

BATTERIES FOR **SOLAR POWERED** APPLICATIONS

Applications: street lights, signaling & advertising displays, window shutters, marine buoys, UPS, lighting for parking lots, bus stop shelters, etc.

Solar powered applications require batteries (as a back-up) that are unequivocally reliable and safe in tough outdoor conditions. They need to provide energy at extreme temperatures, bridge long time periods where there is no sun available, and offer a long service life with low self-discharge rates.



KEY BENEFITS:

- LONG-LIFE
(UP TO 12 YEARS)
- EASY TRANSPORTATION
(NO IATA RESTRICTIONS)
- WIDE TEMPERATURE RANGE
- LOW MAINTENANCE COSTS

Panasonic is the most diversified battery producer worldwide, with more than 85 years of experience producing high quality batteries. In addition, Panasonic is a leader in the development and production of photovoltaic modules.

With this experience, we know exactly what matters in applications powered by solar energy. Our rechargeable Nickel-Metal-Hydrate batteries perfectly meet and handle equipment cut-offs, even when exposed to high temperatures or when using intermittent charge. They deliver excellent charging performance at 75°C.

BATTERIES FOR SOLAR POWERED APPLICATIONS



LONG-LIFE (IN TRICKLE CHARGING)

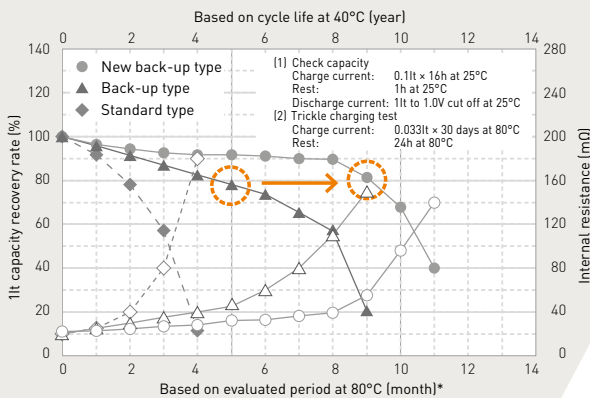
Designed to achieve trickle charging for exchanging with Nickel-Cadmium batteries

4-6 years
BACK-UP
TYPE

200% →
EXPECTED LIFE
about double

8-12 years
NEW
BACK-UP TYPE

LIFE ESTIMATED BY EVALUATING ACCELERATED LIFE



* Accelerated evaluation assumes a trickle charging current of 0.033It at 80°C.

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

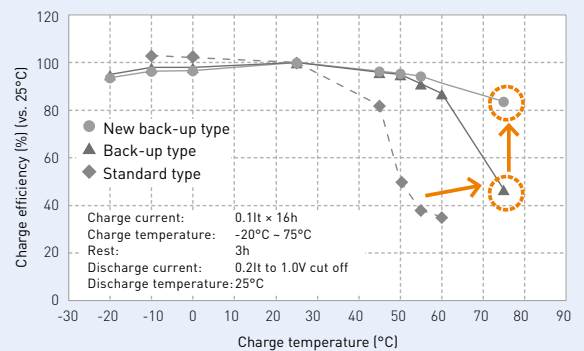
Extended upper temperature limit: 60°C to 75°C

46%
BACK-UP
TYPE

180% →
CHARGING EFFICIENCY
about 1.8 times

84%
NEW
BACK-UP TYPE

CHARGING CHARACTERISTICS



SUITABLE USE OF BK-1100FHU



Charge Discharge	Wide temperature range (-30°C to 75°C -40°C to 85°C)
Storage	Low self-discharge (enloop technology)
Life	10 years durable cell*
Safety	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-1100FHU	BK-210AH	BK-250SCH	
Diameter (mm)		33.0 0/-1.0	17.0 0/-0.7	23.0 0/-1.0	
Height (mm)		91.0 0/-2.5	50.0 0/-2.0	43.0 0/-1.5	
Approximate weight (g)		250	25	55	
Nominal voltage (V)		1.2	1.2	1.2	
Discharge capacity (mAh)*1	Typical*2	12,000	2,050	2,650	
	Nominal	11,000	1,900	2,500	
Approx. internal impedance at 1,000Hz at charged state (mΩ)		5	20	5	
Charge (mA x hrs.)	Standard	1,100 x 16	190 x 16	250 x 16	
	Rapid*3	5,500 x 2.4	1,000 x 2.3	1,250 x 2.4	
	Low rate	550 x 32	95 x 32	125 x 32	
		367 x 48	63 x 48	83 x 48	
Ambient temperature	Charge (°C)	Standard	-30 to 75	-10 to 60	-10 to 60
		Rapid	-30 to 60	-10 to 60	-10 to 60
	Discharge (°C)	Standard	-30 to 75	-10 to 45	-10 to 45
		Low rate	-40 to 85	-10 to 60	-10 to 60
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 contact Mr Ikuo Katsumata
E-mail: Ikuo.Katsumata@eu.panasonic.com

Panasonic Automotive & Industrial
Systems Europe GmbH
Winsbergring 15
22525 Hamburg, Germany
Phone: +49 40 8549-6373

Panasonic[®]

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