



News Release

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SANYO Announces C- and D-sized ‘eneloop’ Batteries and Universal Charger *eneloop offered in full line-up of sizes from AAA to D, Charger can charge all sizes!*

Tokyo, August 8, 2008 – SANYO Electric Co., Ltd. (SANYO) announces today new additions to the ‘eneloop universe’ products: C- and D-size ‘eneloop’ batteries and a Universal Charger, to be sold in Japan starting from September 12, 2008.

These much-awaited C- and D-size ‘eneloop’ batteries expand the line-up of eneloop, which currently includes AA- and AAA-sizes, with the AA-size eneloop able to be used with adapters (spacers) for conversion to C- and D-sizes. ‘eneloop’ batteries combine the benefits of dry cell batteries by coming pre-charged^{*1} with the economic and environmental benefits of rechargeable batteries, as it is rechargeable up to 1,000 times^{*2}. With the new C- and D-size eneloop, SANYO provides an increase in capacity and longer power supply for C- and D-sized eneloop of 1.6 times and 3 times (respectively) compared to AA eneloop and ‘spacers’.

The announced ‘Universal Charger’ can charge all ‘eneloop’ battery sizes from the smallest, AAA, to the largest, D. With advanced charging technology including voltage monitoring to prevent overcharging, the Universal Charger also has LED lights to indicate charge status.

	Rechargeable Nickel-metal Hydride battery		Charger for D size – AAA size ‘eneloop’
Product Name	eneloop One D size battery package	eneloop One C size battery package	eneloop Universal Charger
Product Number	HR-1UTG-1BP	HR-2UTG-1BP	NC-TGU01
MSRP	Open ^{*3}		
Release Date	September 12, 2008		

Main Features: C- and D-size ‘eneloop’

- 1. Provide longer power supply with increased capacity for the C- and D-size eneloop batteries, about 1.6 times and 3 times respectively compared with AA-size eneloop and spacers**
- 2. Equipped with an overheating protection function for safe and reliable use**
- 3. Exterior tube is antibacterial^{*4}, designed to suit a wide range of consumer and commercial needs**

Main Features: Universal Charger

- 1. Charge ‘eneloop’ of all sizes, from the smallest, AAA, to largest, D, with a single charger**
- 2. Voltage of each battery is monitored and controlled by a built-in microcomputer to prevent overcharging**
- 3. 8 separate LED status light displays battery charge state for confirmation at a glance**

*1 Varies depending on storage conditions, but typically can be used up to 2 years after manufacture without recharging

*2 An indication based on JIS C8708 2007(7.4) testing method on battery life.

*3 Open price does not set manufacturer’s suggested retail price.

*4 Antibacterial agent: inorganic antibacterial agent, processing method: print, processed part: exterior package, Testing agency: Japan Spinners Inspecting Foundation, SIAA registration number: JP0122085A0002V. Testing method: JIS Z 2801

Main Features: C- and D-size 'enloop'

1. Provide longer power supply with increased capacity for the C- and D-size enloop batteries, about 1.6 times and 3 times respectively compared with AA-size enloop and spacers

- Change from AA-sized enloop used with spacers to actual C- and D-size enloop
- Increases storage capacity, translating to longer supply of power battery/spacer combination
- Capacity for D-size increased approximately 3 times, capacity for C-size increased by 1.6 times

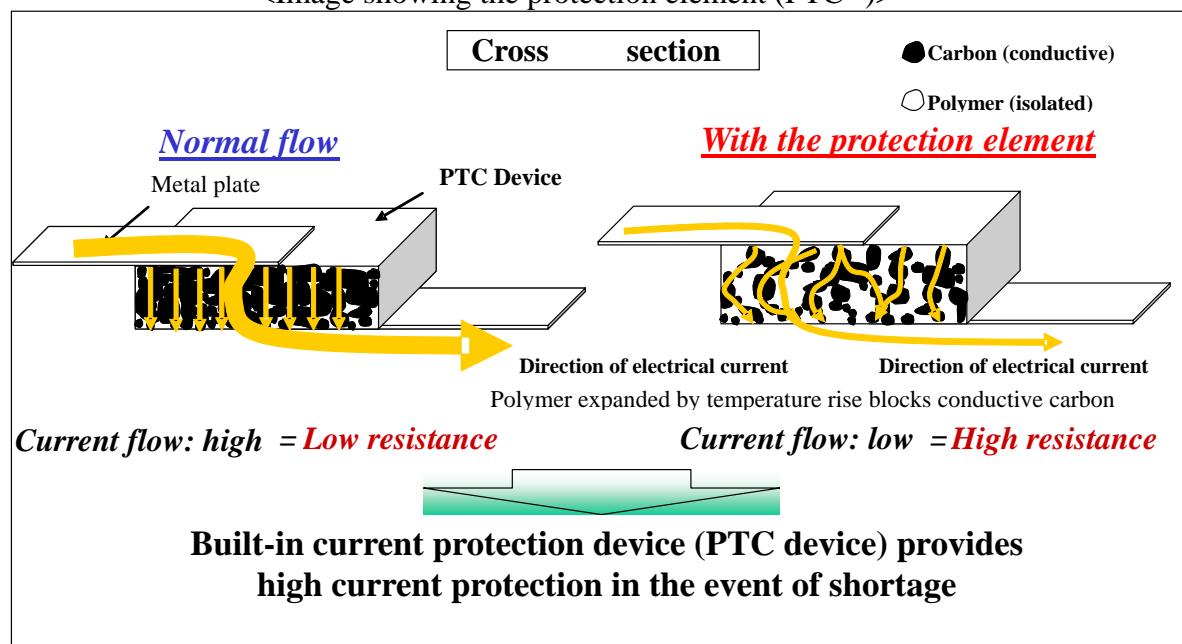
<Image of AA-sized enloop used with spacer to provide C- and D-sized batteries>



2. Equipped with an overheating protection function for safe and reliable use

- To protect against overheating, an 'Overheating prevention function^{*5}' with a built-in current protection device (a Positive Temperature Coefficient (PTC) device^{*6}) has been adopted
- New function designed to protect against abnormal heating and electrolyte leakage
- Designed to meet needs with high reliability for devices ranging from children's toys to commercial applications

<Image showing the protection element (PTC^{*6})>



3. Exterior tube is antibacterial^{*4}, designed to suit a wide range of domestic and commercial needs

- Exterior tube encasing the battery cell is antibacterial^{*4}, offering sanitation and cleanliness to enloop's economic and environmental benefits
- In addition to the new batteries, the previous AA- and AAA-sized enloop have also been updated
- New exterior makes battery suitable for standard consumer applications as well as offices and commercial situations where handled by multiple people

Main Features: 'Universal Charger'

1. Charge 'eneloop' of all sizes, from the smallest, AAA, to largest, D, with a single charger

- Built-in four (4) total C- and D-size eneloop charging slots, as well as four (4) 2-pocket AA- and AAA-size (paired) eneloop charging slots
- Simultaneously charge up to 4 C- or D-sized eneloop in the upper four slots and up to 8 AA- or AAA-sized eneloop in the lower slots
- Charges AA- and AAA-size eneloop up to twice as fast^{*7}
- The positive terminal is easily adjustable to switch between C- and D-size eneloop, as well as AA- and AAA-size eneloop
- Mix and match sizes for simultaneous charging
- Comes with cover to protect for foreign objects disrupting the charging batteries

Simply adjust the positive terminal to accommodate the appropriate size for the battery

<Charging slots for C & D sizes>



<Charging slots for AA & AAA sizes>



2. Voltage of each battery is monitored and controlled by a built-in microcomputer to prevent overcharging.

- Adopts SANYO's time-proven rapid charger 'peak-cut method' to control charging
- System allows the voltage change of each battery to be individually monitored, halting charging as peak voltage is detected (when fully charged)
- Designed to prevent batteries from being overcharged or damaged by charging

3. 8 separate LED status light displays battery charge state for confirmation at a glance

- Charger equipped with 8 lamps (or one for each charging slot)
- Lamps display charge status in red and blue
- Easy to see LED lamps, confirm charge state in a glance

<LED lamp image>

Red lamp: Charging (Charge is less than 50%)

Blue lamp: Charging (Charge is greater than 50%)

No lamp (blue lamp turns off): Fully charged





Background and Supplemental Information


Since the 'enloop' was released in November, 2005, it has received high market acclaim as shown by the numbers, having shipped a cumulative total of 50 million cells in 60 countries worldwide (as of April 30, 2008), for its user-friendliness as the rechargeable batteries come pre-charged^{*1} when sold and as they are rechargeable for use up to 1000 times^{*2}. Previously, the use of C- and D- size batteries were enabled with adaptors (spacers) that allowed the users to use a AA-size battery as a C-/D-size battery. However, to serve customer needs^{*8} related to using the batteries longer and without having to load the battery into the provided spacers, the lineup will be expanded to include the C- and D-sized 'enloop'. Additionally, to meet all charging needs from domestic to commercial, the 'Universal Charger', which can charge up to 4 C- / D-size, and up to 8 AA- / AAA-size 'enloop' batteries, is being released. SANYO will continue to offer an expanded lineup of the 'enloop' series in its global effort to make the new lifestyle of reusing batteries more convenient and accessible.

Specifications

C- and D-size enloop Specifications

	Rechargeable Nickel-metal Hydride battery	
Product Name	 D-size 1-cell battery package	 C-size 1-cell battery package
Product Number	HR-1 UTG-1BP	HR-2 UTG-1BP
Voltage	1.2 V	
Rated Capacity (min.) ^{*9}	5700 mAh	3000 mAh
Battery dimensions	61 (h) x 33 (diameter) mm	50 (h) x 26 (diameter) mm
Battery volume	Approx. 100 g	Approx. 60 g
No. of batteries that can be directly connected in series ^{*10}	10 battery cells	10 battery cells

Universal Charger

	Charger for D-size through AAA-size 'enloop'		
Product Name	 Universal Charger		
Product Number	NC-TGU01		
AC Adapter	AC 100 to 240 V ; 50/60 Hz		
Operating temperature	0 to 40°C		
No. of batteries allowed	D- / C-size	1 to 4 battery cells	
	AA- / AAA-size	1 to 8 battery cells	
Charging Time	D-size	Approx. 8.5 hours	
	C-size	Approx. 4.5 hours	
	AA-size	1 battery cell	Approx. 4 hours
		2 battery cells	Approx. 8 hours
	AAA-size	1 battery cell	Approx. 1.5 hours
		2 battery cells	Approx. 3 hours
LED Display	Red lamp: Charging (Charge is less than 50%) Blue lamp: Charging (Charge is greater than 50%)		

	No lamp (blue lamp turns off): Fully charged
Dimensions	170 (w) x 190 (t) x 50 (d) mm
Charger volume (not including batteries or AC Adapter)	Approx. 480 g

- *1 Varies depending on storage conditions, but typically can be used up to 2 years after manufacture without recharging
- *2 An indication based on JIS C8708 2007(7.4) testing method on battery life.
- *3 Open price does not set manufacturer's suggested retail price.
- *4 Antibacterial agent: inorganic antibacterial agent, processing method: print, processed part: exterior package, Testing agency: Japan Spinners Inspecting Foundation, SIAA registration number: JP0122085A0002V. Testing method: JIS Z 2801
- *5 Based on prescribed Battery Association of Japan standards, as outlined in provision SBA S 1001 2005(3.3) specifying regulations for batteries with functions to prevent the temperature from rising when abnormalities caused by things such as short-circuits occur
- *6 An element that has characteristics designed to change the amount of electrical resistance rapidly once the temperature reaches a designated level or above
- *7 For simultaneous twice as fast rapid charging, only 4 batteries at a time can be inserted
- *8 Based on company Internet surveys, with 30,000 people responding.
- *9 An indication based on JIS C8708 2007(7.2) testing method on battery minimum capacity
- *10 If more than 10 battery cells are connected in a series, the PTC overheating function may not work properly, so do not use series connections with more than 10 battery cells.