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COUNTERMINE



0303-0035 Battery C cell Rechargeable NiMH 5A

Minelab supply the F3 COMPACT and the F3Ci metal detectors with a set of (4) batteries. Customers have the choice of single use alkaline batteries or rechargeable (NiMH) batteries.

Minelab's C cell rechargeable batteries are available as an accessory.

Description and Details

This battery is a C cell Nickel Metal Hydride Cylindrical Cell Battery with a nominal voltage of 1.2 volts and a capacity of 5,000mAh (5 Amp hours).

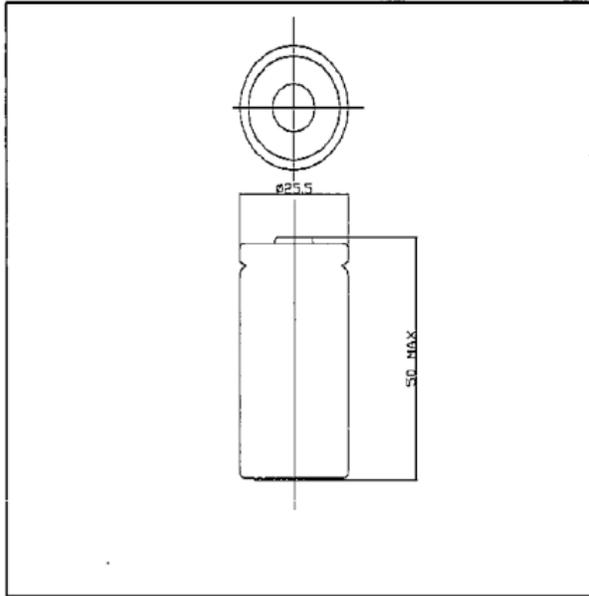


Data Sheet 0303-0035 Battery C cell Rechargeable NiMH 5A

Nickel Metal Hydride Battery Data Sheet

Type **C (High Top)** 5000mAh

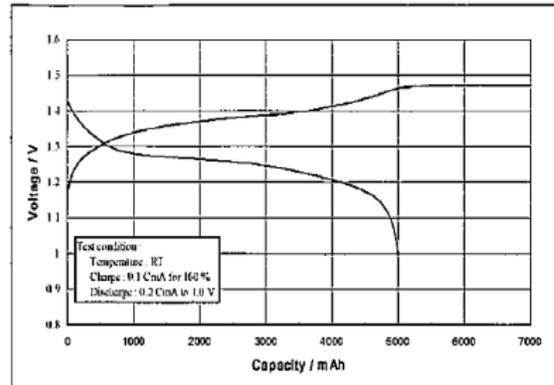
Dimensions (with Tube) (mm)



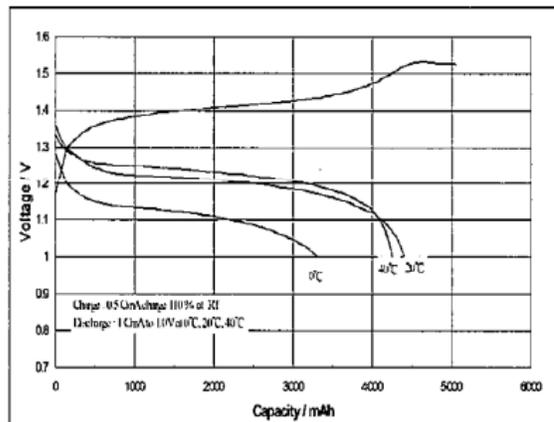
Specifications

Nominal Voltage	1.2V/cell	
Capacity	Nominal	5000 mAh/0.2 CmA
	Minimum	4700 mAh/0.2 CmA
Charge	Standard	0.1 CmA for 16 hrs.
	Rapid	1.0 CmA for 1.2hrs.(approx.) (With- $\Delta V = 5\sim 10\text{mV/cell}$, Temp., Time charging control)
	Trickle	0.03 CmA (1 month)
Maximum Discharge Current	1.0 CmA	
Discharge Cut-off Voltage	1.0 V/cell	
Cycle Life (IEC 285)	500 cycles	
Applicable Temperature	Standard Charge	0~+45°C
	Rapid Charge	0~+40°C
	Discharge	-10~+60°C
Storage	Within one year	-20°C~+35°C
	Within 3 months	-20°C~+45°C
	Within 1 month	-20°C~+55°C
Relative Humidity Range	65%±20%	
Dimension	D = 25.5 mm max. H = 50.0 mm max.	
Weight	Approx. 85 g	

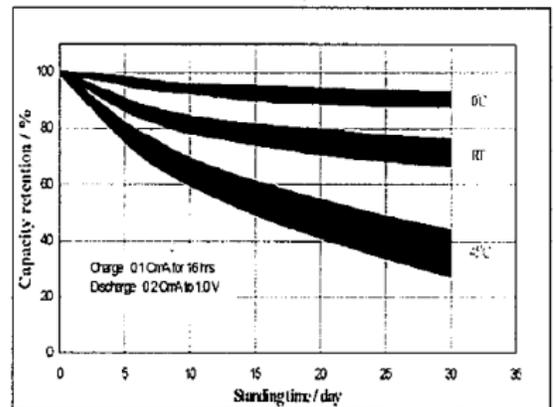
Typical Charge Characteristics



Typical Temperature Characteristics



Typical Self-discharge Characteristics



- This specification is available only for the testing within one month since receipt of batteries.
- Note: Specifications are subject to be modified without prior notice.

MSDS

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IDENTITY (As Used on Label and List)
NiCd batteries

Note : Blank spaces are not permitted if any item is not applicable or no information is available, the space must be marked to indicate that.

Section 1- Identification

Manufacturer's Name GPI International Ltd.	Emergency Telephone Number
Address (Number, Street, City State, and ZIP Code) 8/F GP Building, 30 Kwai Wing Road, Kwai Chung, N.T. H.K.	Telephone Number for information 852-2484-3333
	Date of prepared and revision Jan 2, 2014
	Signature of Prepare (optional)

Section 2 – Hazards Identification

Classification:

N.A.

Section 3 – Composition/Information On Ingredients

Hazardous Components:

Description:	Approximate % of total weight
Lead	Wt% <0.004
Mercury	Wt% <0.0005
Cadmium Oxide	Wt% <8-25
Nickel Hydroxide	Wt% 14%-21%
30%KOH solution (Potassium Hydroxide)	Wt% 9-16%

Section 4 – First Aid Measures

First Aid Procedures

If electrolyte leakage occurs and makes contact with skin, wash with plenty of water immediately.

If electrolyte comes into contact with eyes, wash with copious amounts of water for fifteen (15) minutes, and contact a physician.

If electrolyte vapors are inhaled, provide fresh air and seek medical attention if respiratory irritation develops. Ventilate the contaminated area.

Section 5 – Fire-Fighting Measures

Flash Point (Method Used)	Ignition Temp.	Flammable Limits	LEL	UEL
N.A.	N.A.	N.A.	N.A.	N.A.

Extinguishing Media

Carbon Dioxide, Dry Chemical or Foam extinguishers

Special Fire Fighting Procedures

N.A.

Unusual Fire and Explosion Hazards

Do not dispose of battery in fire - may explode.

Do not short-circuit battery - may cause burns.

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Section 6 – Accidental Release Measures

Steps to Be Taken in Case Material is Released or Spilled

Batteries that are leakage should be handled with rubber gloves.

Avoid direct contact with electrolyte.

Wear protective clothing and a positive pressure Self-Contained Breathing Apparatus (SCBA).

Section 7 – Handling and Storage

Safe handling and storage advice

Batteries should be handled and stored carefully to avoid short circuits.

Do not store in disorderly fashion, or allow metal objects to be mixed with stored batteries.

Never disassemble a battery.

Do not breathe cell vapors or touch internal material with bare hands.

The cells and batteries shall not be stored in high temperature ,the maximum temperature allowed is 60* *for a short period during the shipment , Otherwise the cells maybe leakage and can result in shortened service life..

Section 8– Exposure Controls / Person Protection

Occupational Exposure Limits:	LTEP N.A.	STEP N.A.
Respiratory Protection (Specify Type)	N.A.	
Ventilation	Local Exhausts N.A.	Special N.A.
	Mechanical (General) N.A.	Other N.A.
Protective Gloves	N.A.	Eye Protection N.A.
Other Protective Clothing or Equipment	N.A.	
Work / Hygienic Practices	N.A.	

Section 9 - Physical / Chemical Properties

Boiling Point N.A.	Specific Gravity (H ₂ O=1) N.A.
Vapor Pressure (mm Hg) N.A.	Melting Point N.A.
Vapor Density (AIR=1) N.A.	Evaporation Rate (Butyl Acetate) N.A.
Solubility in Water N.A.	
Appearance and Odor	Cylindrical Shape, odorless

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Section 10 – Stability and Reactivity

Stability	Unstable		Conditions to Avoid
	Stable	X	

Incompatibility (Materials to Avoid)

Hazardous Decomposition or Byproducts

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

Section 11 – Toxicological Information

Route(s) of Entry	Inhalation?	N.A.	Skin?	N.A.	Ingestion?	N.A.
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Health Hazard (Acute and Chronic) / Toxicological information

In case of electrolyte leakage, skin will be itchy when contaminated with electrolyte.

In contact with electrolyte can cause severe irritation and chemical burns.

Inhalation of electrolyte vapors may cause irritation of the upper respiratory tract and lungs.

Section 12 – Ecological Information

N.A.

Section 13 – Disposal Considerations

Dispose of batteries according to government regulations.

Section 14 – Transportation Information

GP NiCd cylindrical cells/batteries are considered to be “dry cell” batteries and are unregulated for purposes of transportation by the U.S. Department of Transportation (DOT), International Civil Aviation Administration (ICAO), International Air Transport Association (IATA) Dangerous Goods Regulations 55th edition, the International Maritime Organization (IMO). (Alkaline batteries are not regulated for transportation as “DANGEROUS GOODS.”)

IATA DGR: Special Provision A123: “Example of such batteries are: alkali-manganese, zinc carbon, and nickel-cadmium batteries. Any electrical battery...having the potential of a dangerous evolution of heat must be prepared for transport as to prevent (a) a short-circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals.) is forbidden from transport; and (b) accidental activation. The words “Not Restricted” and the Special Provision number must be included in the description of the substance on the Air Waybill as required by 8.2.6 when an Air Waybill is issued.

EU: As NiCd cylindrical cells/batteries are not explicitly mentioned in RID/ADR, there are no special Dangerous Goods shipment requirements for these products.

USA: 49 CFR § 172.102 Special Provision 130: “For other than dry battery specifically covered by another entry in the § 172.101 Table, “Batteries, dry” are not subject to the requirements of this subchapter when they are securely packaged and offered for transportation in a manner that prevents the dangerous evolution of heat (for example, by the effective insulation of exposed terminals) and protects against short circuits.”

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Section 15 – Regulatory Information

Special requirement be according to the local regulatory.

Section 16 – Other Information

The data in this Material Safety Data Sheet relates only to the specific material designated herein.

Section 17 – Measures for fire extinction

In case of fire, it is permissible to use any class of extinguishing medium on these batteries or their packing material. Cool exterior of batteries if exposed to fire to prevent rupture.

Fire fighters should wear self-contained breathing apparatus.

For further information please contact:

David Isles

Technical Support Officer - Countermine Division

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