Emergency lighting units/EM Batteries

BPC05

7.2V, 2.5AH NiMH Battery Pack

Product Description

- 6 cells, SC type, high temperature NiMH battery
- 1 years guarantee (See end of document for details)
- Cycle life (IEC 61951-2:2003): 200 cycles minimum
- Continuously rated 40 degrees for 4 years design life

Properties

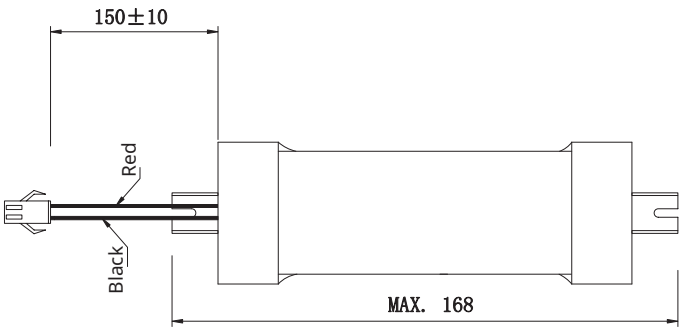
- High capacity 2500mAh (minimum 2400mAh)
- Low self-discharge (≥1500mAh after 28 days storage)
- Wide operating temperature: charge 0℃~70℃, discharge -20℃~70℃
- Flame-retardant PVC heat-shrink tubing, compact size
- JST-SMR-02 connector for polarity-safe connection
- Designed for use in emergency lighting applications, complies with IEC 61951-2 (2003) standard.

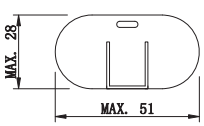
*For more details on battery precautions and usage, please visit the following link:
https://hytronik.com/service/downloads (Ni-Cd & Ni-MH Battery Precautions).

Mechanical Construction

- The battery pack is enclosed in flame-retardant PVC heat-shrink tubing, without a rigid outer casing.
- This packaging method offers compactness and weight advantage.
- Important: Proper mechanical protection must be ensured during installation. Do not compress, puncture, or drop the battery.
- The battery is not intended to be used in luminaires that require enclosure-integrated fire-resistant casing, or where the battery is directly exposed to impact, vibration, or heat sources.

Mechanical Structure & Dimensions (unit: mm)





Technical Specifications

Product Characteristics	Specification	Condition
Nominal Voltage	7.2V	Battery pack
Minimum Capacity	2400 mAh	Standard charge/discharge
Rated Capacity	2500 mAh	Standard charge/discharge
Standard Charge	250 mA (0.1C) 16 hour	Ta = 20 ± 5°C
Trickle Charge	(0.03C)~(0.05C)	Ta = 20 ± 5°C
Standard Discharge	500 mA (0.2C)	Ta = 20 ± 5°C, humidity: max 85%
Discharge Cut-off Voltage	6.0 V	
Charge	Trickle Charge: 125 mA; 48 hours Standard Charge: 250mA; 16hours	
Operating Temperature	Standard (Charge): 0℃ ~ 70℃ Discharge: -20℃ ~ 70℃ Storage: -20℃ ~ 55℃	
Internal Resistance after Charging	≤ 175 mΩ	
Charge and Discharge Connector	JST - SMR - 02 plug cable cable length 150±10mm	
Battery Weight	330 g ±10g	
Packing Mode	PVC	
Product Size	168mm *51mm *28mm	

Safety Warning Statement

The battery pack is classified as dangerous goods and must be handled with care.

Please observe the following safety warnings:

- The battery pack must be handled with care. Observe the following warnings:
- Do not reverse polarity when charging or discharging.
- Charge the battery before first use.
- Do not charge/discharge at currents higher than specified.
- Prevent short circuits – may cause damage.
- Do not disassemble or incinerate the battery.
- Do not solder directly on the battery.
- Extreme temperatures, deep cycling, or excessive overcharge/overdischarge may reduce service life.
- Store in a cool, dry place. Discharge the battery before assembling into packs.

Installation Requirements

Before First Use

- Perform visual inspection for damage, leakage, or swelling.
- Verify terminal polarity (Red +, Black -) and check output voltage (should be ≥7.5V after charging).
- If the battery voltage is <6.0V, do not charge; isolate and contact supplier.

Mounting

- The battery pack uses PVC heat-shrink tubing. Provide adequate mechanical support.
- Do not compress, puncture, deform, or drop the battery.
- Use brackets or shock-absorbing materials to fix the battery securely.

Wiring

- Wire polarity: Red = Positive (+), Black = Negative (-).
- Do not short the battery terminals.
- Keep terminals clean and free from corrosion.

Battery Usage Guidelines

Charging

- Use a charger designed for Ni-MH batteries (constant current, not LiFePO4 charger).
- Standard charge: 250 mA (0.1C) for 16 hours at 20±5℃.
- Trickle charge: 125 mA (0.05C) for long-term maintenance.
- Do not exceed 70℃ during charging.
- Reverse polarity will damage the battery.

Discharging

- Standard discharge: 500 mA (0.2C) to 6.0V cutoff.
- Maximum continuous discharge current: not specified; recommended ≤1C (2.5A) for best life.
- Do not discharge below 6.0V to prevent capacity loss.

Precautionary Notes

- Avoid deep over-discharge. Recharge within 12 hours after use.
- Do not connect batteries in series or parallel without proper external protection.

Maintenance & Storage

Routine Maintenance

- If stored for more than 6 months, recharge the battery to 30% of capacity (approx. 7.5V open circuit).
- Before long-term storage, discharge to 6.0V (or store at 30% charged state).
- Replace the battery when capacity drops below 80% of nominal rating (2000mAh).

Storage Conditions

Item	Environment	Storage time
Storage temperature	-20~25 °C, non-condensing	1 year
	-20~35 °C, non-condensing	6 months
	-20~45 °C, non-condensing	1 month
	-20~55 °C, non-condensing	1 week

Condition: Battery state: charged to 30%, max humidity: 85%.

Disposal & Environmental Responsibility

- End-of-life batteries must be disposed of via certified recycling agencies.
- Do not dispose of batteries in household waste.
- Cover terminals with insulating tape before disposal.
- Follow local regulations for Ni-MH battery recycling.

Disclaimer & Warranty

- **Warranty period**: 1 year against defects in materials and workmanship under normal operating conditions.
- Warranty does not cover damage from improper use, mechanical abuse, overcharge/overdischarge, unauthorized disassembly, or force majeure.
- Specifications are subject to change without notice.

Certification & Compliance

- Compliant with **IEC 61951-2:2003** (Ni-MH cell performance)
- RoHS compliant (as declared by manufacturer)
- UN38.3 transport compliant (if applicable – please confirm)

Limitations and Conditions

The battery is designed for optimal performance at 20±5℃. Capacity decreases at low temperatures. Cycle life ≥200 cycles to 60% of initial capacity. Prolonged exposure to temperatures above 45℃ will accelerate aging. For best service life, avoid deep discharge and store in cool, dry conditions.