

便携式手持设备终端电池

本系列产品广泛应用于打印机、POS机、检测仪器、条形码扫描仪、贴标机等手持设备。

条码扫描仪和数据终端电池

PDA 和掌上电脑电池

便携式打印机电池

服务器缓存电池



锂离子 1800mAh 7.4V POS 机电池组

型号: Li-ion 103450 1800mAh 7.4V (2 串 1 并组合)

标称电压: 7.4V

电压范围: 5.6V-8.4V

成品电池内阻: $\leq 280\text{m}\Omega$

电池组尺寸: MAX 22.55*38*55mm;

保护板元器件: S-8242AA+Y+BQ26500+MOS-AO8810+PTC

(over current protection);

过充保护电压值: $4.25\pm 0.025\text{V}$

过放保护电压值: $3.0\pm 0.1\text{V}$

过流保护范围: 4-7A

引线及插头型号: 根据客户的要求订做

保护板参数: 根据客户的产品要求可以订做



近年来由于锂电池的飞速发展,许多便携式产品都利用电压测量值来估计电池剩余电量,但是电池电压与剩余电量的关系却会随着放电率、温度和电池老化程度而改变,使用这种方法的误差率最高可达 50%。由于市场对使用时间更长的产品需求不断增强,因此在设计时需要更加精确的解决方案。使用智能电量检测 IC 来测量电池充入或消耗的电量,将能够在很宽的应用电源级别范围内提供更精确的电池电量估测。

一、POS 机智能电池设计要求:

根据客户的要求和规格,设计与主机配套的 POS 机智能电池组,将带通信协议的智能电量计、锂电池及安全保护性能集成到解决方案中去,可达到智能锂电池组与 POS 机主机信息共享,最终实现合理、高效、安全的电池管理方案。在整个方案的设计过程中,以实现同主机的最完美的整合为方向,以确保电池、电池组及整个系统的安全性为前提,以满足相应的设计法规及认证法规为首选考虑。同时为了确保锂电池的安全性和可靠性,电池组内部都要采取多层保护,防止锂电池因过充电,过放电或短路而被破坏。

二、POS 机智能电池设计方案:

1) **保护板 (PCM)**: 主要是对可充电智能电池组进行设计的保护线路,由于锂电池本身的化学特性,需要提供智能电量计算、过充、过放、短路、过流及过温等保护功能。以避免引起燃烧、爆炸等危险。

- 2) **保护 IC (Protection IC)**：设计方案的主要保护功能芯片，对电芯进行过充、过放、过流、短路等功能的在线时时监测。使电芯在安全稳定高效的范围内工作。
- 3) **过流保护片 (PTC)**：主要针对二次保护功能设计。PTC 可恢复保险丝具有过流保护，自动恢复双重功能。电池产品里的 PTC 可以防止电池高温放电和不安全的大电流的发生。
- 4) **103450 锂离子电芯/103450 Li-ion cell (SANYO)**。
- 5) **场效应管 (MOSFET)**：MOSFET 管，在保护电路中起开关作用，永远使负载两端的电压不会升高也不会降低，保证电压稳定。
- 6) **电量管理控制芯片 (BQ26500)**：功能完整的电量检测计，具有一个测量电压与温度的模数转换器(ADC) 和一个测量电流与充电感测的模数转换器。电量检测计具有一个微处理器，负责执行电量检测计，能够提供剩余电量状态(Remaining State of Capacity)等信息，BQ26500 产品还提供剩余可运行时间 (Run Time to Empty)。主机可随时向电量检测计查询这些信息，将电池信息通知用户。电量检测计的使用非常方便。让使用者随时掌握电池电能。
- 7) **电池组封装:胶壳。**

Specification:

Combination way: 103450-2S1P;

Rated Voltage: 7.4V;

Rated capacity: 1800mAh;

Standard discharge continuous current: 0.2C;

Max discharge continuous current: 1C;

Working temperature: charge: 0~45°C/discharge: -20~60°C;

Product size: MAX 22.55*38*55mm;

Product impedance: $\leq 280\text{m}\Omega$;

Lead model: metal contact output;

PCM: S-8242AAY+BQ26500+MOS-AO8810+PTC (over current protection);

Protection parameters:

Overcharge protection voltage/each serial: $4.25\pm 0.025\text{V}$;

Over discharge protection voltage: $3.0\pm 0.05\text{V}$;

Over current: 4-7A.

Introduction:

Lithium ion battery for industrial **POS machine**, is power source of wireless POS machine. [7.4V lithium battery pack](#) just meets the voltage requirement for POS machine. Lithium ion battery features high voltage of single cell, high energy density, small volume, long cycle life, no memory effect etc., and its application in industrial get widely. It helps industrial POS machine achieve wireless operation, flexible payment method, small volume etc.

1. Features of [lithium ion battery](#) for industrial POS machine:
 - A. Imported lithium battery cell. The battery pack uses 2 pcs of 103450 prismatic lithium ion cells in series connection with rated voltage being 7.4V.

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- B. Exact electricity volume indicating. With built in communication protocol smart fuel gauge, it can exactly calculate capacity surplus level and remaining run time, and then send the result to main board in time, so that main board can control **POS machine battery** information.
 - C. Secondary protection. Auto recoverable PTC could prevent 7.4V lithium ion battery pack from high temperature discharge and unsafe large current.
 - D. Lithium ion battery safety protection. [Lithium battery](#) basic protection circuit can prevent battery from over charge, over discharge, over current, short circuit etc., and make battery operating safer and more stable.
 - E. Metal contact output perfectly combined with main board, saving more room and improving product grade.
 - F. Light and beautiful plastic case. Fire resistance level of the plastic case is up to UL-94V0.
2. Industrial POS machine lithium battery applications: apply to solid and wireless POS machine for large and medium scale super-market, chain store, mall, large and medium scale restaurant etc. high management level retail sale company.
 3. Storage of industrial POS machine lithium ion battery: with electricity volume 50-60%, humidity 60±15% R.H; storage temperature: -20~60°C for less than one month, -20~30°C for less than six months.
 4. Warranty of industrial POS machine lithium ion battery: 12 months since delivery, and Large company is responsible for replacement of battery if battery defective is caused by production process other than misuse.
 5. Charger option of 7.4V 1800mAh lithium ion battery pack: 7.4V lithium ion battery charge limit voltage 8.4V, standard charge current 900mA (0.5C), this kind of 7.4V lithium ion battery with metal contact output, so we should choose the special [8.4V/1A lithium battery charger](#) with metal contact.
 6. Individual and diverse design of industrial POS machine lithium battery pack, industrial POS machine lithium ion battery is not only limit to 7.4V lithium ion battery, but also our design program could change according to different work voltage, continuous discharge time of different POS machine model. From cell option, cell assemble method, output method to lithium ion battery PCM parameter set up etc., Large company design program is very flexible, to meet individualize, diversified, international chemical power source requirement from industrial user.