

## BATTERIES FOR EMERGENCY LIGHTING APPLICATIONS

The purpose of exit and emergency lighting is to provide light in the event of a mains or local power supply failure. As the prevention of failure of the emergency light is critical, a rechargeable battery is required as a back-up power source.

Batteries for emergency lights need to have a long life, be reliable, robust and space-saving. In the event of fire or a mains failure they need to withstand high temperatures and provide enough capacity to power the emergency light.



### KEY BENEFITS:

- LONG-LIFE
- HIGH RELIABILITY & ROBUSTNESS
- EASY TRANSPORTATION  
(NO IATA RESTRICTIONS)
- WIDE TEMPERATURE RANGE
- SMALL SIZE & LIGHT WEIGHT

**Panasonic is the most diversified battery producer worldwide, with more than 85 years of experience producing high quality batteries.**

Our rechargeable Nickel-Metal Hydride batteries are specially designed to meet the requirements of emergency lighting applications. With their robustness and wide temperature range from -20°C to 75°C, they deliver excellent charging and discharging performance with an expected life of up to 10 years. They are also most suitable for exchanging with Nickel-Cadmium batteries, being a more environmentally friendly and save substitute.

# BATTERIES FOR EMERGENCY LIGHTING APPLICATIONS

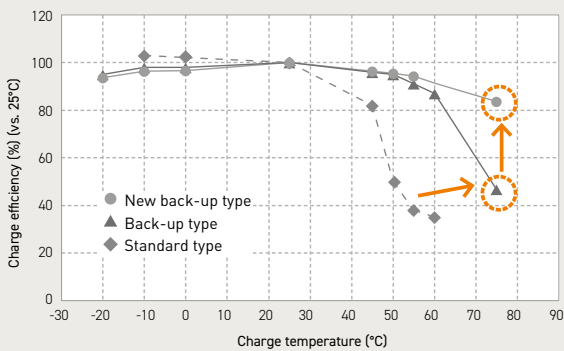


## EXCELLENT CHARGING PERFORMANCE IN HIGH TEMPERATURE ENVIRONMENT (UP TO 75°C)

Extended upper temperature limit: 60°C to 75°C

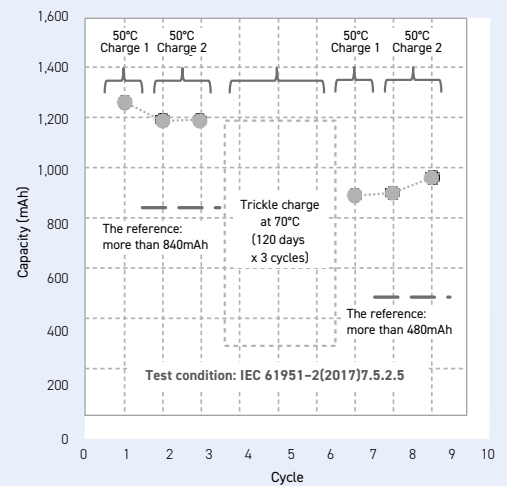
46% BACK-UP TYPE      **180%** → CHARGING EFFICIENCY about 1.8 times      84% **NEW** BACK-UP TYPE

### CHARGING CHARACTERISTICS



## GOOD BALANCE IN TERMS OF CAPACITY AND LIFETIME LONG-LIFE EXPECTANCY AT TRICKLE CHARGING

### LONG-LIFE CHARACTERISTICS OF BK-120AAHU



Test condition  
Charge: 0.1It x 16h  
Charge temperature: -20°C ~ 75°C  
Rest: 3h  
Discharge: 0.2It to 1.0V cut off  
Discharge temperature: 25°C

### SUITABLE USE OF BK-120AAHU



<b>Charge   Discharge</b>	Wide temperature range (-20°C to 75°C)
<b>Storage</b>	Low self-discharge (enloop technology)
<b>Life</b>	10 years durable cell*
<b>Safety</b>	IEC62133 compliant & no hazard substances

\* Values for expected battery life are reference values only.  
The expected life varies depending on the conditions in which the battery is used.

### SUITABLE BATTERIES

Specifications			BK-120AAHU	BK-220SCHU	BK-310CHU
Diameter (mm)			14.5 0/-0.7	23.0 0/-1.0	25.8 0/-1.0
Height (mm)			50.5 0/-1.5	43.0 0/-1.5	50.0 0/-2.0
Approximate weight (g)			24	52	80
Nominal voltage (V)			1.2	1.2	1.2
Discharge capacity (mAh)*1	Typical*2		1,280	2,350	3,300
	Nominal		1,200	2,200	3,100
Approx. internal impedance at 1,000Hz at charged state (mΩ)			17	5	5
Charge (mA x hrs.)	Standard		120 x 16	220 x 16	310 x 16
	Rapid*3		600 x 2.4	1,100 x 2.4	1,550 x 2.4
	Low rate		60 x 32	110 x 32	155 x 32
			40 x 48	73 x 48	103 x 48
Ambient temperature	Charge (°C)	Standard	-20 to 75	-20 to 75	-20 to 75
		Rapid	-20 to 60	-20 to 60	-20 to 60
		Low rate	-20 to 75	-20 to 75	-20 to 75
	Discharge (°C)		-20 to 75	-20 to 75	-20 to 75
			-20 to 75	-20 to 75	-20 to 75
			-20 to 75	-20 to 75	-20 to 75
Storage (°C)	< 1 year	-20 to 35	-20 to 35	-20 to 35	
	< 6 months	-20 to 45	-20 to 45	-20 to 45	
	< 1 month	-20 to 55	-20 to 55	-20 to 55	
	< 1 week	-20 to 65	-20 to 65	-20 to 65	

\*1 After charging at 0.1It for 16 hours, discharging at 0.2It. \*2 For reference only. \*3 Needs specially designed control system. Please contact Panasonic for details.

Battery performance and cycle life are strongly affected by how the batteries are used. In order to maximise battery safety, please consult Panasonic when determining charge/discharge specs, warning label contents and design. The data in this document are for descriptive purposes only and are not intended to make or imply any guarantee or warranty.

For more technical information,  
please use this email:  
E-mail: battery-solutions@eu.panasonic.com

Panasonic Industry Europe GmbH  
Winsbergring 15  
22525 Hamburg, Germany  
Phone: +49 40 8549-6373  
http://industry.panasonic.eu

**Panasonic®**

Printed in Germany 2018  
© Panasonic Corporation