage at $20 \pm 5^\circ\text{C}$, an IF-800Cs battery shall retain typically 70% of its initial capacity. The battery is being fully charged initially.

8. STORAGE

Intec recommends to store the battery in a $65\% \pm 5\%$ relative humidity room with the temperature range of $+5$ to 25°C and a discharged state with open circuit.

9. LIFE – SPAN (CUSTOM)

The capacity shall be more than 640 mAh after 300 cycles with the test conditions as follow:

Charge	Rest	Discharge	Rest
1C, $-\Delta V = 5 \text{ mV/cell}$	1hr	1C to 1.0V	1hr

10. DROP TEST

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

11. SHORT CIRCUIT

The battery shall not explode when shorted directly by wires.

12. PRECAUTIONS

- A. Do not short-circuit, over-charge or reverse-charge the cell.
- B. Do not solder directly to the batteries.
- C. Do not dispose of in fire and keep away from damage.
- D. Perform standard cell charging and discharging procedure after long term storage.
- E. Keep away from reach of children.

13. REFERENCE

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