

EVE



EVE

Power Solutions for IoT Applications

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Mission

Reliable and harmonious development.

Vision

To be the most creative Lithium battery company, and make outstanding contributions to sustainable development.

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About EVE

Established in 2001, EVE Energy Co., Ltd. (hereinafter referred to as EVE) was listed in 2009. After 22 years of rapid development, now EVE is a global lithium battery company which possesses core technologies and solutions for Consumer, Power, ESS, IoT and renewable applications. (Stock code: 300014)

Market Place

No.1

Ranking No.1 in the sales and exports of primary lithium batteries in China



80+

Providing worldwide sales and service over 80 countries



Note: Data from China industrial association of power sources.

Research & Development Capability


60+
PhD Degree Specialists



5
Chinese Excellent Patent Awards


19
Battery Research Centers


5300+
Engineers


17
National Projects


27
R&D Labs


28000+
Staffs


100+
Industrial Standards' Developing


230000m²+
Research Institute


6700+
National Patent Applications

Note: The above data are from the company's statistics.



Global Layout



Note: This map is based on the standard map with the approval number GS(2016)1663, which is downloaded from the standard map service website of the Ministry of Natural Resources.

Advanced Manufacturing Technology

EVE has been running advanced manufacturing systems for consumer battery and power battery, creating the Benchmark for lithium battery manufacturing.



IoT Applications

Lithium batteries for smart life.



Power Solutions for Smart Meters



Market Applications

EVE provides comprehensive power solutions for smart metering products.

Solution Advantages

Comprehensive Solutions: Including Li/SOCl₂ battery, Li/MnO₂ battery and ER+SPC solution

Practical Application: 20+ years in the metering fields application, 1.9+ billion batteries have been provided worldwide

Safety and Reliability Certification: ATEX, EN60079-11

Product Core Advantages: Long life, high safety and reliability, wide working temperature range: (-40°C ~ +85°C) and low self-discharge rate

Smart Electricity Meter

Application Requirements

Life Expectancy: 16+ years

Operating Temperature: -55°C ~ +85°C

Recommended Batteries: ER14250, CR2032, CR2450



Smart Water Meter

Application Requirements

Life Expectancy: 15+ years

Operating Temperature: -40°C ~ +85°C

Recommended Batteries: ER26500C+SPC1520A, ER34615C+SPC1550A



Smart Gas Meter

Application Requirements

Life Expectancy: 15+ years

Operating Temperature: -40°C ~ +85°C

Recommended Batteries: ER34615C+SPC1520A, ER14250



Smart Heat Meter

Application Requirements

Life Expectancy: 12+ years

Operating Temperature: -55°C ~ +85°C

Recommended Batteries: ER26500, ER18505



Note: The above data comes from EVE's laboratory.

Application Case - Smart Metering

Battery Solution: ER+SPC Solution

Features:

1. No voltage delay, high capacity and high pulse
2. Wide working temperature range: -40°C ~ +85°C
3. Safety and reliability certifications: UL1642, UN38.3, ATEX
4. High reliability: 17+ years in the metering fields application

Product Display:

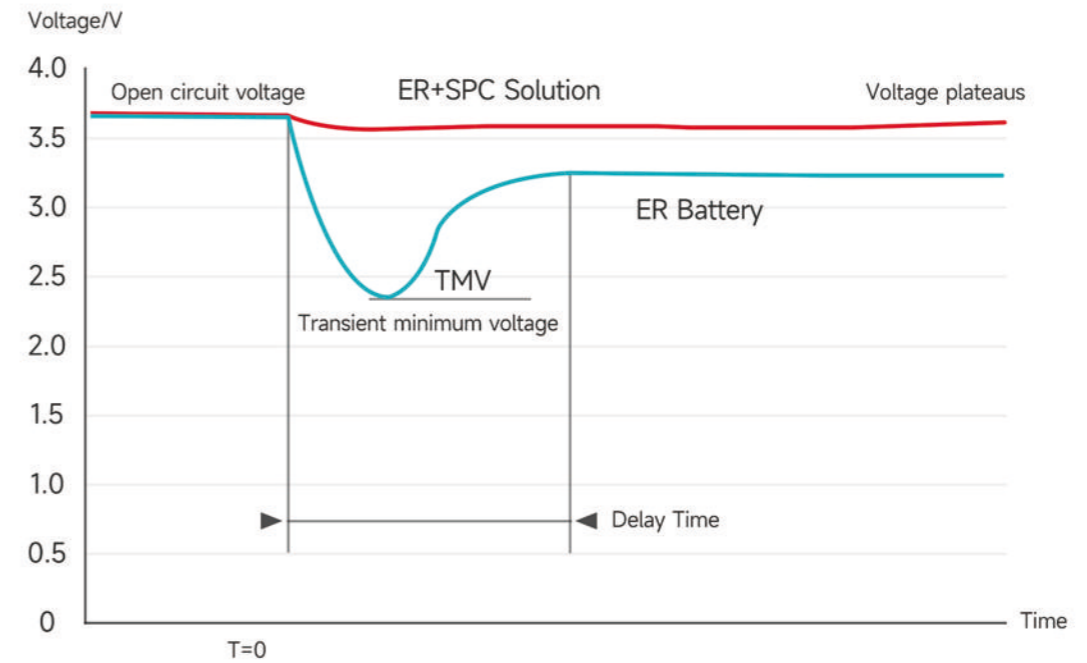


ER+SPC Solution

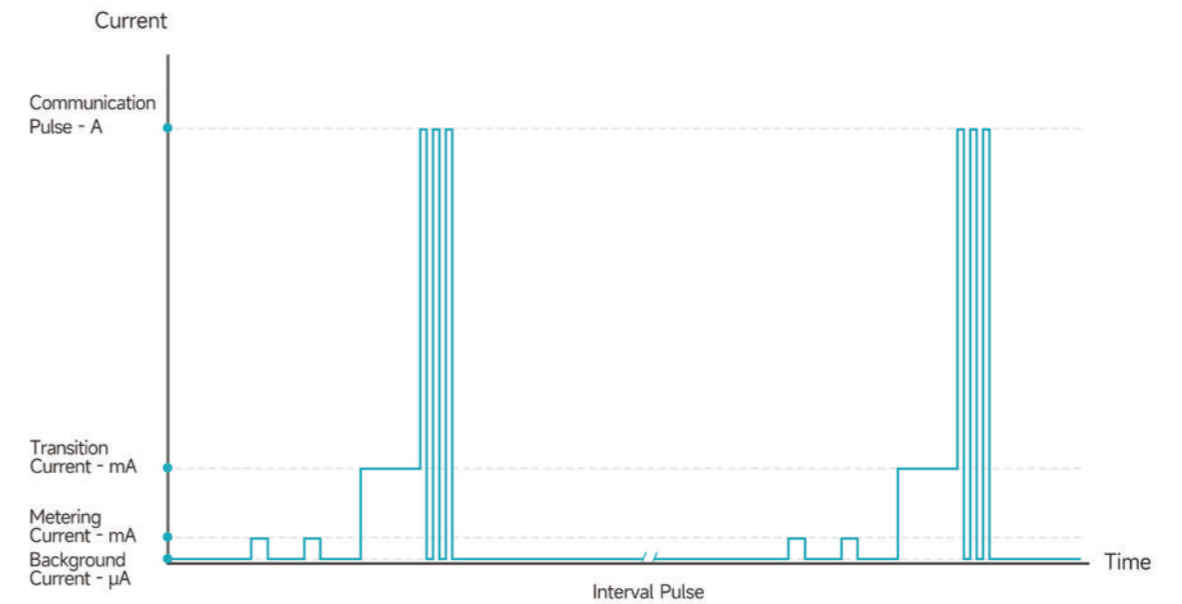
Model	Size	Nominal Voltage (V)	Nominal Capacity (mAh)	Max. Continuous Current (mA)	Working Temperature Range (°C)	Max. Outside Dimension (mm)
ER14250+SPC1520A	1/2AA+SPC1520A	3.6	1200	2000	-40 ~ +85	∅14.5*25.5+∅15.1*21.0
ER14505+SPC1550A	AA+SPC1550A	3.6	2700	5000	-40 ~ +85	∅14.5*51.0+∅15.1*51.0
ER26500C+SPC1520A	C+SPC1520A	3.6	8500	2000	-40 ~ +85	∅26.5*51.0+∅15.1*21.0
ER26500C+SPC1550A	C+SPC1550A	3.6	8500	5000	-40 ~ +85	∅26.5*51.0+∅15.1*51.0
ER34615C+SPC1520A	D+SPC1520A	3.6	19000	2000	-40 ~ +85	∅33.1*61.5+∅15.1*21.0
ER34615C+SPC1550A	D+SPC1550A	3.6	19000	5000	-40 ~ +85	∅33.1*61.5+∅15.1*51.0

Solution Advantages:

No voltage delay



High pulse current output, improving the pulse output capability



Note: The above data comes from EVE's laboratory.

Power Solutions for Automotive Electronics



Market Applications

EVE provides multiple power solutions for automotive electronics which have been widely used in ETC, e-Call, TPMS, T-box, GPS tracking, car key and other fields.

Solution Advantages

Comprehensive Solutions: Including Li/MnO₂ high temperature coin battery, long-life high-power Li-ion battery (PLM) and super pulse battery capacitor (SPC)

Practical Application: 11+ years in the automotive electronics fields application, 300+ million batteries have been provided worldwide

Safety and Reliability Certification: GB/T 38444, AEC-Q200, full series of safety certification passed

Product Core Advantages: Long life, remarkable durability, ensuring application safety during entire life cycle

ETC

Application Requirements

Life Expectancy: 5+ years

Operating Temperature: -40°C ~ +85°C

Recommended Batteries: ER14250+SPC1520A, SPC0920A



Car Key

Application Requirements

Life Expectancy: 5+ years

Operating Temperature: -20°C ~ +70°C

Recommended Batteries: CR2032, CR2450



e-Call / T-box

Application Requirements

Life Expectancy: 5+ years

Operating Temperature: -40°C ~ +85°C

Recommended Batteries: PLM1550A, PLM18650, Ni-MH



TPMS

Application Requirements

Life Expectancy: 10+ years

Operating Temperature: -40°C ~ +125°C

Recommended Batteries: CR2032HT, CR2050HT, CR2450HT



Note: The above data comes from EVE's laboratory.

Application Case - eCall

Battery Solution: Long-life High-power Li-ion Battery (PLM)

Features:

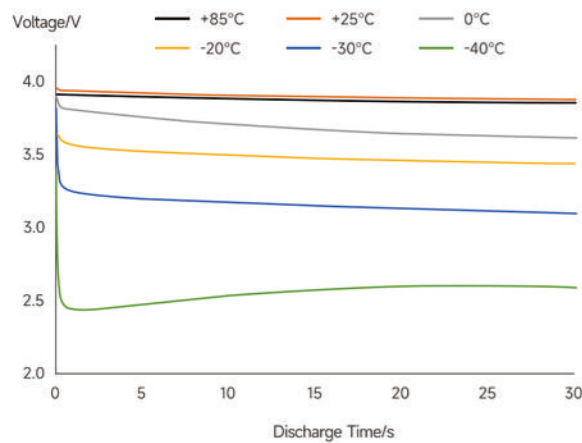
1. High Level of Safety and Reliability
2. Maintain stable output ability in harsh on-board environment
3. Wide temperature range with high power output : (-40°C ~ +85°C)
4. Long life cycle: After 1300 cycles, the capacity can still maintain more than 90%

Model	Max. Charging Voltage (V)	Nominal Capacity (mAh)	Max. Continuous Current (mA)	Max. Pulse Current (mA)	Cut-off Discharge Voltage (V)	Internal Resistance (mΩ)	Working Temperature Range (°C)	Max. Outside Dimension (mm)
PLM1550A	4.1	350	2000	5000	2.5	100	-40 ~ +85	Ø15.1x51.0
PLM18650	4.1	1100	4000	15000	2.0	60	-40 ~ +85	Ø18.5x65.3

Solution Advantages:

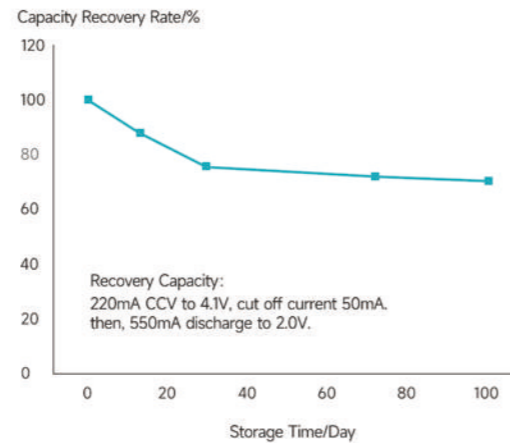
High-power output capability in wide temperature range from -40°C to +85°C

PLM18650 4A continuous discharge at different temperature



Long lifespan in eCall application

PLM18650 capacity recovery rate after 85°C storage



Application Case - TPMS

Battery Solution: Li/MnO₂ High Temperature Coin Battery

Features:

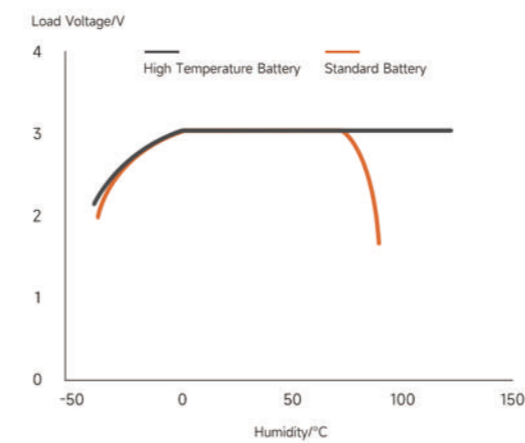
1. Wide working temperature range: -40°C ~ +125°C
2. Can be used even under 2000G, which is equivalent to driving at 300km/h
3. Superior leak-resistant characteristic even under high temperature and acceleration
4. Electric characteristics are maintained after long periods of exposure to high temperature
* When using at temperatures exceeding 85°C, please consult EVE in advance for conditions of use

Model	Nominal Voltage (V)	Nominal Capacity (mAh)	Standard Discharge Current (mA)	Max. Continuous Current (mA)	Max. Pulse Current (mA)	Working Temperature Range (°C)	Max. Outside Dimension (mm)	Weight (g)
CR2032HT	3	200	0.2	2	10	-40 ~ +125	Ø20.0x3.2	3.1
CR2050HT	3	350	0.2	2	12	-40 ~ +125	Ø20.0x5.0	4.1
CR2450HT	3	525	0.2	3	15	-40 ~ +125	Ø24.5x5.0	6.5

Solution Advantages:

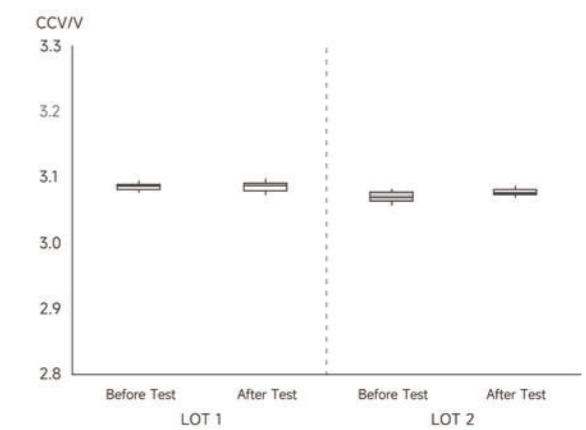
Highly heat-resistant of Battery

Remarkable temperature characteristics:



Battery load stability under continuous high-speed centrifugation

Performance before and after high-speed centrifugation (2000G):



Note: The above data comes from EVE's laboratory.

Power Solutions for GPS Tracking



Market Applications

EVE provides comprehensive power solutions for GPS tracking devices such as asset, vehicle, animal, container tracking etc.

Solution Advantages

Comprehensive Solutions: Including Li/SOCl₂ battery, Li/MnO₂ battery and ER+SPC solution

Practical Application: 11+ years in the GPS tracking fields application, providing reliable power solutions for tracking equipments

Safety and Reliability Certification: UN38.3, UL1642, ATEX

Product Core Advantages: High pulse, no voltage delay, wide working temperature range (-40°C ~ +85°C) and low self-discharge rate

Asset Tracking

Application Requirements

Life Expectancy: 1+ years

Operating Temperature: -20°C ~ +70°C

Recommended Batteries: CR2032, Li/MnO₂ Pouch Cell



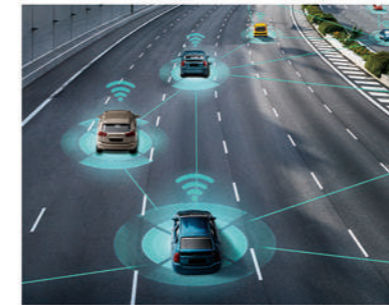
Vehicle Tracking

Application Requirements

Life Expectancy: 3+ years

Operating Temperature: -40°C ~ +85°C

Recommended Batteries: ER14505+SPC1550A, CR123A



Animal Tracking

Application Requirements

Life Expectancy: 5+ years

Operating Temperature: -40°C ~ +85°C

Recommended Batteries: ER14505*2+SPC1520A, Li/MnO₂ Pouch Cell



Container Tracking

Application Requirements

Life Expectancy: 3+ years

Operating Temperature: -40°C ~ +85°C

Recommended Batteries: ER34615C+SPC1550A, CR123A, PLM1550A



Note: The above data comes from EVE's laboratory.

Power Solutions for Smart Security



Market Applications

EVE provides comprehensive and reliable power solutions for security to realize functions such as intelligent management and early warning.

Solution Advantages

Comprehensive Solutions: Including Li/SOCl₂ battery, Li/MnO₂ battery and ER+SPC solution

Practical Application: 12+ years in the smart security fields application, providing reliable power solutions for security equipments

Safety and Reliability Certification: CCCF, VDS, UL

Product Core Advantages: High pulse, high safety, wide working temperature range (-40°C ~ +85°C) and low self-discharge rate

Smart Smoke Detector

Application Requirements

Life Expectancy: 10+ years

Operating Temperature: -40°C ~ +70°C

Recommended Batteries: CR123A, CR2/3AL, CR17450L, CR9V



Smart Door Sensor

Application Requirements

Life Expectancy: 3+ years

Operating Temperature: -40°C ~ +70°C

Recommended Batteries: CR2032, CR123A, CR2



Flammable Gas Detector

Application Requirements

Life Expectancy: 3+ years

Operating Temperature: -40°C ~ +85°C

Recommended Batteries: CR123A, ER14335, ER34615



Smart Fire Hydrant

Application Requirements

Life Expectancy: 5+ years

Operating Temperature: -40°C ~ +85°C

Recommended Batteries: ER34615C+SPC1550A



Note: The above data comes from EVE's laboratory.

Power Solutions for Smart City



Market Applications

EVE provides comprehensive and reliable power solutions for smart city applications, intelligently responding to various needs such as livelihood, environmental protection, public safety, and services to improve the quality of life.

Solution Advantages

Comprehensive Solutions: Including Li/SOCl₂ battery, Li/MnO₂ battery and ER+SPC solution

Practical Application: 12+ years in smart city fields application, providing reliable power solutions for smart city facilities

Safety and reliability certification: EU ATEX, EN60079-11

Product Core Advantages: Long life, high capacity, wide working temperature range (-40°C ~ +85°C) and low self-discharge rate

Smart Waste Bin

Application Requirements

Life Expectancy: 5+ years

Operating Temperature: -40°C ~ +85°C

Recommended Batteries: ER34615C+SPC1550A



Smart Parking

Application Requirements

Life Expectancy: 5+ years

Operating Temperature: -40°C ~ +85°C

Recommended Batteries: ER34615C+SPC1550A



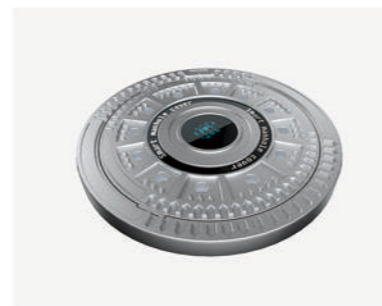
Smart Manhole Cover

Application Requirements

Life Expectancy: 5+ years

Operating Temperature: -40°C ~ +85°C

Recommended Batteries: ER34615C+SPC1550A



ESL

Application Requirements

Life Expectancy: 5+ years

Operating Temperature: -40°C ~ +70°C

Recommended Batteries: CR2450, Li/MnO₂ Pouch Cell



Note: The above data comes from EVE's laboratory.

Power Solutions for Smart Healthcare



Market Applications

EVE provides reliable power solutions for healthcare devices, such as blood glucose meter, thermometer, insulin pump, AED etc.

Solution Advantages

Comprehensive Solutions: Full series of Li/MnO₂ batteries

Practical Application: 13+ years in smart healthcare fields application, providing reliable power solutions for healthcare devices

Safety and reliability certification: UL1642, IEC60086, UN38.3

Product core advantages: Long life, high safety, wide working temperature range (-40°C ~ +70°C) and low self-discharge rate

Blood Glucose Meter

Application Requirements

Life Expectancy: 3+ years

Operating Temperature: -20°C ~ +70°C

Recommended Batteries: CR1220, CR2032



Thermometer

Application Requirements

Life Expectancy: 3+ years

Operating Temperature: -20°C ~ +70°C

Recommended Batteries: CR1220, CR2032



Insulin Pump

Application Requirements

Life Expectancy: 2+ years

Operating Temperature: -40°C ~ +70°C

Recommended Batteries: CR123A, CR2



AED

Application Requirements

Life Expectancy: 3+ years

Operating Temperature: -40°C ~ +70°C

Recommended Batteries: 18650, CR123A, CR17450L



Note: The above data comes from EVE's laboratory.

Product Parameter - Li/SOCl₂ Battery

Model	Size	Nominal Voltage (V)	Nominal Capacity (mAh)	Max. Continuous Current (mA)	Max. Pulse Current (mA)	Working Temperature Range (°C)	Max. Outside Dimension (mm)	Weight (g)
Cylindrical Battery								
Bobbin Type								
ER14250	1/2AA	3.6	1200	35	50	-55 ~ +85	Ø14.5x25.4	10
ER14335	2/3AA	3.6	1650	35	75	-55 ~ +85	Ø14.5x33.5	12
ER14505	AA	3.6	2700	60	150	-55 ~ +85	Ø14.5x50.5	19
ER17505	A	3.6	3600	100	180	-55 ~ +85	Ø17.5x51.0	26
ER18505	A	3.6	4000	130	180	-55 ~ +85	Ø18.7x50.5	28
ER26500	C	3.6	8500	150	200	-55 ~ +85	Ø26.2x50.0	52
ER34615	D	3.6	19000	230	300	-55 ~ +85	Ø33.1x61.5	100
Intrinsic Safety Type								
ER14250C	1/2AA	3.6	1200	15	50	-55 ~ +85	Ø14.5x25.4	10
ER26500C	C	3.6	8500	60	100	-55 ~ +85	Ø26.2x50.0	52
ER34615C	D	3.6	19000	100	200	-55 ~ +85	Ø33.1x61.5	100
Pulse Plus Type								
ER14250V	1/2AA	3.6	1200	15	100	-55 ~ +85	Ø14.5x25.4	10
ER14505V	AA	3.6	2600	100	200	-55 ~ +85	Ø14.5x50.5	19
Safety Plus Type								
ER14250H	1/2AA	3.6	1200	15	50	-55 ~ +85	Ø14.5x25.4	10
ER34615E	D	3.6	17000	100	200	-55 ~ +85	Ø33.1x61.5	98
Special Type Battery								
ER2450T		3.6	550	5	20	-55 ~ +125	Ø24.3x6.2	9
ER32L65		3.6	1000	10	50	-55 ~ +85	Ø32.9x7.1	19
EF651615	3PN	3.6	400	5	20	-55 ~ +85	16.85x15.8x7.0	5
EF651625	7PN	3.6	750	10	30	-55 ~ +85	16.85x25.8x7.0	8
EF651615T	3PN	3.6	400	5	20	-55 ~ +125	16.85x15.8x7.0	5
EF651625T	7PN	3.6	750	10	30	-55 ~ +125	16.85x25.8x7.0	8
EF702338	16PN	3.6	1600	20	50	-55 ~ +85	23.3x38.3x7.5	16

Product Parameter - Li/MnO₂ Battery

Model	Nominal Voltage (V)	Nominal Capacity (mAh)	Standard Discharge Current (mA)	Max. Continuous Current (mA)	Max. Pulse Current (mA)	Working Temperature Range (°C)	Max. Outside Dimension (mm)	Weight (g)
Cylindrical Battery								
Standard Type								
CR14250H	3	950	0.5	7	15	-40 ~ +70	Ø14.5x25.2	11.5
CR17335	3	1500	5	1000	3000	-40 ~ +85	Ø17.0x33.5	17.0
CR2	3	850	20	1000	1500	-40 ~ +70	Ø15.6x26.5	12.0
CR123A	3	1500	20	1000	2000	-40 ~ +70	Ø17.0x34.5	17.0
CR123AH	3	1800	2	1000	2000	-40 ~ +70	Ø17.0x34.5	17.0
Extended Lifespan								
CR2/3AL	3	1600	2.5	1000	2000	-40 ~ +70	Ø17.0x34.5	17.0
CR17450L	3	2400	2.5	1000	2500	-40 ~ +70	Ø17.0x45.0	23.5
CR17335AH	3	1600	5	700	2000	-40 ~ +85	Ø17.0x33.5	17.0
CR17450AH	3	2600	5	1000	2000	-40 ~ +85	Ø17.0x45.0	24.0
Battery Pack								
CR9V	9	1200	7.5	120	400	-40 ~ +60	26.5x18.5x47.5	39.0
CR-P2	6	1400	5	700	2000	-40 ~ +85	35.0x19.5x36.0	42.0
Coin Battery								
Standard Type								
CR1216	3	25	0.05	1	10	-20 ~ +70	Ø12.5x1.6	0.7
CR1220	3	35	0.05	1	10	-20 ~ +70	Ø12.5x2.0	0.8
CR1225	3	50	0.05	1	10	-20 ~ +70	Ø12.5x2.5	1.0
CR2016	3	80	0.1	3	15	-20 ~ +70	Ø20.0x1.6	1.8
CR2025	3	165	0.2	3	15	-20 ~ +70	Ø20.0x2.5	2.5
CR2032	3	225	0.2	3	15	-20 ~ +70	Ø20.0x3.2	3.2
CR2430	3	280	0.2	6	25	-20 ~ +70	Ø24.5x3.0	4.5
CR2450	3	600	0.2	6	25	-20 ~ +70	Ø24.5x5.0	6.5
CR2477	3	1000	0.2	6	20	-20 ~ +70	Ø24.5x7.7	10.0
Pulse Plus Type								
CR2032YP	3	225	0.2	3	20	-20 ~ +60	Ø20.0x3.2	3.2
CR2450YP	3	600	0.2	6	30	-20 ~ +60	Ø24.5x5.0	6.5
Capacity Plus Type								
CR2032H	3	235	0.2	2	10	-30 ~ +85	Ø20.0x3.2	3.2
CR2450H	3	620	0.2	3	15	-30 ~ +85	Ø24.5x5.0	6.5
Temperature Extended Type								
CR2032HT	3	200	0.2	2	10	-40 ~ +125	Ø20.0x3.2	3.1
CR2050HT	3	350	0.2	2	12	-40 ~ +125	Ø20.0x5.0	4.1
CR2450HT	3	525	0.2	3	15	-40 ~ +125	Ø24.5x5.0	6.5
Pouch Cell								
CF104851	3	380	1	30	50	-40 ~ +60	1.1x48.75x51	4.0
CF502440	3	1200	1	300	500	-40 ~ +60	5.2x24.5x42	8.0

Note: The above data comes from EVE's laboratory.

Product Parameter - Super Pulse Battery Capacitor

Model	Max. Charging Voltage (V)	Capacity (F)	Capacity (mAh)	Max. Continuous Current (mA)	Max.Pulse Current (mA)	Cut-off Discharge Voltage (V)	Internal Resistance (mΩ)	Working Temperature Range (°C)	Max. Outside Dimension (mm)
SPC0920A	3.95	55@3.67V	8.5@3.67V	300	600	2.5	≤500	-40 ~ +85	Ø9.0X21.0
SPC1520A	3.95	292@3.67V	45@3.67V	500	2000	2.5	≤160	-40 ~ +85	Ø15.1X21.0
SPC1530A	3.95	486@3.67V	75@3.67V	1500	3000	2.5	≤100	-40 ~ +85	Ø15.1X29.0
SPC1550A	3.95	1103@3.67V	170@3.67V	2000	5000	2.5	≤80	-40 ~ +85	Ø15.1X51.0

Product Parameter - Long-life Rechargeable Li-ion Battery

Model	Max. Charging Voltage (V)	Capacity (mAh)	Max. Continuous Current (mA)	Max.Pulse Current (mA)	Cut-off Discharge Voltage (V)	Internal Resistance (mΩ)	Working Temperature Range (°C)	Max. Outside Dimension (mm)
PLM1550A	4.1	350	2000	5000	2.5	100	-40 ~ +85	Ø15.1X51.0
PLM18650	4.1	1100	4000	15000	2.0	60	-40 ~ +85	Ø18.5X65.3

Features of PLM: It is developed for use in harsh environmental conditions, has strong environmental adaptability and high-power output capability that can output high-power in a wide temperature range from -40°C to +85°C.

Meanwhile, multiple optimization designs in terms of safety has been carried out to ensure that products meet the requirements of safety standards such as UL1642, UN38.3 and IEC62133. PLM is suitable for eCall, T-Box, GPS/GPRS intelligent tracking and other vehicle power applications.

Note: The above data comes from EVE's laboratory.

General Recommendations

This page is not intended to provide all the information that you will need to be able to work safely with EVE batteries, but only to help facilitate site-specific guidance in accordance with local regulations. If you have any doubts about battery handling, please consult us directly.

Storage

- Battery should be stored in a dry and ventilated environment (storage temperature less than 30°C).
- Battery should be stored away from moisture, high heat, fire sources.
- Keep batteries in their original packaging until use.
- Do not jumble batteries.
- Do not apply pressure to the battery, which may cause deformation.
- Appropriate fire extinguishing means should be available.
- It is recommended that the storage area be equipped with automatic sprinkler.
- Appropriate personal protective equipment should be available (gloves, glasses, work coat ...).

Handling

- Do not mix batteries of different types and brands.
- Do not directly heat or solder.
- Do not mix new and used batteries.
- Do not dismantle.
- Do not charge the primary lithium battery.

Misoperation may lead to battery short circuit during receipt, incoming inspection, and storage of the battery. To significantly reduce the short-circuit problem caused by misoperation, perform the following operations:

- Cover all conductive work surfaces with an insulating material.
- Work areas should be free of sharp objects that could puncture the insulating material.
- Never disassemble a cell or battery pack or attempt to replace a blown fuse.
- Conductive materials (jewelry, etc.) should not be worn by personnel handling cells and batteries.
- Cells should be stored in their original packaging or by similar means.
- Cells should be moved in trays using pushcarts to reduce the probability of dropping.
- Dropped cells or batteries should be treated as a potential hot cell and must be segregated from the lot/batch.
- All inspection tools should be non-conductive, or covered with a non-conductive material.
- Cells should be inspected for physical damage.
- Open-circuit-voltage (OCV) should be checked.
- After a cell has been inspected, it should be returned to its storage packaging.

Installation and replacement

- Install only new batteries, same model made by the same manufacturer.
- Follow EVE recommendations regarding maximum deliverable currents and operating temperature range.
- Only use batteries of a type that has been homologated by the device manufacturers in which they are fitted.

Disposal

- Dispose of batteries in accordance with local regulations.
- Secure terminals to prevent short-circuiting.
- Package each cell or battery in a manner that prevents shorting with the container of another cell / battery.
- Use packaging material that is in compliance with local regulations.

Specific recommendations for lithium batteries-safety with primary lithium batteries

- Do not incinerate!
- Do not short-circuit!
- Do not expose contents to water!
- Do not disassemble battery packs!
- Do not expose to temperatures beyond the specified temperature range!
- Do not recharge!
- Do not open cells!
- Do not connect with false polarity!
- Do not weld or solder to the battery's body!
- Do not overdischarge!
- Do not crush or puncture!