



PowerFirst Technology Company Limited

深圳市顶尖电源科技有限公司

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Technical Specification for PRO0300 (Confidential)

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1 INTRODUCTION

This document specifies the requirements for PRO0300 series, it is a sealed model with an IP54 enclosure. The default preset charging algorithm is marked with “■” as shown below.

- 1# IU1a-Acd for Wet traction batteries
- 2# IU1a-GEL for Gel or AGM
- 3# IUUa-GEL for Gel or AGM
- 4# For customized algorithm

Below product pictures are for reference only, it is based on the standard specification sheet, physical product might have minor change subject to customer’s specific request.



2 DOCUMENT HISTORY

Table 2-1 Document History

| Version | Date | Change record | Creator |
|---------|----------|-----------------|------------|
| V.01 | 13.05.12 | Initial version | PowerFirst |
| | | | |
| | | | |

3 SPECIFICATION

Table 3-1 Specification

| No | Item | Technical specification | Remark |
|----|---------------------|--------------------------------------|----------------------|
| 1 | Rated input voltage | 100 -240 VAC +/-10%, stepless change | Universal wide range |
| 2 | AC frequency | 50-60Hz | Universal |
| 3 | Peak efficiency | 91% @230VAC/24VDC, 89% @120VAC/24VDC | CEC compliant |
| 4 | Power factor | >0.98 @ 230VAC, >0.99 @ 120VAC | Advanced Active PFC |




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| No | Item | Technical specification | Remark |
|----|---|--|---|
| 5 | Nominal output voltage | 24V | |
| 6 | Bulk charge (CC) | 10A, switch to CV at 28.8V (2.40vpc) | Constant Current |
| 7 | Absorption charge (CV) | 28.8V(2.40vpc at battery end), switch to float charge when current tapers down to 0.5A | Constant Voltage |
| 8 | Float charge | 27V (2.25vpc), no time limit | Constant Voltage |
| 9 | Interlock function | Normally-closed (NC), max. 7A Wires: 2 * 1mm ² * 20cm, Red and Black Connector: customizable | Optional, customizable |
| 10 | Remote LED extension | Connector customizable | Optional, customizable |
| 11 | Charge algorithms | 1# IU1a-Acd for Wet traction batteries 2# IU1a-GEL for Gel or AGM 3# IUUa-GEL for Gel or AGM (default preset) 4# For customized algorithm | Optional: A yellow wire loop to set two commonly-used charging algorithms. The yellow wire loop closed for default setting, cut for custom setting. |
| 12 | Line loss compensation | Based on 2 meters output cable's length | |
| 13 | Short circuit protection | Short circuit protection with auto-reset | |
| 14 | Reverse polarity protection | Reverse polarity protection with auto-reset | |
| 15 | Additional protection | Sparks protection AC surge protection with auto-reset Over temperature protection with auto-reset | |
| 16 | DC output power cord (customizable) | Cable: 2 * 1.5mm ² * 1.2m Connector: customizable | |
| 17 | AC input power cord (customizable) | Cable: 3 * 0.75mm ² * 60cm Connector: IEC320 / C14 |  |
| 18 | LED instruction (Tricolor led indicator with extension cable) | Blue: On or flash = Fault Red: Flash=No battery connected Red: On=Normal charging Green: On=Fully charged | Customizable |
| 19 | Regulatory compliant | Safety (LVD): EN60335-2-29, UL1564, CSA 107.2 Emissions (EMC): EN55014 Immunity (EMC): EN61000-3-2, EN61000-3-3 CEC: California Energy Commission | LVD, RE, CE, Harmonic, Flicker, ESD, RS, CS, EFT, Surge, DIP, PFM included |



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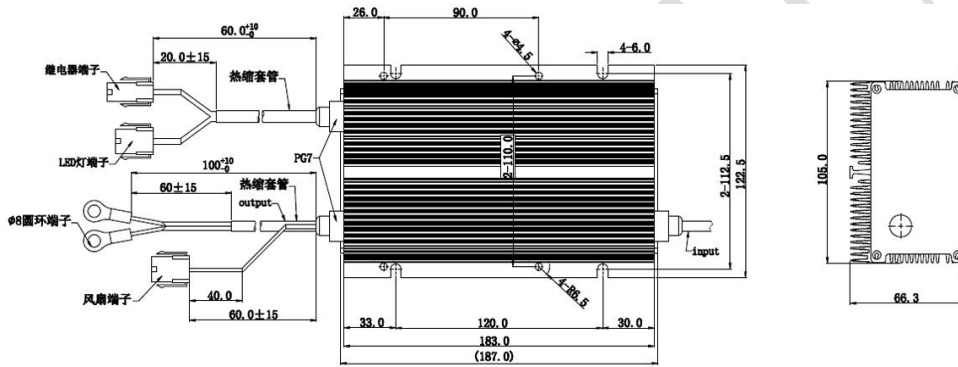
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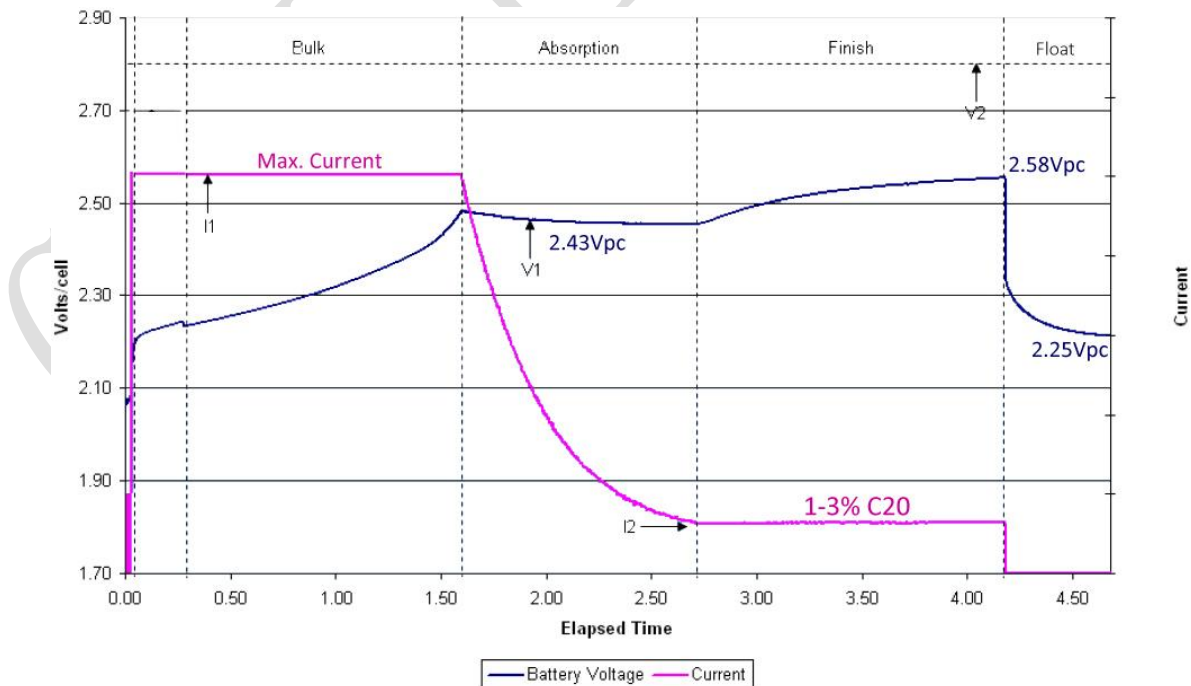
| No | Item | Technical specification | Remark |
|----|-----------------------|--|----------------------|
| 20 | Enclosure | IP54 | Optional: IP66 |
| 21 | Cooling method | Natural convection cooled via optimized fins | |
| 22 | Operating temperature | -10°C to +50°C (14°F to 122°F) | |
| 23 | Storage temperature | -20°C to +65°C (-4°F to 149°F) | |
| 24 | Mechanical fixing | On-board as default | Portable as optional |
| 25 | Dimensions | L187 x W105 x H66.3 mm | |
| 26 | Weight | 1.6Kg | Maybe some tolerance |
| 27 | Color | Black | Customizable |

4. PRODUCT OUTLINE DRAWING



5. CHARGING ALGORITHMS

1# IU1a-Acd for Wet traction batteries





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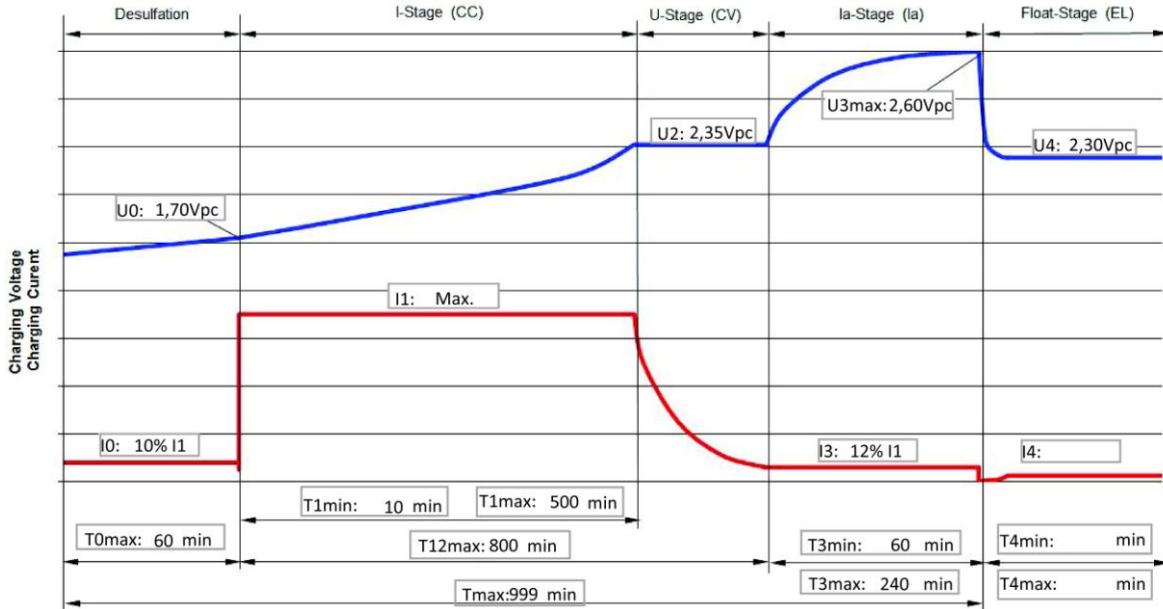
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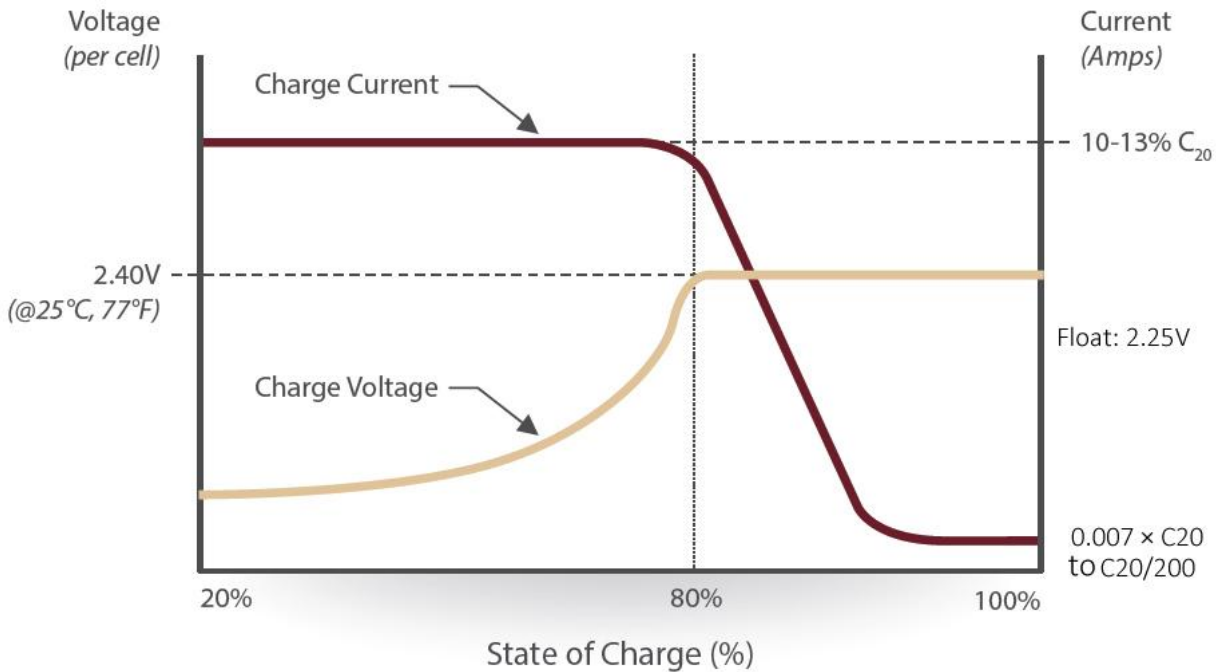
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2# IU1a-GEL for Gel or AGM



3# IUUa-GEL for Gel or AGM



4# For customized algorithm