

# Best Practice Guide: Battery Storage Equipment Electrical Safety Requirements.

LiFe4833P

## PowerPlus Energy LiFe4833P Battery

### 1. Type of battery storage equipment

The PowerPlus Energy LiFe4833P is a 51.2VDC 64Ah 3.3kWh Battery using Lithium Ferro Phosphate cylindrical cells with an internal battery management system (BMS), a Noark 2-pole non-polarised ganged 63A DC circuit breaker, Amphenol Surlok battery terminals and volt free alarm contacts via a RJ45 connector in a robust metal enclosure.

### 2. Details of the Best Practice Guide - Battery Storage Equipment (BPGBSE) method chosen and standards applied

Method 1 of the Best Practice Guide – Battery Storage Equipment Electrical Safety Requirements has been chosen to demonstrate the compliance of the LiFe4833P battery. This method mandates compliance with:

1. IEC 62619:2017 Secondary cells and batteries containing alkaline or other non-acid electrolytes:  
The PowerPlus Energy LiFe4833P Battery, as well as the constituent Lithium Ferro Phosphate 26650 cells, are both certified compliant with IEC 62619 by TUV SUD PSB Pte Ltd (Singapore).
2. AS/NZS 62368.1:2018 Audio/video, information and communication technology equipment Safety requirements:  
Testing and evaluation of the PowerPlus Energy LiFe4833P battery against AS/NZS 60368.1:2018 have been undertaken by EMC Technologies Pty Ltd (Keilor Park, VIC 3042). A Certificate of Suitability has been issued by SGS Systems and Services Pty Ltd (Notting Hill, VIC 3168).
3. UL 1973:2013 batteries for use in light electrical rail applications and stationary applications – Section 5.8.13 Software:

The PowerPlus Energy LiFe4833P battery does not contain any components in the Battery Management System (BMS) involving Software. Instead it uses analogue electronics and trip points set in hardware for the control of load and/or charger disconnection in the event of an over-current, over-voltage, under-voltage, or over-temperature fault event. Furthermore, the PowerPlus Energy LiFe4833P relies upon a Noark 2-pole non-polarised ganged 63A DC circuit breaker for additional safety protection in the unlikely event of a solid-state circuit failure on the BMS. As such the LiFe4833P adequately meets the conditions.

### 3. Certifications of compliance to standards cited by the mandatory method by certification bodies recognised in Australia

TUV SUD PSB Pte Ltd has separately certified that both the PowerPlus Energy LiFe4833P battery, as well as the constituent Shandong Goldencell HTCFR26650-3200mAh-3.2V Lithium Ferro Phosphate cells:

TUV SUD PSB Pte Ltd certified the PowerPlus Energy Pty Ltd LiFe4833P 51.2Vdc 64Ah rechargeable Li-ion battery as compliant with IEC 62619:2017, as of 12th July 2019 on certificate SG PSB-BT-01319.

TUV SUD PSB Pte Ltd certified the Shandong Goldencell Electronics Technology Co. Ltd. Model HTCFR26650-3200mAh-3.2V rechargeable Li-ion cell as compliant with IEC62619:2017, as of 7th Mar 2019 on certificate SG SPB-BT-01143.

---

SGS Systems and Services Pty Ltd has certified that the PowerPlus Energy LiFe4833P battery complies with AS/NZS 62368.1:2018 on certificate SGS/200640 against test report M2002010-2 issued by EMC Technologies Pty Ltd.

---

Shenzhen TCT Testing Technology Co. Ltd. has certified that the PowerPlus Energy Pty Ltd LiFe4833P battery complies with the testing requirements of Section 38.3 of the Sixth revised edition Amendment 1 of the Recommendations on the Transport of Dangerous Goods, Manual of Test and Criteria (ST/SG/AC.10/11/Rev.6/Amend.1/Section 38.3), as of 21st May 2019 on report TCT190416B018.

---

Vkan Certification & Testing Co. Ltd has certified that the constituent Shandong GoldenCell Electronics Technology Co. Ltd. HTCFR26650-3200mAh-3.2V blue cylindrical Li-ion cells comply with the testing requirements of Section 38.3 of the Sixth revised Edition Amendment 1 of the Recommendations on the Transport of Dangerous Goods, Manual of Test and Criteria (ST/SG/AC.10/11/Rev.6/Amend.1/Section 38.3), as of 22 Jan 2019 on report RZUN2019-0204.

---

Shenzhen RCT Testing Technology Co. Ltd certified that the PowerPlus Energy Pty Ltd LiFe4833P battery complies with the testing requirements of EN 61000-6-1:2007 and EN 61000-6-3:2007+A1:2011 for radiated emissions, immunity to electrostatic discharge (IEC 61000-4-3) and immunity to radiated RF-electromagnetic fields (IEC 61000-4-4), as of 21 May 2019 on report number RCT20190521001EMC to. This accreditation certificate is available for download from [www.rct-testing.com](http://www.rct-testing.com)

---

UL Product iQ shows that UL certified that the constituent [Shandong Goldencell Electronics Technology Co. Ltd. HTCFR26650] 3200mAh-3.2V Li-ion cells complies with all single-cell tests in UL1642, with Max Charging Current of 9600mA and Max Charging Voltage of 3.65V dc, on report MH48108.

This accreditation certificate is available for download from <https://iq.ulprospector.com/en/profile?e=10310>

### Declaration of compliance

On the basis of assessment tests undertaken by nationally and internationally recognised test laboratories, and certificates issued by nationally and internationally recognised authorities,

I, Simon Chan (BE – UWA, MIEEE, MACS Snr, CP), Technical Director for PowerPlus Energy Pty Ltd, hereby declare the LiFe4833P battery to be compliant to Best Practice Guide for Battery Storage Equipment – Electrical Safety Requirements – Version 1 – Battery equipment – Method 1 mandatory requirements.