Find Us Online



Panasonic Battery Global Website

Online resource for Panasonic batteries.

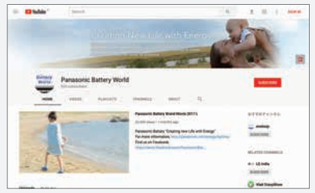
http://www.panasonic.com/global/consumer/battery.html

YouTube Panasonic Battery YouTube Channel

News, instruction, and promo videos.

Panasonic Battery World

www.youtube.com/user/PanasonicBatteryG



eneloop Global

www.youtube.com/user/eneloopglobal



Facebook

Engaging with communities around the globe.

Panasonic Battery World

www.facebook.com/PanasonicBatteryWorld



eneloop Global

www.facebook.com/eneloop



fun fun eneloopy Downloads

New wallpaper and postcards available monthly!



www.eneloopy.com



What's eneloopy?

Our mascot eneloopy represents our desire to strengthen the bond between people and nature, and to highlight our eco-friendly products. Just as you can depend on the loyalty of your pets, so too can you rely on eneloop for lasting performance charge after charge.



Panasonic®

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Battery Catalog 2018

Panasonic

bring Magic alive

100th Anniversary





bring Magic alive

Panasonic 100 100th Anniversary







Batteries, like boxes of magic enriching life all over the world.

Life. Happiness. Future.

Energy is vital to life, and always will be. Batteries that store it are small, but it’s the magic inside that lets your everyday appliances make the ordinary extraordinary, brightening smiles and creating irreplaceable memories. With 210 billion batteries sold over 85 years all around the globe, you can trust Panasonic’s world-beating innovation and know-how to bring magic alive as we continue creating new life with energy, now and into the next 100 years.



Historical Highlights

Take a tour of the products and events that shaped Panasonic's evolution as a world-leading brand driven forward by continuous innovation.

Panasonic Energy Device Business Division plays a vital role in the business of Panasonic Corporation, a trusted brand that grew from battery production about a century ago. Our unparalleled know-how is reinforced by a culture of continuous innovation to develop new products offering increasingly better quality. Sold all over the world, Panasonic batteries are now made in 22 factories in 13 countries. As we look toward the next 100 years with optimism, Panasonic affirms our commitment to innovation. With a range of solutions to meet your needs in demanding applications under any conditions, we strive to Create New Life with Energy.



1923

First Battery-powered Shell-Lamps Released

In 1923, Konosuke Matsushita, founder of the business that became Panasonic, developed a breakthrough shell-lamp for bicycles. A special battery assembly and new bulb provided 30 hours of operation, where two to three hours was average at the time.



1918

Matsushita Electric Housewares Manufacturing Works Established

Higher Quality. Better Performance. Superior Protection.

From our first battery lamp developed in 1923 by company founder Konosuke Matsushita to the latest Ni-MH cells powering next-generation EVs, innovation has been Panasonic's guiding light.



1931

Started in-house production of dry batteries due to increased demand. Introduced the National battery brand for the square lamp



1935

Matsushita Electric incorporated and a sister company, Matsushita Dry Cell Corporation, was established



1937

Automotive lead-acid batteries released



1954

Released National Hyper, Japan's First Fully Metal-Jacketed Dry Battery



National Hyper Dry Cell Debuts

While other brands entered into technical tie-ins with overseas manufacturers, a policy of developing world-class products using home-grown technology was maintained, with materials and parts made in-house to ensure consistent quality. By unifying effort in product development, the National Hyper was born.

1963

National Hi-Top Manganese Dry Battery Released

Following Hyper, the next challenge was batteries with twice the shelf-life of existing products. Working within size limits and overcoming difficulties with chemical composition, engineers unveiled National Hi-Top, a "miracle" battery resistant to self-discharge and leakage that performed brilliantly in heat, cold, and humidity.



1964

Commenced production of Cadnica Ni-Cd batteries



1967

Alkaline batteries released; developed compact sealed lead-acid batteries

1969

National NEO Hi-Top Manganese Dry Batteries Debuts



Research into a battery with capacity three times that of Hyper and 1.5 times that of Hi-Top began immediately. After five years of intensive work, the NEO Hi-Top was released. With 918 patents and utility models, it boasted the world's longest battery life.

1970

Released Pananica Ni-Cd batteries



1971

Developed lithium primary batteries (Graphite Fluoride BR line)



1976

Developed pin-type lithium battery for fishing floats

1978

Started production of coin lithium batteries for clocks, calculators, etc.



1979

Matsushita Battery Industrial Co., Ltd. Established

Focusing on the Future

Konosuke Matsushita expressed a desire to "consider the future of batteries, then reestablish our battery businesses in every aspect" with the goal of becoming "the world's leading comprehensive battery manufacturer."



1980

Started production of the world's first amorphous silicon solar cells

1981

Commenced mass production of cylindrical lithium batteries for cameras



1985

Developed rechargeable lithium coin battery for AV devices and backup



1987

Released Ultra Alkaline and Panasonic Alkaline batteries



1989

Nickel-Metal Hydride Batteries Developed

Development of more compact and lightweight batteries was achieved by downsizing and diversifying production equipment, leading to the release of a nickel-hydrogen storage cell and lithium-ion secondary battery.



1991

Mercury-Free Manganese Batteries Released

With growing awareness about the need for corporations to unite in an effort to reduce environmental impact, Panasonic forged partnerships with the US and Europe towards developing ecologically responsible products, leading the way with safe and eco-friendly mercury-free manganese batteries.



1992

Released mercury-free Alkaline batteries



1995

High-current Panasonic Alkaline batteries

1997

Started producing high-temperature-resistant coin lithium batteries for AV devices, backup, and in-vehicle installation



2004

OXYRIDE dry battery for high-drain devices released



2005

Rechargeable eneloop released to the market



2008

Released EVOLTA alkaline dry batteries; Panasonic Corporation Energy Company established



2009

Developed multi-purpose lithium-ion battery modules

2013

Released Solar LED Lantern

Panasonic releases a multi-award-winning Solar LED Lantern. The two-piece lamp and solar panel product was able to supply hours of efficient illumination in areas with no access to electricity.



2014

Panasonic eneloop Goes Global

Rechargeable eneloop gains global distribution via the Panasonic network and sales continue to climb as consumers recognize the benefits of low cost and high performance.



2015

Solar Storage System Launches

Panasonic eneloop's most advanced, cost-effective, and long-lasting solar LED light and portable device recharging solution is launched with the specific objective of bringing safe and reliable light to people without electrical access.



2017

Released EVOLTA NEO batteries



2018

Panasonic Celebrates 100 Years of Innovation

Panasonic celebrates its 100-year anniversary, a milestone in a journey defined by continuous, unflagging innovation with a goal of ever-improving product quality. The company looks with optimism towards the next century and the improvements to quality of life it will bring to customers around the world.

100th Anniversary

440 million

More than 440 million eneloop rechargeable batteries shipped

eneloop
Ready to use Rechargeable Battery

More than 200 billion dry batteries sold in 120 countries...

210 billion

* As of end of June 2017.

Assuming a 5 cm average length and laid end-to-end, a total of 200 billion dry batteries would extend for a distance of

10,500,000 km



14 That's fourteen times to the moon and back.

* Please see Panasonic Battery Global Website for further details.





Creating New Life with Energy

Panasonic's vision for the future centers on developing products that offer convenience, performance, and sustainability. We're delivering on that with the supply of lithium-ion batteries for electric vehicles and the development of solar energy, particularly for people without access to electricity. We are committed to improving quality of life, not only for people today, but for generations to come as well.

Mobility

Lithium-ion batteries for automotive applications



Endurance

Ultra-reliable power cells for space exploration



Power for the International Space Station

© JAXA/NASA

Note: EVOLTA (LR6EJ), Panasonic Alkaline (LR6XJ), and Panasonic coin batteries (CR1616) were used in KOUNOTORI, a H-II transfer vehicle to the International Space Station (information according to JAXA). eneloop batteries (BK-3MCC) contribute power to the CubeSat (S-CUBE), which is orbiting earth (information according to Chiba Institute of Technology).

Reliability

Backup battery modules for commercial and industrial applications



Sustainability

Creating energy-efficient smart towns and cities



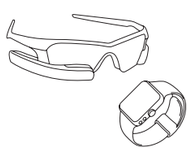
Empowerment

Sustainable eneloop solar storage for developing communities



Innovation

Specialized cells for wearable tech and smart devices





A Change for the Better

Panasonic supports the tech leaders of today as a key partner in EV development, sponsoring events and teams in solar events around the world.

World Solar Challenge

We support the World Solar Challenge as supplier of HIT® and lithium-ion technology to the Tokai University team.



EV Race Partner

Panasonic supports the Ene-1 GP SUZUKA event by supplying 40 AA-size eneloop cells that power each student-designed vehicle.



Manned Flight Challenge

Tokai University aimed at a world record by flying about 3.6 km in an aircraft powered by 640 EVOLTA cells.



A Better Life, A Better World

Panasonic is committed to creating a better life and a better world, continuously contributing to the evolution of society and to the happiness of people around the globe.

Appliances Company



Air Conditioners



TVs

- Air-Conditioner Company
- TV Business Division
- Home Entertainment Business Division
- Imaging Network Business Division
- Communication Products Business Division
- Refrigerator Business Division
- Laundry Systems and Vacuum Cleaner Business Division
- Kitchen Appliances Business Division
- Beauty and Living Business Division
- Refrigeration and Air-Conditioning Devices Business Division
- Smart Energy System Business Division
- Cold Chain Business Division
- Hussmann Corporation

Eco Solutions Company



Indoor air quality



Solar photovoltaic systems

- Lighting Business Division
- Energy Systems Business Division
- Housing Systems Business Division
- Panasonic Ecology Systems Co., Ltd.
- Panasonic Cycle Technology Co., Ltd.
- Panasonic Homes Co., Ltd. (from Apr. 2018)

Connected Solutions Company



In-flight entertainment systems



Integrated line-control systems

- Panasonic Avionics Corporation
- Process Automation Business Division
- Media Entertainment Business Division
- Mobile Solutions Business Division
- Security Systems Business Division
- Panasonic System Solutions Japan Co., Ltd.

Automotive & Industrial Systems Company



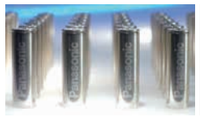
Lithium-ion batteries



Next-generation cockpit systems

- Automotive R&D Division
- Automotive Infotainment Systems Business Division
- Automotive Electronics Systems Business Division
- Ficosa International, S.A.
- Rechargeable Battery Business Division
- **Energy Device Business Division**
- Electromechanical Control Business Division
- Panasonic Semiconductor Solutions Co., Ltd.
- Device Solutions Business Division
- Electronic Materials Business Division
- Panasonic Liquid Crystal Display Co., Ltd.

To meet the needs of an expanding automotive battery market, Panasonic has accelerated production of lithium-ion batteries.



Cylindrical lithium-ion battery for EV



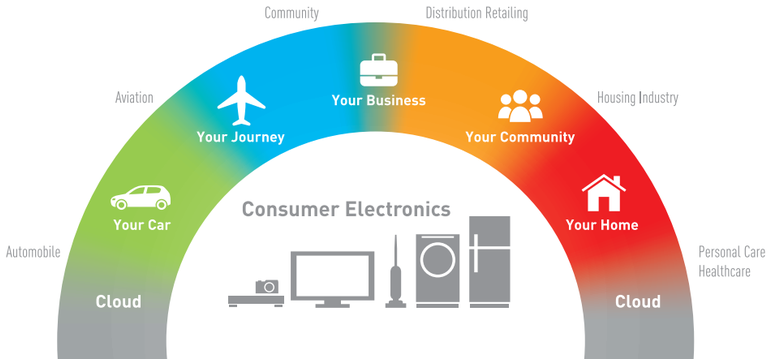
Panasonic's battery factory inside the Tesla Gigafactory in Nevada



Prismatic lithium-ion battery for HEV, PHV and EV



New plant in Dalian, China











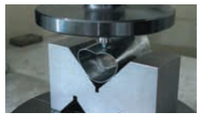
Holistic and Globally Minded Production

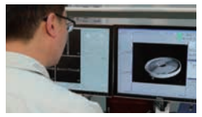
Panasonic's approach to manufacturing at its state-of-the-art facilities covers four key areas: Research & Development, Production, Quality Control, and Environmental Effort. Guiding principles of continual improvement with strict quality control standards govern the delivery of premium products with ever-decreasing environmental impact.

Research & Development

Developing High-Quality, High-Capacity Batteries

Continual research into materials, processes, and system technology at our lab facilities has kept Panasonic at the forefront of battery development. A focus on improving safety and endurance has resulting in high-value products that exceed customer expectations in every respect.





Producing Products Without Specified Harmful Substances

Panasonic is the world's only manufacturer to offer Manganese batteries in every size globally without added lead, mercury, or cadmium, saving 89 tons of lead in 2016 from disposal. Battery discharge performance and zinc-alloy-can durability also increased.



Manufacturing

Integral Computer-Controlled Production Lines

Almost all batteries in the Panasonic family are made on fully automated and computer-controlled production lines for superior consistency of quality and greater efficiency.





Contaminant-free Manufacturing Facilities

The vast majority of our products are made in contaminant-free clean rooms that exceed industry environmental standards. Advanced techniques ensure the same consistent quality no matter where our products are purchased.





Quality Control

Best Quality Control

We lead in quality with the industry's largest testing facilities. All of the two million cells we make each year are subjected to severe five-category testing covering discharge performance, leak resistance, shelf life, performance in extreme environments, and product stability over time.





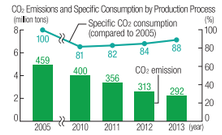
Environmental Efforts

Eco-friendly Processes and Design

Panasonic is committed to reducing its impact on the environment by reducing harmful emissions.

- Reduced CO_2 during production processes (Kasai Factory)





The Green Certification System and eneloop

In compliance with Green Certificate System, eneloop batteries are charged with solar power prior to sale*, helping to create a Clean Energy Loop.



* Through the green power certification system.





Trust Panasonic to power your day and get more from every moment. You can expect four things when you choose Panasonic Alkaline: superior performance, marathon endurance, excellent value, and class-leading safety.

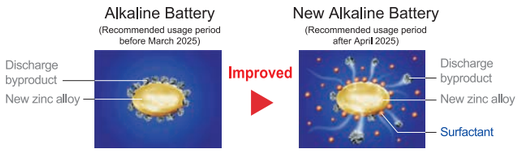
POWER YOUR DAY

The Pinnacle of Alkaline Battery Technology

Play Longer with EVOLTA and Alkaline!

Up to 20%*1 Longer Life in Mid-Current Applications*2

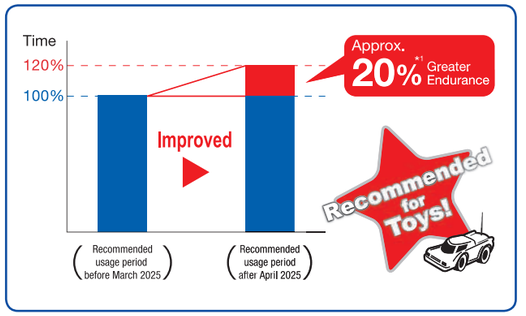
A new surfactant material diffuses discharge byproducts and improves zinc utilization, boosting battery life by about 20%*1 in continuous use. Devices such as torches and toys can be used for longer than ever.



*1 In comparison to LR6E (AA) and LR03E (AAA) with a recommended usage period before March 2025 at 0.9 V of discharge cutoff voltage and 3.9 Ω (300 mA equivalent). *2 3.9 Ω (300 mA equivalent).

Discharge Comparison in Continuous Use

Testing conditions: discharge of 0.9 V at 3.9 Ω resistance.
Intended devices: torchlights, toys.

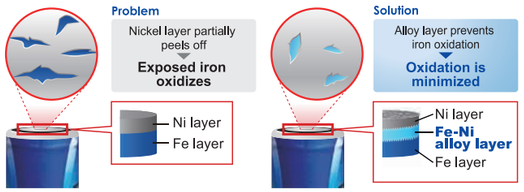


No Bad Connections. No More Stress.

TRIPLE TOUGH COATING

Triple Tough Coating Works Every Time

Triple Tough Coating is a nickel-and-iron alloy sandwich that reduces contact resistance and lets your gear work every time. In other batteries, contact resistance can cause nickel layers to peel off and the battery to fail.

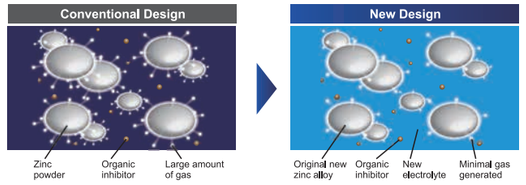


Protect Your Valuables

No More Leaks. No More Mess.

Panasonic Alkaline has unique Anti-Leak Protection that suppresses gas when a battery depletes or is stored for a long period. Less gas pressure means less chance of rupture, protecting your devices from damage.







Panasonic Batteries No.1 in Independent Leak Testing*

Independent testing by certifications laboratory Intertek proved EVOLTA and Alkaline batteries are more resistant to leaks than all other batteries in their class.

* In high-temperature, high-humidity conditions when the battery is in an unused state after a long period in storage. Competitive alkaline AA batteries in ASEAN countries were used. Testing proved Panasonic EVOLTA and Alkaline batteries suffered zero leaks during a three-month period.

Quality & Performance Mark for EVOLTA



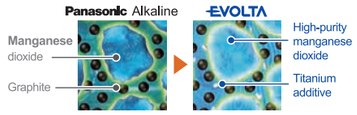
Note: Alkaline battery also certified.

For more information about Intertek testing, visit the Intertek website.

EVOLTA Technical Evolution

The Secret to No.1 Performance

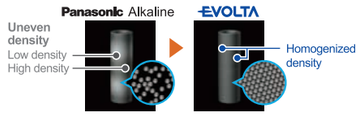
Material Evolution



High-Reactivity Materials

Improved materials drive high-drain devices longer. Extra Power Formula guarantees high performance every time.

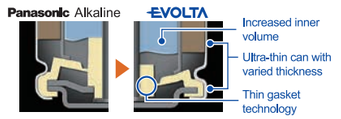
Process Evolution



Ultra-High-Density Filling Technology

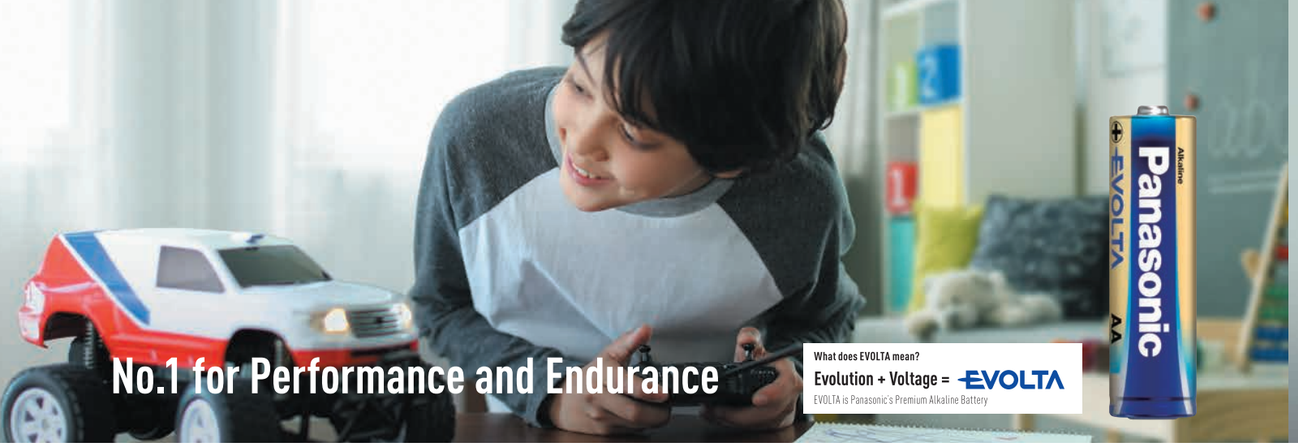
Uniform and homogenized filling material ensures power stability over extremely long periods.

Structural Evolution



Advanced Structural Design

Reduced gasket and can size means more space for active ingredients, giving you more power for your money.





EVOLTA
Premium Alkaline

Digital camera · Camera flash · Electric toothbrush · Personal care appliances · Shaver · Mobile recharger · Portable radio · Electronic organizer/ dictionary · Wireless mouse · Game remote controller · Radio control car · Battery-powered toys · LED torch lights · Bulb torch lights · Wall clock · Remote controller

AA LR6EG/2B



AA LR6EG/4B



AA LR6EG/8B



AA LR6EG/20B



AA LR6EG/1B12



AAA LR03EG/1B12



AAA LR03EG/2B



AAA LR03EG/4B



AAA LR03EG/8B



AAA LR03EG/20B



D LR20EG/2B



C LR14EG/2B



9V 6LR61EG/1B



9V 6LR61EG/2B



Store Batteries Safely for Up to 10 Years*

Depend on Panasonic Alkaline and EVOLTA to keep power locked in even after years in storage. Quality materials work to prevent degradation while Anti-Leak Protection minimizes the chance of leakage to ensure long-life stability.

PROTECTS POWER FOR UP TO 10 YEARS* PROTECTS POWER FOR UP TO 10 YEARS*

* When unused and properly stored. 9 V batteries excepted.

Alkaline

Digital camera · Camera flash · Electric toothbrush · Personal care appliances · Shaver · Mobile recharger · Portable radio · Electronic organizer/ dictionary · Wireless mouse · Game remote controller · Radio control car · Battery-powered toys · LED torch lights · Bulb torch lights · Wall clock · Remote controller

AA LR6T/2B



AA LR6T/4B



AA LR6T/8B



AA LR6T/1B12



AAA LR03T/1B12



AAA LR03T/2B



AAA LR03T/4B



AAA LR03T/8B



D LR20T/2B



C LR14T/2B



9V 6LR61T/1B



N LR1T/2B



Note: Package design may vary.

AA LR6T/24V



AAA LR03T/24V



AA LR6RTB/2B



AAA



AA LR6RTB/2S



AAA LR03RTB/2S



PROTECTS POWER FOR UP TO 7 YEARS*

* When unused and properly stored. 9 V batteries excepted.



Protecting You and the Environment

A Cleaner Alternative

No Lead, Mercury, and Cadmium Added

Panasonic is the world's only manufacturer to offer manganese batteries without added lead, mercury, or cadmium in every size globally. Toxic substances are replaced with safer, better alternatives. Performance and durability also increased as a result. Panasonic went mercury-free in 1991 and continues to lead with eco-friendly initiatives, cutting 89 tons of lead from potentially harmful disposal in 2016.



Replacement of Lead (Pb)	Replacement of Cadmium (Cd)	Replacement of Mercury (Hg)
Manganese (Mn)	Indium (In)	Bismuth chloride (Bi)
		
Effect : To increase mechanical strength to zinc can	Effect : To increase corrosion resistance of zinc can	Effect : To increase corrosion resistance of zinc can

Simply Better Design

Structure Enhanced with Safe Alternatives

Eco-friendly design was achieved by substituting specified substances with safe alternatives: lead was replaced with manganese, increasing mechanical strength; cadmium with indium for better resistance to corrosion; and mercury with bismuth chloride to further protect the zinc-alloy can. Superior design results in better discharge performance and greater strength.

Damaged zinc can

Discharge
↓
Pitting corrosion
↓
Discharge down

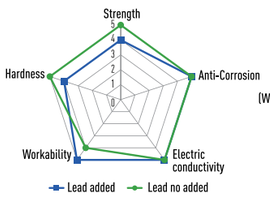


Pd/HG/Cd 0% added

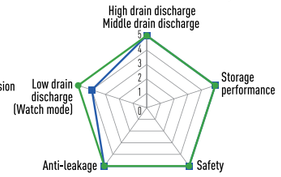
Discharge
↓
Bismuth chloride + Lead no added
↓
Corrosion Resistance UP
↓
Discharge up



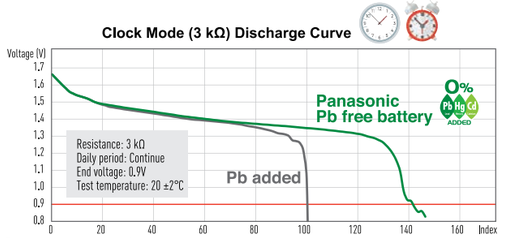
Characteristics of zinc can



Characteristics of battery



Clock Mode (3 kΩ) Discharge Curve



The data in this document are for descriptive purposes only and are not intended to make or imply any guarantee or warranty.

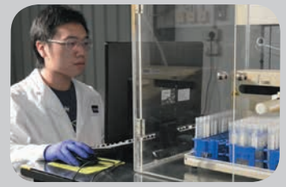
Independently Tested for Safety

Intertek Green Leaf Mark-Certified

To further prove our claims that Panasonic Manganese are the world's safest family of primary batteries, independent global certifications laboratory Intertek subjected all cells to a barrage of tests. Panasonic Manganese emerged with Intertek Green Leaf Certification, guaranteeing to customers they contain no added toxic substances.

Countries delivered : 98 countries
Production : 8 factories
Total shipments : 65 billion cells
Lead volume reduced : 89 tons

※Based on until FY2016 shipment base



Intertek Green Leaf Mark Certified

Intertek independently confirmed Panasonic Manganese contain no specified toxic substances, awarding the product its Green Leaf mark.

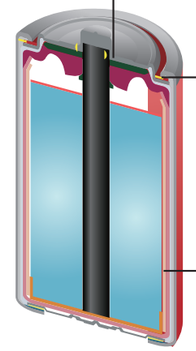
Power Locked In

Superior Anti-Leak Protection

Protect your devices with the industry's most advanced anti-leak technology, featuring stronger collector-rod sealing, nylon inner-tube protection, and a metallic outer can.



For Manganese



Reason for Manganese Battery Leakage

1 Leaks via the carbon rod (collector) or zinc can

Preventive Technology

1 Stronger sealing structure
Special sealant is applied in two places



Reason for Manganese Battery Leakage

2 Leaks due to zinc n wear

Preventive Technology

2 Inner tube used (covering the zinc can periphery with a nylon tube)

Reason for Manganese Battery Leakage

3 Leaks due to zinc can damage caused by external pressure

Preventive Technology

3 Metallic outer can



Eco-friendly Energy for Low-Current Applications





Manganese
Window Design

Portable radio · Battery-powered toys · LED torch lights · Bulb torch lights · Wall clock · Remote controller

Extra Heavy Duty

AA R6NPT/4B



AAA R03PT/2B



D R20NPT/2B



C R14NPT/2B



9V 6F22NPT/1B



AA R6NPT/1B12



AA R6UPT/1B12



Heavy Duty

AA R6DPT/4B



D R20DPT/2B



C R14DPT/2B



9V 6F22DPT/1B



General Purpose

AA R6UPT/4B



D R20UPT/2B



C R14UPT/2B



9V 6F22UPT/1B



Extra Heavy Duty

AA R6NPT/2S



AA R6NPT/4S



AAA R03NPT/2S



D R20NPT/2S



C R14NPT/2S



9V 6F22NPT/1S



Heavy Duty

AA R6DPT/4S



D R20DPT/2S



C R14DPT/2S



9V 6F22DPT/1S



General Purpose

AA R6UPT/4S



D R20UPT/2S



C R14UPT/2S



9V 6F22UPT/1S



Manganese
Oval Design

Portable radio · Battery-powered toys · LED torch lights · Bulb torch lights · Wall clock · Remote controller

Extra Heavy Duty (Neo)

AA R6NT/4B



AAA R03NT/2B



D R20NT/2B



C R14NT/2B



9V 6F22NT/1B



AA R03NT/1B12



AAA R03NT/2B24



AA R6UT/1B12



Heavy Duty (Hi-Top)

AA R6DT/4B



D R20DT/2B



C R14DT/2B



9V 6F22DT/1B



General Purpose (Hyper)

AA R6UT/4B



D R20UT/2B



C R14UT/2B



Extra Heavy Duty (Neo)

AA R6NT/4BS



AAA R03NT/2S



D R20NT/2S



C R14NT/2S



9V 6F22NT/1S



D R20NT/2S



Heavy Duty (Hi-Top)

AA R6DT/4S



D R20DT/2S



C R14DT/2S



9V 6F22DT/1S



General Purpose (Hyper)

AA R6UT/4S



AAA R03UT/4S



D R20UT/2S



C R14UT/2S



9V 6F22UT/1S





Why Change to eneloop?

* INTAGE SRI, Japan all battery market from April 2014 to March 2017, amount of sales.

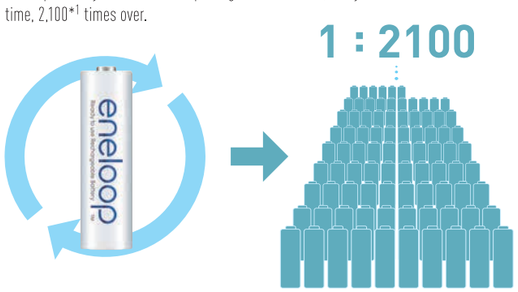
No.1 BRAND in JAPAN *

Recharge Up to 2,100 Times*1

IEC Regulation 2017 600 times*2

Invest in a few packs of eneloop and you won't buy another battery for years. A quick charge every now and then, and eneloop is ready to outlast a shop-bought alkaline cell, every time, 2,100*1 times over.

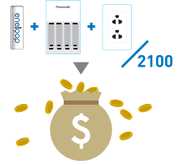
Watch eneloop introduction video



Save Real Money

Average homes use about 70 dry cells a year. Including charger and electricity, eneloop saves you about US$20 annually running just one game controller*. Before eneloop replacement, you'll have saved hundreds.

* Based on a game controller with 4 x AA batteries playing for two hours per day for one year. Dry cell batteries total cost US$48.70 operated for 30 hours (24.33 purchases required/year). eneloop operation cost US$30.10 operated for 25 hours, with 29.2 charges required. Includes average cost of charger and electricity.



Stop Waste

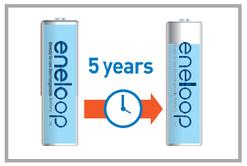
Every time you recharge, you're saving a battery from the trash, reducing your impact on the environment. Because they hold 70%*3 full charge after five years in storage, eneloop will be the last batteries you buy in a long time.



Watch eneloop Eco Life video

Six Key Advantages

1 Low Self-Discharge



By improving the metal-hydride alloy lattice, eneloop retains 70%*3 capacity even after five years in storage.

2 Recharge Up to 2,100 times*1 IEC Regulation 2017 600 times*2



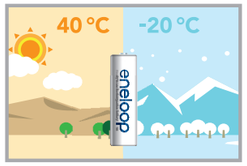
Each time you recharge, you're saving on the cost of replacement batteries and reducing waste at the same time.

3 Lasts Longer than Dry Batteries



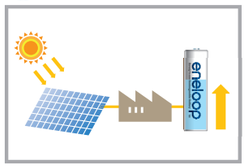
Stable voltage performance guarantees far longer life than conventional dry batteries even in extreme weather.

4 Works in Extreme Temperatures [Upgraded]



Maintains high voltage in temperatures as low as -20 °C*4—far longer than dry cells (great for skiing or hiking). Performance is also stable when stored above 40 °C.

5 Pre-charged with Solar Energy*5



Pre-charged with sustainable solar energy at the factory and can be used immediately after purchase.

6 More Choice



The Panasonic product lineup comprises eneloop, eneloop pro, and eneloop lite to suit your application and budget.

*1 Battery life based on testing method established by IEC61951-2 2011 (7.5.1.3). Varies according to conditions of use. *2 IEC61951-2 2017 (7.5.1.4)
*3 Capacity retention based on testing method established by IEC 61951-2 (7.3.2) when stored at 20 °C (based on Panasonic's estimation) and compared with minimum capacity. Varies according to conditions of use. *4 Operation time will be shorter than that at room temperature. Operating time varies according to equipment. *5 As part of our participation the Green Certificate system, we use solar power to charge eneloop batteries prior to sale.

Global Design Awards



- Good Design Award Gold Prize 2006
- Long Life Design 2016
- Japan Package Design Award Gold Prize 2007
- iF Products Design Award Product Design 2008
- Australian International Design Awards 2009
- DFA : ASIA Design Award Grand Prize 2010

The eneloop family of products and their packaging has attracted accolades from the world's most prestigious institutions, including Germany's iF Design Awards.

2017 / iF Design Awards

eneloop tones ocean wins iF Product Design Award 2017

Cell and Package Design

Judges at iF Design Awards 2017 recognized the superiority of eneloop rechargeable batteries, noting how the products have led a shift towards use of sustainable energy. Each cell can be reused 2,100 times*1 with around 70%*3 energy retained after 10 years in storage.





Note: Pictured package not for sale.





eneloop ™

Digital camera · Camera flash · Electric toothbrush · Personal care appliances · Shaver · Mobile recharger · Portable radio · Electronic organizer/ dictionary · Wireless mouse · Game remote controller · Radio control car · Battery-powered toys · Bulb torch toys · LED torch lights · Bulb torch lights · DECT phone

More information

AA BK-3MCCE/4B



AA BK-3MCCE/2B



AAA BK-4MCCE/4B



AAA BK-4MCCE/2B



AA BK-KJMCCE44
AAA



AA BK-3MCCE/8BC



AA BK-3MCCE/4



AA BK-3MCCE/2

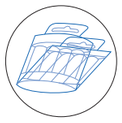


AAA BK-4MCCE/4



AAA BK-4MCCE/2





Package can be used as a storage case.

AA BK-3MCCE/12



Rechargeable Battery Information Chart

	Low Self-Discharge for Multi-Use eneloop	High Capacity for High-Drain Devices eneloop pro	Basic Rechargeable for Daily Use eneloop lite
Capacity (AA)	up to 2,000 mAh	up to 2,550 mAh	up to 1,000 mAh
Recharge (IEC61951-2 2011 [7.5.1.3])	up to 2,100 times	up to 500 times	up to 3,000 times
Recharge (IEC61951-2 2017 [7.5.1.4])	up to 600 times	up to 150 times	up to 1,000 times

Approximate usage time		High-Drain Device: Camera Flash	Digital Cameras	Shaver	Mouse	Mid-Drain Device: LED Light	Games	Low-Drain Device: Toys	DECT Phones	Wall Clock
AA	eneloop pro	Approx 800 shots	Approx 1200 shots	Approx 4.0 hours	Approx 100 days	Approx 7.0 hours	Approx 30.0 hours	Approx 8.0 hours	Approx 20.0 hours	Approx 2 years
	eneloop	Approx 600 shots	Approx 1000 shots	Approx 3.0 hours	Approx 80 days	Approx 5.0 hours	Approx 20.0 hours	Approx 6.0 hours	Approx 15.0 hours	Approx 2 years
	eneloop lite	Approx 300 shots	Approx 500 shots	Approx 1.5 hours	Approx 40 days	Approx 2.5 hours	Approx 10.0 hours	Approx 3.0 hours	Approx 7.5 hours	Approx 1 year
	Alkaline Battery	Approx 100 shots	Approx 250 shots	Approx 2.0 hours	Approx 110 days	Approx 5.0 hours	Approx 30.0 hours	Approx 7.0 hours	—	Approx 2 years
AAA	eneloop pro	—	—	—	Approx 40 days	Approx 3.0 hours	Approx 10.0 hours	Approx 3.5 hours	Approx 8.0 hours	Approx 1 year
	eneloop	—	—	—	Approx 30 days	Approx 2.0 hours	Approx 8.0 hours	Approx 3.0 hours	Approx 6.0 hours	Approx 1 year
	eneloop lite	—	—	—	Approx 20 days	Approx 1.5 hours	Approx 6.0 hours	Approx 2.0 hours	Approx 4.5 hours	Approx 0.5 year
	Alkaline Battery	—	—	—	Approx 50 days	Approx 1.5 hours	Approx 10.0 hours	Approx 2.5 hours	—	Approx 1 year

Battery runtime measured beginning from charged state. Endurance varies depending on usage conditions, model used, ambient temperature, and condition of equipment.

eneloop pro ™

Digital camera · Camera flash · Electric toothbrush · Personal care appliances · Shaver · Mobile recharger · Portable radio · Electronic organizer/ dictionary · Wireless mouse · Game remote controller · Radio control car · Battery-powered toys · Bulb torch toys · LED torch lights · Bulb torch lights

More information

AA BK-3HCCE/4B



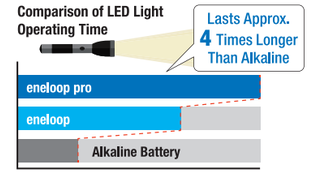
AAA BK-4HCCE/4B



AA BK-3HCCE/8B



Comparison of LED Light Operating Time



Graphical representation only.



eneloop lite ™

Digital camera · Camera flash · Electric toothbrush · Personal care appliances · Shaver · Portable radio · Electronic organizer/ dictionary · Wireless mouse · Game remote controller · Radio control car · Battery-powered toys · Bulb torch toys · LED torch lights · Bulb torch lights · Wall clock · Remote controller · DECT phone

AA BK-3LCCE/4B



AA BK-3LCCE/2B



AAA BK-4LCCE/4B



AAA BK-4LCCE/2B



Note: LED Light consumption current: 300 mA. Operating times differ from each models.

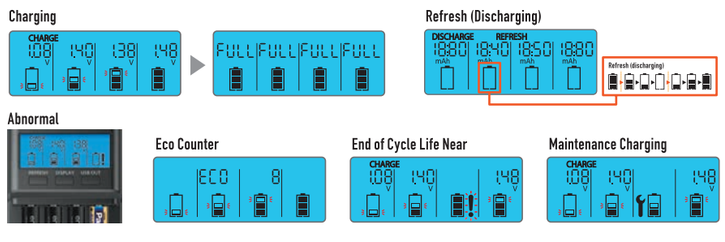
*1 Battery life based on testing method established by IEC61951-2 2011 (7.5.1.3). Varies according to conditions of use. *2 IEC61951-2 2017 (7.5.1.4) *3 IEC61951-2 2017 (7.3.2) *4 Capacity retention based on testing method established by IEC 61951-2 (7.3.2) when stored at 20 °C (based on Panasonic's estimation) and compared with minimum capacity. Varies according to conditions of use.



New Flagship and Premium Models

Information-Rich Cell Status LCD

A full battery management solution to protect and care for your eneloop investment. LCD Status shows voltage/operation time remaining; an Eco Counter (number of batteries saved); End of Life advanced warnings; Abnormality Detection for incompatible batteries; Maintenance Mode information; and Discharge Function including battery condition. Intuitive information to prevent device downtime while extending battery performance.



Charge Mobiles and Tablets

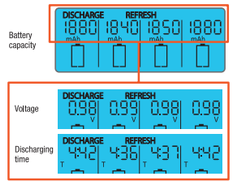
Plug your charger to an AC cable, connect your smartphone via USB cable*, and when your mobile battery is full, the charger automatically switches back to replenishing your eneloop cells. Great for overnighting.

*Note: USB cable sold separately.



Refresh (Discharge) Function

Batteries are gently charged, drained to check their condition, and refilled, refreshing your eneloop cells. Maintenance Charging checks for cells that have been over-discharged or overheated, and a switches individual cells to an appropriate charging mode to restore performance. Charge speed is regulated to stop overheating, while roll-off approaching full capacity is gentle to prevent overcharging.



BQ-CC65



Charging Time 1.5 hr. 2 x AA

USB-OUT

Flagship Charger with LCD Status Screen

- LCD Shows Battery Status
- Shows Voltage, Time, Capacity, and Wh
- Shows Cell Discharge Power
- Refresh (Discharge) Function
- Prevents Battery Overcharging
- Alerts Near End-of-Life
- Charge Mobiles via USB*
- Charges 2 x AA Cells in 1.5 Hrs.

* When connected to USB power cable.

BQ-CC55



Premium Charger with 3-Color LED Indicators

- 3 LED Colors Indicate Charge Progress, Battery Status, and Battery Life
- Features Battery Life Checker (Rapid Flashes at End of Life)
- Charges 2 x AA Cells in 1.5 Hours
- Accepts 4 x AA or 4 x AAA

Charging Time 1.5 hr. 2 x AA

More information

K-KJ55HCC40 (Charger: BQ-CC55)



K-KJ55MCC40 (Charger: BQ-CC55)



BQ-CC55



Remaining Capacity and Charging Status Indication

The 3-color LED indicates charging progress with voltage detection.



Advanced and Economy Chargers



BQ-CC63

New 8-Cell Smart Charger

- Accepts Up to 8 x AA, 8 x AAA, Combination of AA/AAA Cells
- Rapid 5-hour Charging of 8 x AA Cells
- Ideal for Commercial and Business Use (Reduce Cost and Save Time)
- Individual Voltage Control Function for Greater Efficiency
- 8 x LED Indicators (Green Indicates Charging in Progress)

Charging Time 5 hrs. 1–8 x AA

More information



BQ-CC61

Portable Charger with USB Port

- Charge Cells via USB Terminal
- Fully Charges 4 x AA Cells in 10 Hours
- 2 x LED Indicators (Green: Charging)
- Ultra-lightweight 65 g Design Ideal for Travel

Charging Time 10 hrs. 4 x AA

More information

Charge cells via USB port (DC IN)

Note: AC adapter sold separately.



BQ-CC17



K-KJ17MCC20 (Charger: BQ-CC17)



BQ-CC51



K-KJ51MCC40 (Charger: BQ-CC51)



K-KJ51MCC20 (Charger: BQ-CC51)



BQ-CC50



K-KJ50MCC20T (Charger: BQ-CC50)



K-KJ50MCC2TP (Charger: BQ-CC50)



K-KJ51MC64



Set contains
Basic Charger x 1,
eneloop AA x 6,
eneloop AAA x 4,
C-Size Spacer x 2,
and D-Size Spacer x 2

Specialized Rechargeable Batteries

Rechargeable Battery for DECT Phones

- Easy to find with same label as battery supplied with Panasonic DECT phones
- 1.7x longer life*1 than supplied DECT phone battery
- Holds up to 85 % charge after 1 year*2 in storage

*1 Panasonic internal IEC61951-2 (7.3.2) testing. Varies according to usage conditions.
*2 Based on IEC61951 2017 (7.5.1.4).

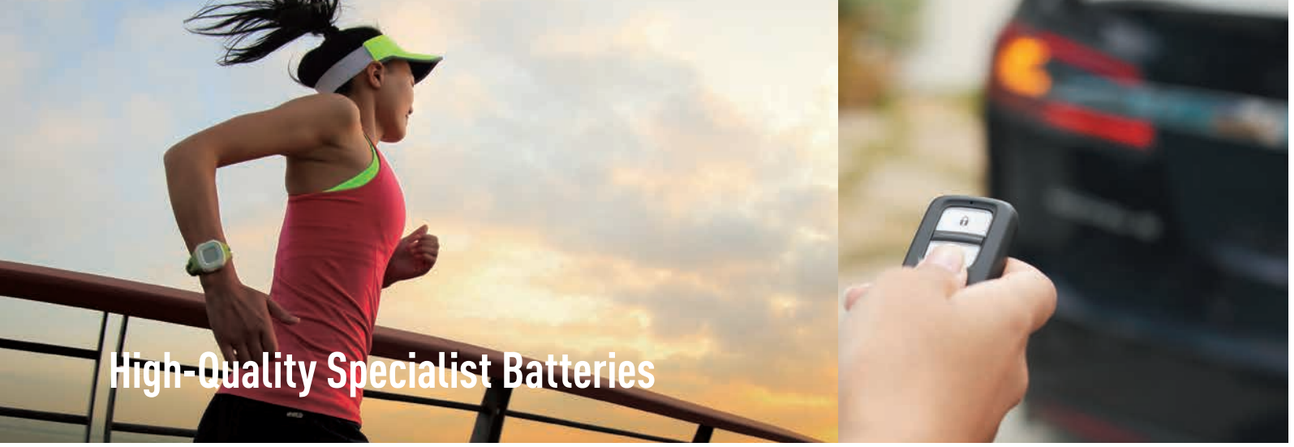
BK-4LDAW/2B



Charger Information Chart

		BQ-CC65		BQ-CC55		BQ-CC63	BQ-CC17	BQ-CC51	BQ-CC50	BQ-CC61
Charging Time (Approx.)		1 pc. / 2 pcs.	3 pcs. / 4 pcs.	1 pc. / 2 pcs.	3 pcs. / 4 pcs.	1 pc. – 8 pcs.	1 pc. / 2 pcs. / 3 pcs. / 4 pcs.	2 pcs. / 4 pcs.	1 pc. / 2 pcs.	2 pcs. / 4 pcs.
eneloop	AA	1.5 hrs.	3 hrs.	1.5 hrs.	3 hrs.	5 hrs.	7 hrs.	10 hrs.	10 hrs.	10 hrs.
	AAA	1.5 hrs.	3 hrs.	1.5 hrs.	3 hrs.	3 hrs.	6 hrs.	10 hrs.	10 hrs.	10 hrs.
eneloop pro	AA	2 hrs.	4 hrs.	2 hrs.	4 hrs.	6 hrs.	9 hrs.	12 hrs.	12 hrs.	-
	AAA	2 hrs.	4 hrs.	2 hrs.	4 hrs.	3.5 hrs.	7 hrs.	12 hrs.	12 hrs.	-
	AA	0.75 hrs.	1.5 hrs.	0.75 hrs.	1.5 hrs.	2.5 hrs.	3.5 hrs.	5 hrs.	5 hrs.	5 hrs.
	AAA	1.25 hrs.	2.5 hrs.	1.25 hrs.	2.5 hrs.	2.5 hrs.	5 hrs.	8 hrs.	8 hrs.	8 hrs.
Specification										
Input		AC 100 – 240 V		AC 100 – 240 V		AC 100 – 240 V	AC 100 – 240 V	AC 100 – 240 V	AC 100 – 240 V	DC 5 V
LCD Display / LED Indicator		LCD Display		LED × 4 (Green, Yellow, Red) Battery Capacity & Life Check		LED × 8 (Green)	LED × 4 (Green)	LED × 2 (Green)	LED × 2 (Green)	LED × 2 (Green)
Dimensions (Approx., except AC plug)		88 (W) × 147 (L) × 40 (H) mm		68 (W) × 120 (L) × 28 (H) mm		147 (W) × 119 (L) × 28 (H) mm	65 (W) × 105 (L) × 27 (H) mm	66 (W) × 108 (L) × 27.5 (H) mm	50 (W) × 121 (L) × 27.5 (H) mm	66 (W) × 85 (L) × 27.5 (H) mm
Weight (Approx.)	A plug	225 g (Excluding AC cord)		120 g		240 g (Excluding AC cord)	91 g (Excluding AC attachment)	96 g	82 g	65 g (Excluding USB cable)
	E plug			124 g				100 g	86 g	
	U plug			132 g				108 g	96 g	
	O plug			126 g				102 g	88 g	
USB Output		√ (Via AC only)		—		—	—	—	—	—
Charge Control Systems		Panasonic's smart technology; Smart Charge: Detects voltage and stops charging before overflow for longer battery life.				-ΔV: Detects voltage and stops charging just after overflow.		Timer Cut: Recharges for a preset time, even if battery is full.		

Smart Charge Technology Smart Charge detects voltage and shuts down before battery overflow, preventing battery damage, reducing charging time, and extending product life.

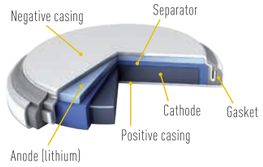


Superior Performance and Safety

CR Coin batteries deliver consistent performance and proven safety. The lithium cells outperform alkaline counterparts across a wide operational temperature range. The products are UN Manual of Tests and Criteria-approved against thermal and kinetic stress during transport, and are IATF (International Automotive Task Force) approved.

Innovative Design, Better Build

Key features include a sophisticated sealing structure to reduce self-discharge and prevent leaks, with some testing performed over 20 years. High voltage and current density is assisted by a unique dimpled terminal surface.



Lithium Coin

Panasonic Lithium coin batteries provide long-lasting power in a variety of devices, from keyless-entry fobs to toys.





CR-1616PT/1B



CR-1620PT/1B



CR-1632PT/1B



CR-2016PT/1B



CR-2025PT/1B



CR-2032PT/1B



CR-1216/5BE



CR-1220/5BE



CR-1616/5BE



CR-1620/5BE



CR-1632/5BE



CR-2016/5BE



CR-2025/5BE



CR-2032/5BE



CR-2450/5BE



Photo Lithium

Combines lightweight materials with lithium technology to create a long-lasting energy source for cameras and other devices.

Camera · Head lamp · Smoke detector



CR-2W/1BE



CR-123AW/1BE



CR-P2W/1BE



2CR5-5W/1BE



Micro Alkaline

With a great price-to-performance ratio, Panasonic Micro Alkaline has more staying power than competitive brands.

Watch · Electronic toy · Calculator · Electronic thermo-meter · Pedometer



LRV-08/1B



LR-43PT/1B



LR-44PT/1B



LRV08/5BE



LR-43/5BE



LR-44/5BE



LR-1120/5BE



LR-1130/5BE



Zinc Air

Hearing Aid Batteries

Offering more capacity than previous models, Zinc Air batteries are designed for use in next-generation hearing aids.

Hearing aid



PR-230HEP/6C



PR-13HEP/6C



PR-312HEP/6C



PR-675HEP/6C



Silver Oxide

Highly stable voltage performance makes Silver Oxide the smart choice for precision devices such as calculators, watches, and cameras.

Watch · Calculator · Electronic thermo-meter · Camera



SR-516SWPT



SR-521SWPT



SR-616SWPT



SR-621SWPT



SR-626SWPT



SR-716SWPT



SR-721SWPT



SR-726SWPT



SR-916SWPT



SR-920SWPT



SR-927SWPT



SR-936SWPT



Cordless Phone Batteries

Panasonic offers a comprehensive range of dependable Ni-MH batteries to suit a big variety cordless telephone brands.

Cordless phone

HHR-P102E/1B



HHR-P104A/1B



HHR-P105A/1B



HHR-P107A/1B

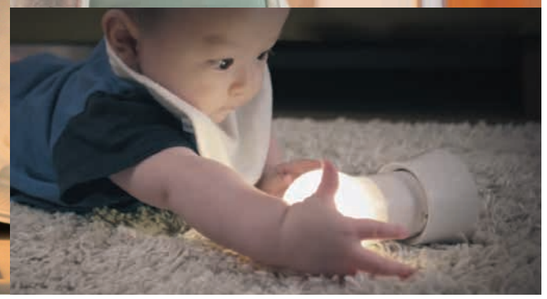


HHR-P301E/1B









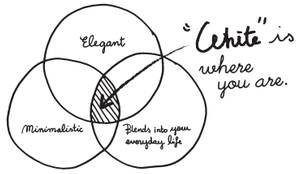


Introducing the White Series

More information

Why White?

The White Series is a collection of unique flashlights suitable for any home décor and everyday life.











This handy 2-mode battery lantern suffuses soft or bright light anywhere in the home, and can also be used as a flashlight. Keep it by your bedside or in the kids' room.

One-2 LED Lantern

BF-AL05

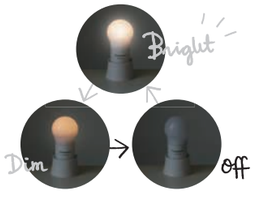
- Efficient LED for up to 1,000 hours*1 of lighting
- Push-touch High or Low light modes
- Hang on lanyard, place in stand, use as flashlight (switch on bottom)
- LED doesn't get hot, safe for children
- Size (Approx.): W 70 mm x H 135 mm x D 70 mm

*1 In Low Mode with EVOLTA batteries. *2 In High Mode with EVOLTA batteries.

BATTERY: 3 x AA | LUMINOUS FLUX: 30 LUMENS | BATTERY LIFE*2: 55h | LANTERN | WATER RESISTANT: IPX 1 | LUMINOUS FLUX: 1 LUMENS | BATTERY LIFE*1: 1,000h



More information



Just push the light to turn it on, turn it off, or change brightness.



An everyday interior light that's also a handy flashlight right when you need one.

A handy LED lantern/flashlight that doesn't get hot, so it's safe to use around babies.



Stow this versatile mini-lantern in your camping kit, in your car, or anywhere your outdoor hobby takes you for dependably bright and long-lasting light.

LED Mini Lantern

BF-AL01

- Long-lasting continuous light (EVOLTA: 70 hours)
- High 5 lx illuminance, light flux 18 lm
- Weighs just 140 grams (batteries included)
- Weatherproof (lanyard not included)
- Size (Approx.): ø 46 mm x H 95 mm

BATTERY: 3 x AA | BATTERY LIFE: 70h | LUMINOUS FLUX: 18 LUMENS | WATER RESISTANT: IPX 1 | LANTERN





Introducing Any-Battery Mini

Same high brightness, same long runtime, but it's 74 % smaller and fits in a jacket pocket. Works with either AA or AAA batteries!

74% down





LED Any-Battery Lantern Mini

BF-BM01

- Size (Approx.): W 105 mm x H 85 mm x D 48 mm

BATTERY: 1 x AA | BATTERY LIFE: 8h | BATTERY LIFE: 10.5h | LUMINOUS FLUX: 14 LUMENS | BATTERY: 1 x AAA | BATTERY LIFE: 2.5h | WATER RESISTANT: IPX 1 | LANTERN

*With cells used individually in sequence until depletion.

More information



Innovation, Illuminated

This clever lantern works with one battery of any type and size*1. You'll always be prepared in emergencies with any cells you have to hand. Provides light for up to 3 days*2 with four cells.

LED Any-Battery Lantern

BF-BM10

- Use with any cell (dry-cell or Ni-MH) of any size (D/C/AA/AAA)
- Use with any number of batteries (one cell to four cells)
- Up to 3 days (86 hours*2) illumination or more
- Multi-purpose (lantern or flashlight) with rotating on/off switching lens cover to disperse or focus light
- Compact and weatherproof, easy-grip handle
- Size (Approx.): W 135 mm x H 125 mm x D 80 mm

*1 Excluding 9 V. *2 With four cells used individually in sequence until depletion.

BATTERY: 1 x D | BATTERY LIFE: 50h | BATTERY: 1 x AA | BATTERY LIFE: 8h | BATTERY LIFE: 85.5h | LUMINOUS FLUX: 14 LUMENS | BATTERY: 1xC | BATTERY LIFE: 25h | BATTERY: 1xAAA | BATTERY LIFE: 2.5h | WATER RESISTANT: IPX 1 | LANTERN

More information



Any Number of Batteries!





Any Type, Any Size!



LED Emergency Light

BF-BE01

- Size (Approx.): ø 35 mm × H 195 mm

BATTERY: 3 x AA | BATTERY LIFE: 70h | LUMINOUS FLUX: 18 LUMENS





PECGI

Standard LED Torch Light

BF-BG01

- Size (Approx.): ø 42 mm × H 205 mm

BATTERY: 3 x AA | BATTERY LIFE: 70h | LUMINOUS FLUX: 18 LUMENS | HANGER RING





LED Mighty Light

BF-BS01

- Size (Approx.): W 105 mm x H 85 mm x D 48 mm

BATTERY: 4 x D | BATTERY LIFE: 60h | LUMINOUS FLUX: 73 LUMENS





LED Flashlight

BF-BG20

- Size (Approx.): ø 55 mm × H 140 mm

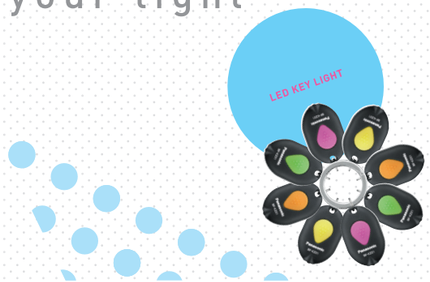
BATTERY: 3 x AA | BATTERY LIFE: 70h | LUMINOUS FLUX: 18 LUMENS | WATER RESISTANT: IPX 1 | HANGER RING



Colors

Find your light









Personal Lights

LED Neck Light PECGI

BF-AF10

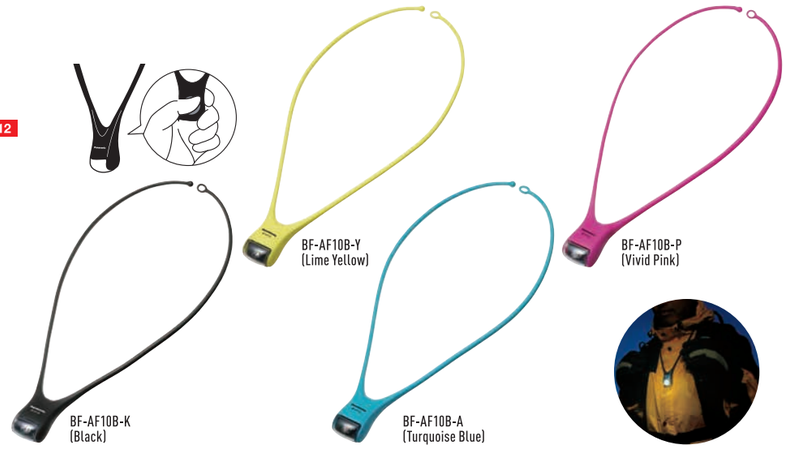
Kids Design Award 2012 | Good Design Award 2012

A convenient LED light for walks, fishing, and camping. LED provides high brightness while using a fraction of the power.

BATTERY 2 x CR2032 | BATTERY LIFE 15h | LUMINOUS FLUX 13 LUMENS

- Easy hands-free design ideal for walking, jogging, etc.
- Comfortable 40-gram weight puts no strain on your neck
- Illuminates a wide area for safety
- Size (Approx.): W 30 mm x H 50 mm x D 26 mm
- Strap diameter: 215 mm

More information



BF-AF10B-K (Black)

BF-AF10B-Y (Lime Yellow)

BF-AF10B-A (Turquoise Blue)

BF-AF10B-P (Vivid Pink)

LED Clip Light

BF-AF20BT

Kids Design Award 2014 | Good Design Award 2014

BATTERY 2 x CR2032 | BATTERY LIFE 15h | LUMINOUS FLUX 10 LUMENS

- Gimbal rotates light (360 ° horizontal, 110 ° vertical)
- Light 19-gram weight ideal for clipping to garments, etc.
- Spray- and drip-proof for use in light rain
- High and low modes for 15-hour continuous illumination (low mode)
- Size (Approx.): W 34 mm x H 50 mm x D 35 mm

More information



BF-AF20BT-K (Black)

BF-AF20BT-Y (Lime Yellow)

BF-AF20BT-A (Turquoise Blue)

BF-AF20BT-P (Vivid Pink)



LED Key Light PECGI

BF-KZ01BT

BATTERY 2 x CR2025 | BATTERY LIFE 15h | LUMINOUS FLUX 6.5 LUMENS

- 15-hour battery life (Approx. 10-year lifespan with 15 seconds of use per day)
- Easy-to-use On/Off switch
- Size (Approx.): W 30 mm x H 50 mm x D 26 mm

More information



BF-KZ01BT-D (Orange)

BF-KZ01BT-Y (Lime Yellow)

BF-KZ01BT-G (Green)

BF-KZ01BT-P (Vivid Pink)



Specialized Lights

Bicycle LED Flashlight with Holder

BF-BG70BT BG70BT/HL

BATTERY 3 x AAA | BATTERY LIFE 9h | LUMINOUS FLUX 80 LUMENS

- 9-hour battery life
- 80 lm illuminance
- Size (Approx.): W 38 mm x H 38 mm x D 106 mm



BF-BG70BT

BF-BG70BT/HL

Waterproof Safety LED Light

BF-SG50BT

BATTERY 2 x D | BATTERY LIFE 175h | LUMINOUS FLUX 30 LUMENS

- 175-hour battery life
- 30 lm illuminance
- Water resistant to 10 m
- Clamshell package
- Size (Approx.): W 48 mm x H 165 mm x D 48 mm



BF-SG50BT

LED Flashlight

BF-BG71BT

BATTERY 3 x AAA | BATTERY LIFE 9h | LUMINOUS FLUX 80 LUMENS

- 9-hour battery life
- 80 lm illuminance
- Size (Approx.): W 38 mm x H 38 mm x D 106 mm



BF-BG71BT

LED Head Light

BF-AH01MT

BATTERY 3 x AAA | BATTERY LIFE 30h | LUMINOUS FLUX 18 LUMENS

- 30-hour battery life (alkaline)
- 15-hour battery life (manganese)
- Size (Approx): W60 mm x H50 mm x D65 mm



BF-AH01MT

Shopfront Materials

Panasonic offers a range of robust and attractive point-of-purchase stands for retailers. Color-scheme, style, and featured product maximizes appeal for your selected demographic. Stands for White Series, Color Series, and Black Series are available.



White Series



Color Series



Black Series

Availability of Battery Types

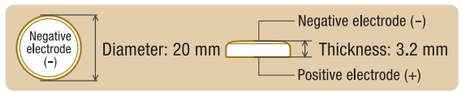
	Primary Batteries			Rechargeable Batteries		
	 EVOLTA	 Alkaline	 Manganese	 eneloop	 eneloop pro	 eneloop lite
D	●	●	●			
C	●	●	●			
AA	●	●	●	●	●	●
AAA	●	●	●	●	●	●
9 V	●	●	●			

How to Read Battery Model Numbers*

Example **CR2032**

Diameter: 20 mm Thickness: 3.2 mm

* Applies only to products with 4-digit numerical numbers.



Choosing the Right Battery

What's the difference between alkaline, manganese, and Ni-MH batteries?

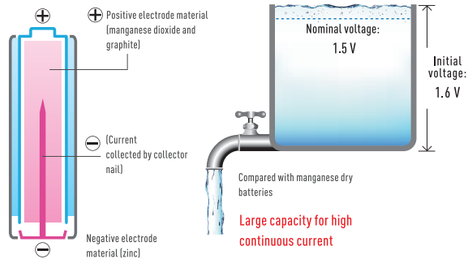
Primary Batteries

Alkaline

Suitable for devices that use high continuous current

Alkaline batteries produce higher current than manganese. This is because the electrolyte consists of potassium hydroxide, an alkaline-aqueous solution that enables a high flow of current.



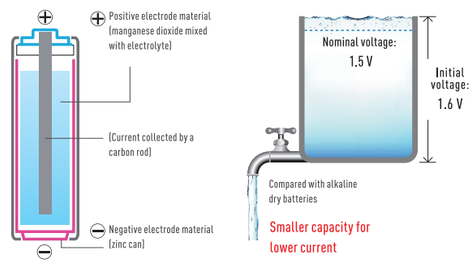


Manganese

For devices requiring a small current load, such as remote controllers

Dry batteries consist of three materials: metal, metal oxide, and electrolyte. Manganese dioxide is used for the positive electrode, zinc chloride for the electrolyte, and zinc for the negative electrode.





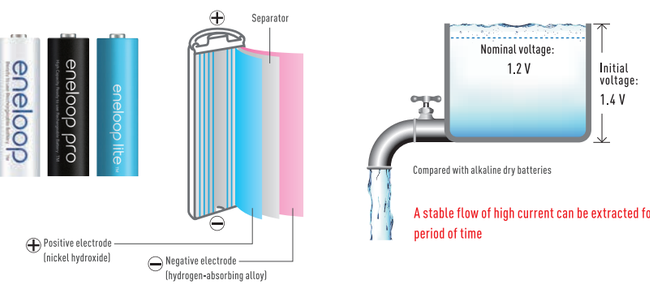
Rechargeable Batteries

Ni-MH batteries

Suitable where high current and economy is needed

Nickel-metal hydride cells deliver stable current yet can be reused repeatedly. They use nickel hydroxide for the positive electrode and a hydrogen-absorbing alloy to soak up and release hydrogen for the negative electrode.





For all batteries

Use the Same Battery Type

When it's time to exchange batteries, replace them all at the same time using the same battery type. Using different types (such as a mix of brands, types, and ages) may not only shorten life, but could also result in leakage and rupture.



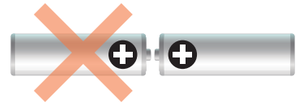
Avoid Rough Treatment

Handle your batteries with care. Avoid damaging the label, and don't expose them to excessive heat. Do not disassemble, modify, or solder the battery, and don't immerse in liquid. Doing so may result in short-circuit, battery rupture, and possible injury.



Avoid Installing Batteries in the Wrong Direction

If batteries are installed improperly, they can become charged. This causes gas to build up, raising the internal pressure. The result could be overheating, leakage, rupture, and personal injury.



Don't Short-Circuit Your Batteries

If batteries are short-circuited, excessive current is generated instantaneously, resulting in overheating and possible rupture. Don't let batteries come into contact with metal objects such as car keys, phones, or jewelry.



What to Do in Case of Leakage

If a battery leaks due to misuse, and battery fluid comes into contact with your eyes, rinse them well with water and seek medical treatment immediately. If the electrolyte comes in contact with skin or clothing, rinse the area thoroughly with water.



For Ni-MH batteries

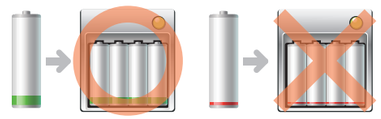
Never Charge Primary Batteries

Charging primary batteries is dangerous and may result in injury. Recharge only Ni-MH batteries in an approved device. If Ni-MH batteries are charged with a device not designed for that product, it may overheat, rupture, and leak.



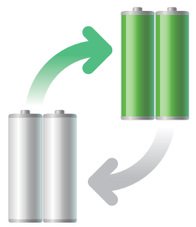
Recharge Ni-MH Batteries Before Fully Depleted

For longer service life, recharge your Ni-MH batteries before they're fully depleted. When charging is complete, remove the batteries from the charger as soon as possible. Remove the charger from the electrical outlet when finished.



Replace all Batteries at the Same Time

Mixing batteries in your device can result in leakage. When using rechargeable batteries, we recommend installing cells that were recharged at the same time.



Ideas for Enjoying Better Performance

Switch Off Your Device After Use



Remove Batteries from Devices Not in Use for Long Periods



Carry a Spare Set of Batteries



Ideal Storage: 10 °C to 25 °C (50 °F to 77 °F)

