

# Nickel Metal Hydride Battery for Automotive

Panasonic Energy Co.,Ltd.

# Nickel Metal Hydride Battery for Automotive

Panasonic **ENERGY**

## Stable and Safe performance in severe condition with a wide range temperature

### ■ Value Proposition

1. Enables to operate in severe condition LIB:-20~60 °C Ni-MH: -40~85°C\*
2. High safety because of aqueous electrolyte
3. Easy to control charging and enables to check battery health

\*It depends on model, usage conditions.  
Please contact Panasonic Energy.

### ■ Panasonic Original Technique

1. Excellent characteristic performance by optimization of electrolyte composition and development of high durability negative electrode
2. Enables to discharge in high temperature 105°C 【Under Development】

Panasonic  
Only

Industry Leading  
Level

#### Benchmark

Item \ Product	Panasonic (Ni-MH)	A company (Lead Acid)	B company (Lithium-ion battery)
Voltage	1.2V	2.0V	3.6V
Charge/Discharge temperature	-20°C~60°C/ -40°C~85°C	0°C~40°C/ -20°C~+50°C	0°C~+45°C/ -20°C~+60°C
IATA regulation	○ (excluded)	○ (excluded)	× (included)
Substance Of Concern/ Electrolyte	— / Aqueous	Pb / Aqueous	— /Organic solvent (Flammability)

#### Application

- eCall
- TCU
- Drive recorder
- Event Data Recorder etc.

#### Schedule

Mass  
Production

# Before

## N Standard

Limited operating  
temperature range  
(Charge: 0~45°C)  
(Discharge: -10~65°C)

Unable to use under severe  
condition (cold or extreme  
heat region)



# After

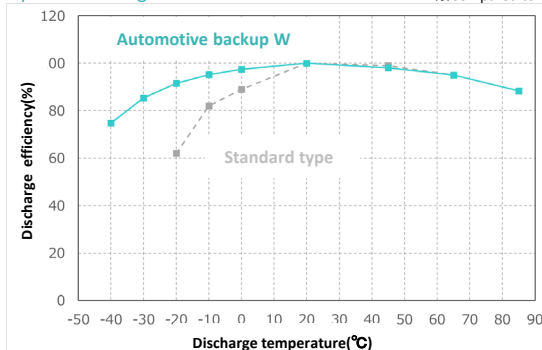
## W Automotive Backup

Enables to operate in a wide range of  
temperature(-40~85°C)

Under development of 105°C product

■ An example of discharge characteristic

※Compared to Panasonic battery



◎ High reliability pack used automotive devices



# Nickel Metal Hydride Battery for Automotive Backup W Lineup

Panasonic **ENERGY**

Model No.	Size	Nominal voltage (V)	Discharge capacity (mAh)		Dimensions with tube (mm)		Mass (g)	Operation temperature range(°C)	
			Rated (min.)	Average(Typ.)	Diameter	Height		Charge	Discharge
<b>NEW</b> BK120AAWS	AA	1.2	1100	1180	14.5+0/-0.7	50.5+0/-1.5	24	-20~45 <sup>*1</sup> -20~60 <sup>*2</sup>	-30~60 <sup>*3</sup> -40~85 <sup>*4</sup>
<b>NEW</b> BK60AAAWS	AAA	1.2	500	550	10.5+0/-0.7	44.5+0/-1.5	11	-20~45 <sup>*1</sup> -20~60 <sup>*2</sup>	-20~60 <sup>*3</sup> -30~85 <sup>*4</sup>

## Application Examples



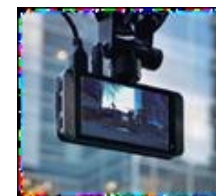
Trunk light

Drive recorder

Event Data Recorder

e- Latch system

eCall, TCU

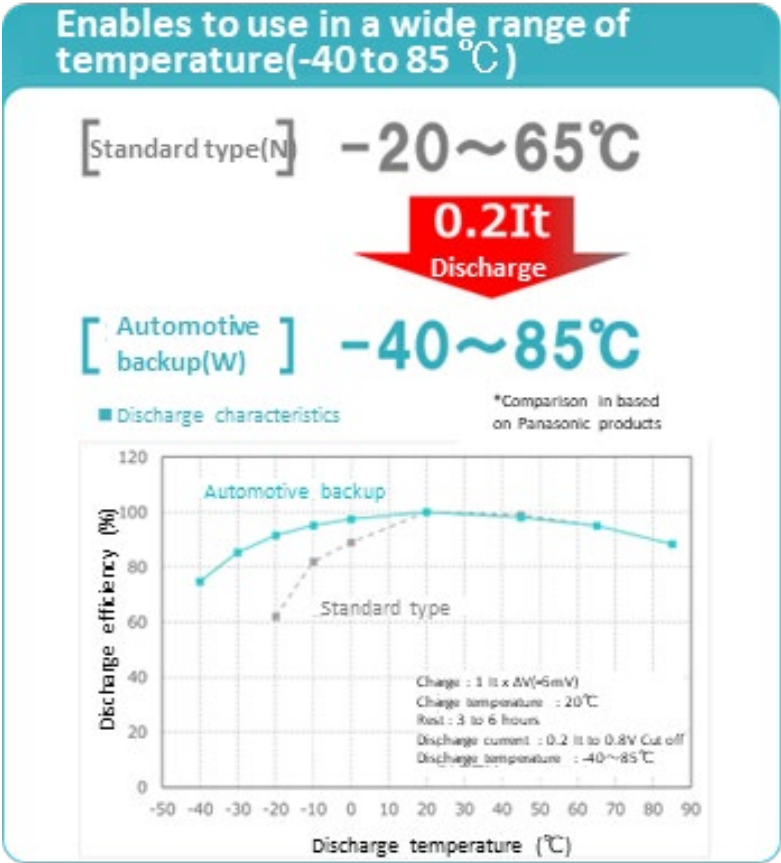
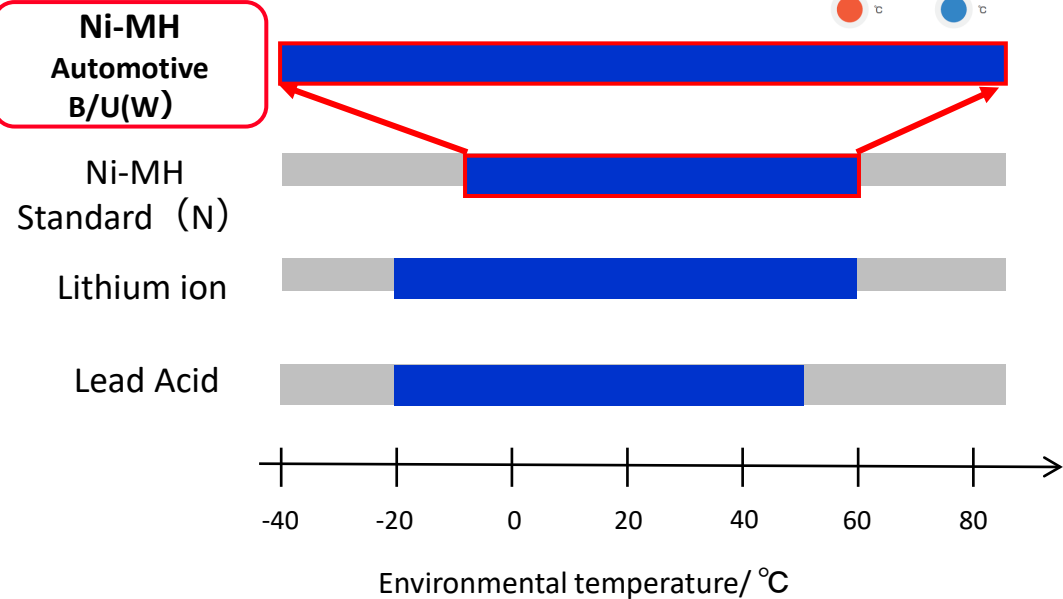


\*1. Temperature for rapid charge  
\*2. Temperature for standard charge  
\*3. Recommended temperature  
\*4. It depends on usage conditions.  
Please contact Panasonic.

# Feature1 : Enables to operate in a wide range temperature



Enables to use under sever condition  
from low to high temperature

Comparison of discharge  
temperature range



## Feature2 : Excellent discharge characteristic in low temperature Panasonic ENERGY

Achieved better low temperature discharge characteristics of BK120AAWS

BK120AAWS	BK60AAWS
	
<b>-40~85°C</b>	<b>-30~85°C</b>

\* Please contact Panasonic about the following.

BK120AAWS:-40°C high-rate discharge

BK60AAWS:-30°C high-rate discharge

Efficient discharge in low temperature  
(-30°C)

[Standard type(N)] -10~65°C

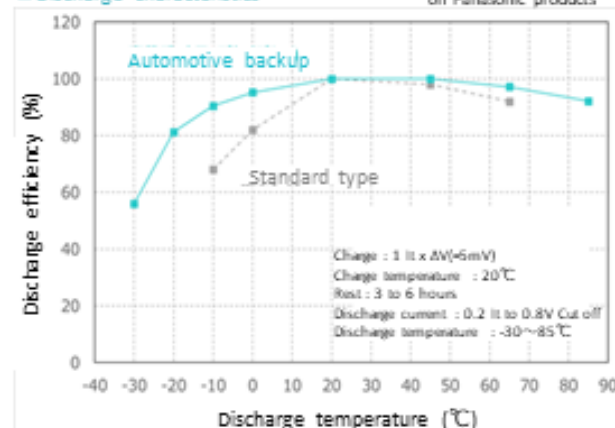
**1 It**

Discharge

[Automotive backup(W)] -30~85°C

■ Discharge characteristics

\*Comparison is based on Panasonic products

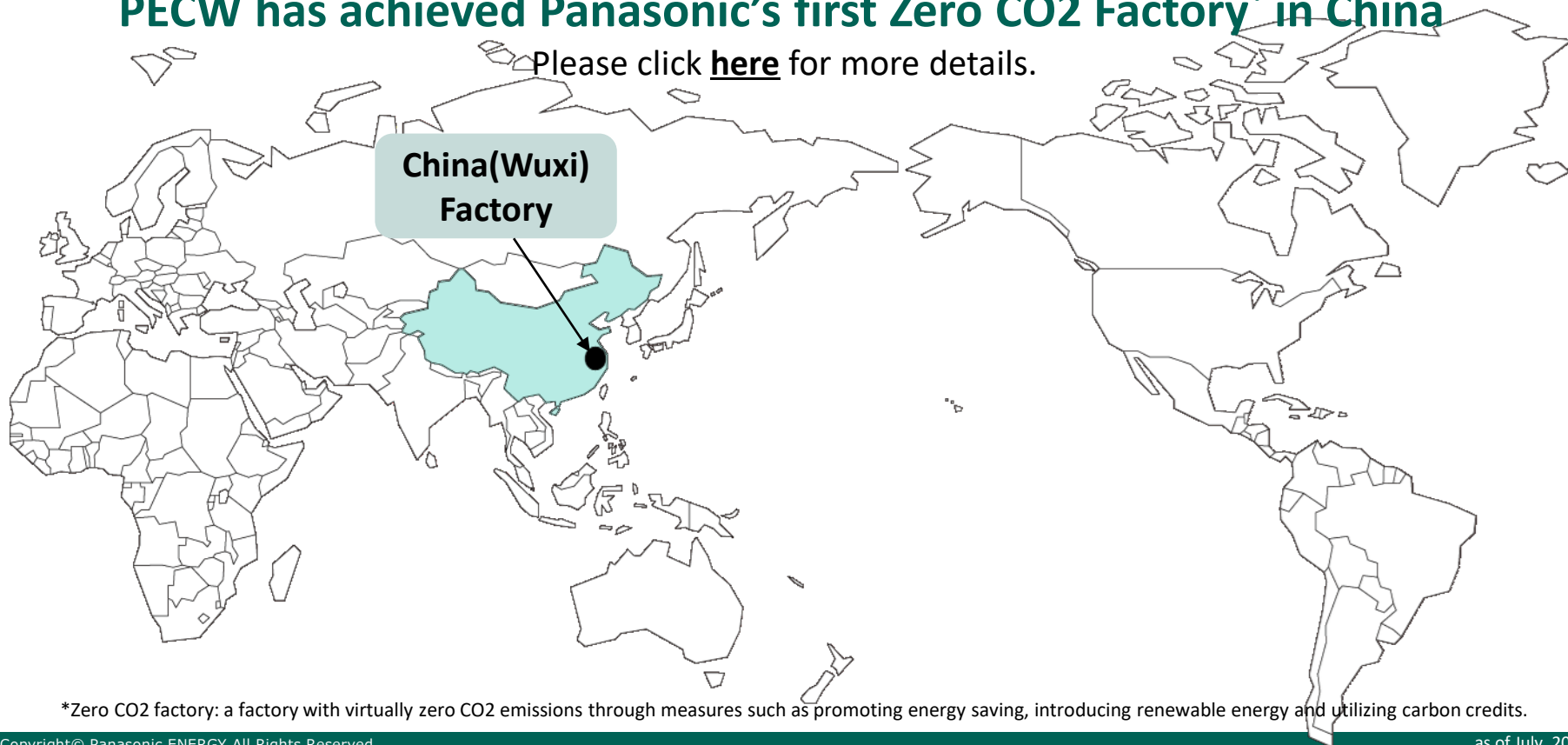


# Introduction of factory for Ni-MH battery in Wuxi, China

Panasonic Environment Vision 2050

PECW has achieved Panasonic's first Zero CO2 Factory\* in China

Please click [here](#) for more details.



\*Zero CO2 factory: a factory with virtually zero CO2 emissions through measures such as promoting energy saving, introducing renewable energy and utilizing carbon credits.

**Please feel free to contact us**

**Panasonic Energy Nickel Metal Hydride HP**

**<https://industrial.panasonic.com/ww/products/pt/nickel-metal>**



**Panasonic ENERGY**

*Energy that changes the future.*