ZPA Smart Energy

Приложение 4 / 229

Обективно доказателство
за продължителността на живот на батерията

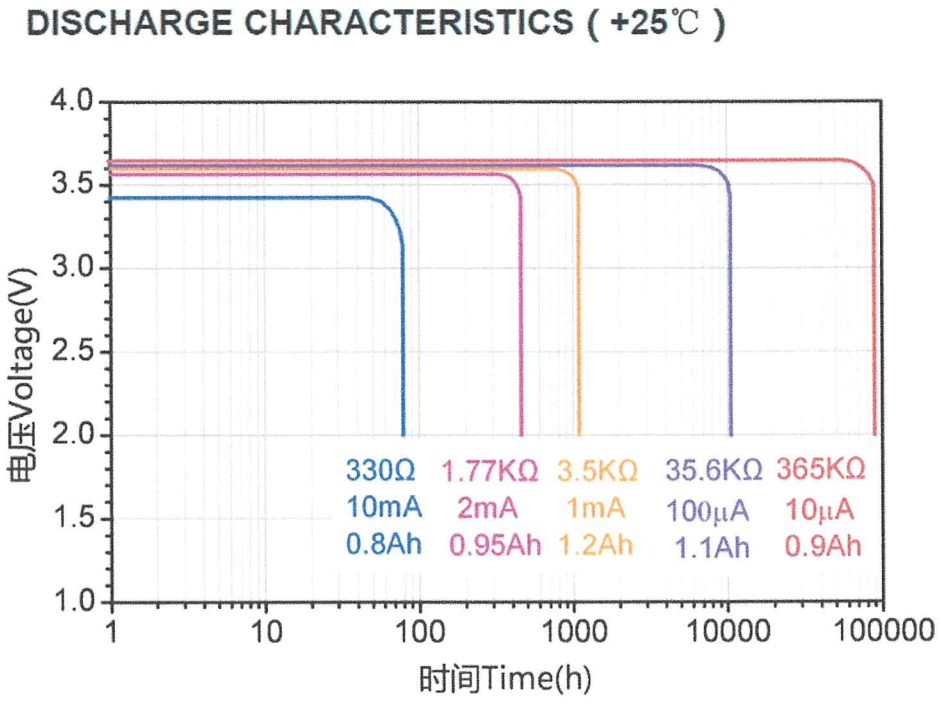
ZPA Smart Energy a.s., Komenského 821
541 01 Trutnov, Česká republika
Tel.: +420 499 907 457, fax: +420 499 907 381
E-mail: zpa@zpa.cz, http.: //www.zpa.cz

Internal battery consumption of ZEx14 meters (in power off mode)

- The meter use lithium battery ER14250 produced by RAMWAY.
- Self-discharge declared by producer is 1% per year
- The average consumption of battery is less than I_m = 17µA. The consumption was measured by current meter on final sample.
- The battery capacity declared by producer is E_b = 1200mAh with consumption rate 0,7 (upper limit).
- The battery is able to power meter more than 5 years.

$$T_{years} = \frac{E_b \times 0{,}7}{I_m \times 24 \times 365} = \frac{1200 \times 0{,}7}{17\mu A \times 24 \times 365} = \frac{0{,}84\ Ah}{17 * 10^{-6} A \times 24 \times 365} = 5{,}64\ years$$

- Similar value could be read out from graph declared by battery producer.



- The battery voltage is decreasing because of battery discharging. It also causes decreasing of current from battery if meters run on battery.

Превод на текста от английски език

Вътрешна консумация на батерия при ZEx14 електромерите (в режим на изключено непрежение)

• В електромера се използва литиева батерия ER14250, произведена от RAMWAY.

• Деклариранията от производителя саморазряд е 1% годишно *(вж. приложената спецификация)*[1]

• Средната консумация на батерията е по-малка от Im = 17 μA. Консумацията е измерена с уред на окончателната мостра.

• Деклариранията от производителя капацитет на батерията е Eb = 1200mAh със скорост на консумация 0,7 (горна граница).

• Батерията може да поддържа уреда в течение на повече от 5 години.

/следват изчисления/

• Подобна стойност може да бъде изведена и от графиката, декларирана от производителя на батерията *(вж. приложената спецификация)*.

• Напрежението на батерията намалява поради разреждането ѝ. Разреждане също може да бъде причинено, ако измервателният уред работи на батерия.

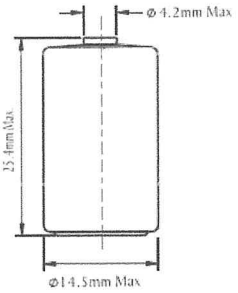
[1] Курсивираният текст не е част от оригиналния и е само ориентировъчен. – Б. пр.

RAMWAY

Li-$SOCl_2$ Primary Lithium Battery
ER14250 1/2AA

Electrical Characteristic

Nominal capacity	1.2Ah
(At 1.0mA, +25℃ 2.0V cut off. The capacity restored by the cell varies according to current drain, temperature and cut-off,For more severe conditions,consult Ramway.)	
Rated voltage	3.6V
Max. recommended continuous current	50mA
Max. pulse current capability	100mA
Dimension	Φ14.5*25.0mm
Storage(recommended)	Max. 30℃
(For more severe conditions,consult Ramway)	
Operating temperature range	-60℃~+85℃(-76℉~+185℉)
(Operation at temperature different from ambient may lead to reduced capacity and lower voltage plateau readings)	
Typical weight	11g



Key features

- High and stable operating voltage
- Low self discharge rate(less than 1% after 1 year of storage at +25℃)
- Stainless steel container
- Hermetic glass-to-metal sealing
- Non-flammable electrolyte
- Spiral type
- CE,UL,SGS recognized
  ISO9001 approved

Main applications

- Utility metering
- Memory back-up
- Alarms and security devices
- Automotive electronics
- Tollgate systems
- Military electronics
- Automatic meter reading
- professional electronics

Warning

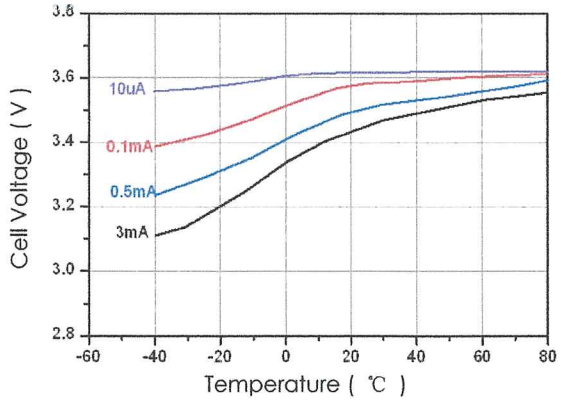
1. Fire, explosion and severe burn hazard.
2. Do not recharge, crush, disassemble, heat above 100℃;
3. Do not solder directly to the cell.

Guangxi Ramway New Energy Co., Ltd

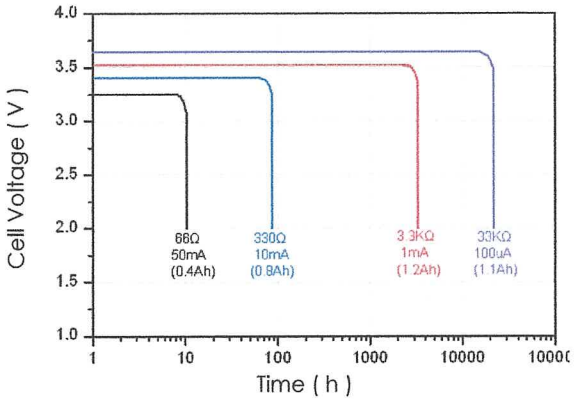
Add: No.9 Xingyu Road, High-Tech Zone, Wuzhou 543000, Guangxi, China
Tel: +86-774-3930688 Fax: +86-774-3935117

www.ramwaybat.com E-mail:service@ramwaycn.com

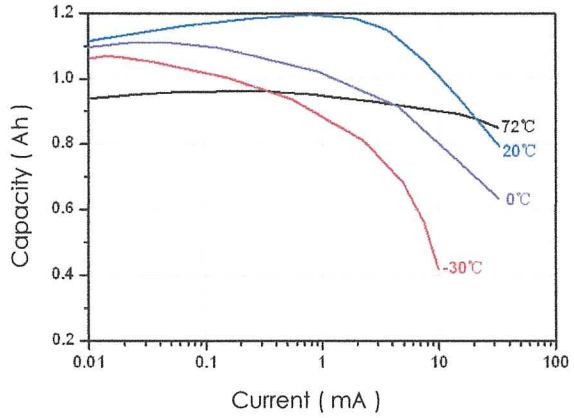
1.Voltage vs. Temperature



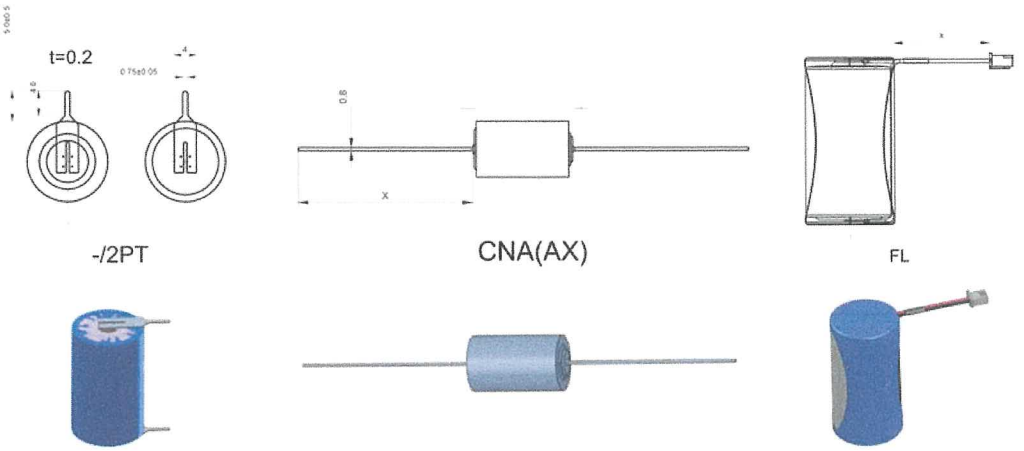
2. Voltage vs. Time



3. Capacity vs. Current



Solder and Connector



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