

## BATTERIES FOR EUROPEAN E-CALL APPLICATIONS

From April 2018 the EU requires all new cars to be equipped with an E-Call system. In the event of an accident, E-Call automatically connects the injured person to the closest emergency center and sends an MSD (Minimum Set of Data) with the vehicle's exact location.

As the failure risk of the E-Call system is not negligible, a back-up battery is required to ensure that E-Call will work even after a serious accident. This battery needs to be unequivocally reliable, robust and has to provide power output at temperatures down to  $-20^{\circ}\text{C}$ .



### KEY BENEFITS:

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

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

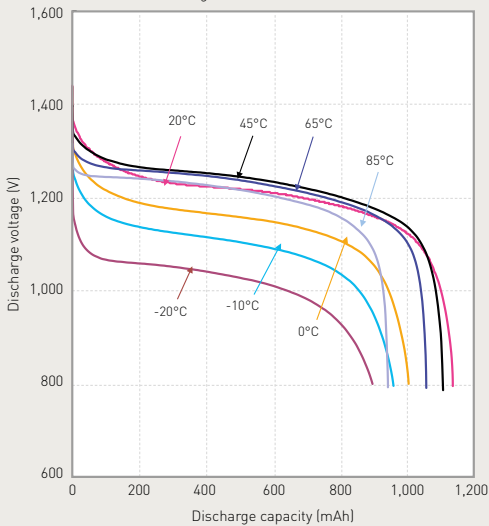
Our rechargeable Nickel-Metal-Hydride batteries are designed to cope with the special demands of automotive applications. With their robustness and wide temperature range from  $-30^{\circ}\text{C}$  to  $85^{\circ}\text{C}$ , they deliver excellent and reliable discharging performance with an expected life of about 8 years.



**EXCELLENT LARGE CURRENT DISCHARGE CHARACTERISTICS**  
OUTSTANDING 2It DISCHARGE PERFORMANCE  
EVEN AT LOW TEMPERATURE

DISCHARGING CHARACTERISTICS

2It discharge characteristics of BK-120AAW

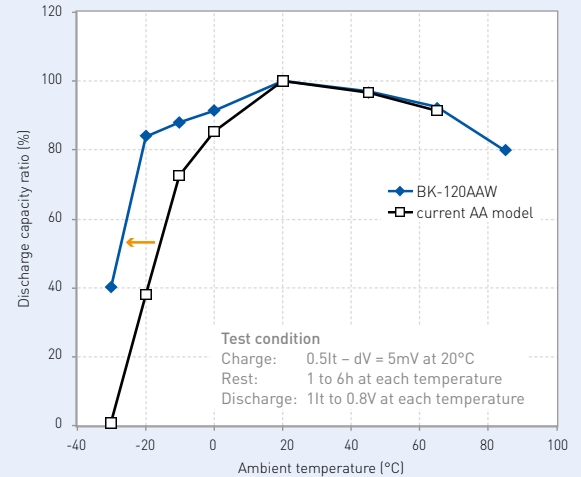


Test condition  
Charge: 0.5It - dV = 5mV at 20°C  
Rest: 1 to 6h at each temperature  
Discharge: 2It to 0.8V at each temperature

**EXCELLENT DISCHARGING PERFORMANCE**  
IN LOW TEMPERATURE ENVIRONMENT  
(DOWN TO -30°C)

DISCHARGING CHARACTERISTICS

1It discharge characteristics comparison



Test condition  
Charge: 0.5It - dV = 5mV at 20°C  
Rest: 1 to 6h at each temperature  
Discharge: 1It to 0.8V at each temperature



**SUITABLE USE OF BK-120AAW**

Operating temperature range	Charging from -20°C to 60°C
	Discharging from -30°C to 85°C
Life	8 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-60AAW	BK-120AAW
Diameter (mm)		10.5 0/-0.7	14.5 0/-0.7
Height (mm)		44.5 0/-1.5	50.5 0/-1.5
Approximate weight (g)		13	26
Nominal voltage (V)		1.2	1.2
Discharge capacity (mAh)*1	Typical*2	550	1,280
	Nominal	500	1,200
Approx. internal impedance at 1,000Hz at charged state (mΩ)		35	20
Charge (mA x hrs.)	Standard	50 x 16	120 x 16
	Rapid*3	250 x 2.4	600 x 2.4
Ambient temperature	Charge (°C)	Standard	-20 to 60
		Rapid	-20 to 45
	Discharge (°C)	Standard	-20 to 85
		Rapid	-30 to 85
Storage (°C)	<1 year	-40 to 35	
	<6 months	-40 to 45	
	<1 month	-40 to 55	
	<1 week	-40 to 85	

\*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.

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