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Technical Specification for Mission450 (Confidential)

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1 INTRODUCTION

This document specifies the requirements for Mission450, it is a natural-cooled water-proof model with an IP66 enclosure. The default set charging algorithm is as follows with "■" mark.

☐1# IUIa-Acd for Wet traction batteries ☐2# IUIa for AGM or GEL

■**3# IUUa for AGM or GEL** ☐4# For customized algorithm

Below product picture is for reference only, it is based on the standard specification sheet, customization is available subject to customer's specific request. This series of chargers are widely used for floor cleaning machines, pallet movers, aerial work platforms, golf carts, etc.

2 DOCUMENT HISTORY

Table 2-1 Document History

Version	Date	Change record	Creator
V.01	16.01.20	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	Ultra high AC mains voltage protection	Protected in case of ultra high voltage up to 380V.	
4	Peak efficiency	94%@240VAC/24VDC, 91%@120VAC/24VDC	CEC compliant
5	Power factor	＞0.98 @ 230VAC, ＞0.99 @ 120VAC	Advanced Active PFC
6	Nominal output voltage	24V	36V / 48V models optional
7	Bulk charge (**CC**)	Charge with max. 15A, 13A or 12~15A until voltage rise up to 28.8V (2.40vpc), then switch to Absorption charge	Constant Current

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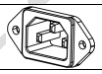
No	Item	Technical specification	Remark
8	Absorption charge (**CV**)	Hold at 28.8V (2.40vpc at battery connector) until current drops to 0.8A, then terminate and switch to Float charge	Constant Voltage
9	Finish charge (**CC**)	Not allowed for most AGM and Gel batteries	Constant Current
10	Float charge	27V (2.25vpc), no time limit	
11	Line loss compensation	Based on 2 meters output cable's length	
12	Temperature compensation	-0.005Vpc / ℃, T nominal = 26.7 ℃	Optional
13	Temperature sensor	Temp compensation programmed based on NTC 10K, 5%, B25/85=3977K. Wires: 1.9m	Optional
14	DC output wires	Integrated terminals reserved. Wires TBD	
15	DC output terminals	Integrated terminals reserved. Connector TBD	
16	AC inlet connector	IEC320 with waterproof gasket	
17	Interlock signal lines	Normally-closed (NC), max. 5A Wires: customizable	
18	Interlock connector	Integrated terminals reserved. Connector TBD	
19	LED extention cable	Integrated terminals reserved. Cable TBD	
20	LED connector	Integrated terminals. Connector TBD	
21	Charge algorithms	Algorithms set via U disk	
22	Data & configuration (data upload, download for analysis, charge algorithms configuration)		
23	USB port	Data transmit and configuration via U disk	
24	Other possible function	Possible to achieve can bus /can open / I^2C, etc	
25	Short circuit protection	Short circuit protection with auto-reset	
26	Reverse polarity protection	Reverse polarity protection with auto-reset	

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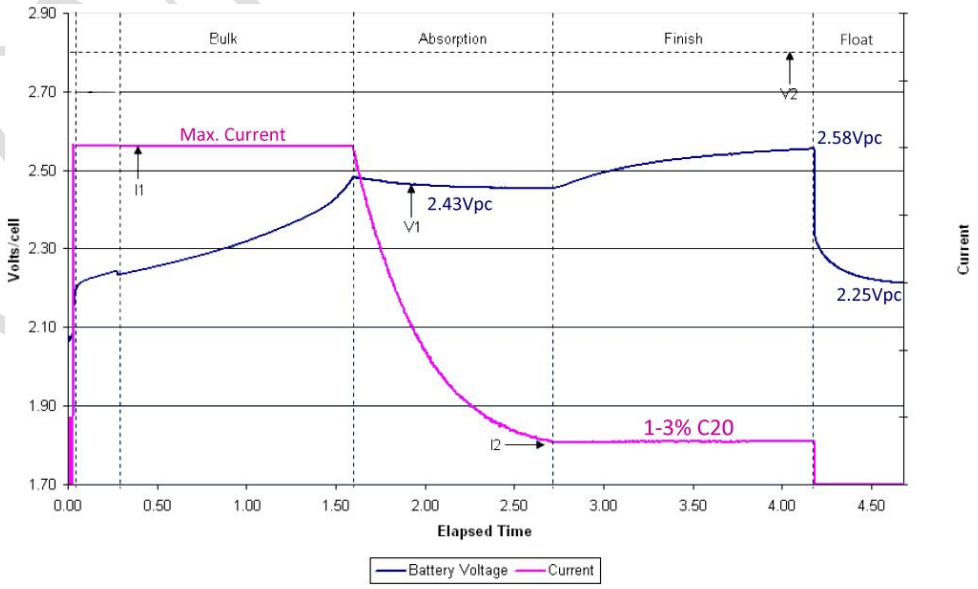
No	Item	Technical specification	Remark
27	Additional protection	Sparks protection AC surge protection with auto-reset Over temperature protection with auto-reset	
28	Regulatory compliant	Safety (LVD): EN60335-2-29, UL1564, CSA 107.2 Emissions (EMC): FCC Part 15 / ICES 003 Class A, EN55011 Immunity (EMC): EN61000-3-2, EN61000-3-3, EN61000-6-2, EN61000-6-4 CEC: California Energy Commission	Pending
29	Enclosure	IP66 (NEMA4)	
30	Cooling method	Natural convection cooled via optimized fin	
31	Operating temperature	-40℃ to +50℃ (-40℉ to 122℉)	Output current derates when internal temperature higher than pre-alert point, and back to normal charging when cooled down
32	Storage temperature	-50℃ to +65℃ (-58℉ to 149℉)	
33	Mechanical fixing	On-board as default	Portable as optional
34	Dimensions	L230 x W175 x H80 mm	
35	Weight	1.8Kg	Maybe some tolerance
36	Color	Silver grey	

4 CHARGING ALGORITHMS

☐ 1# IUIa-Acd for Wet traction batteries



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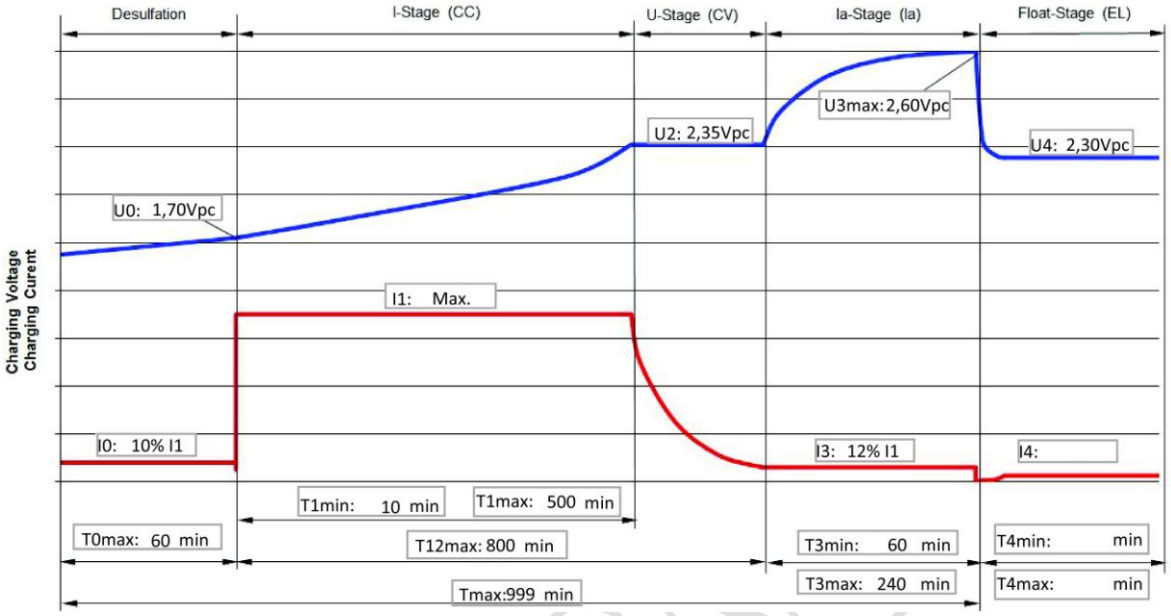
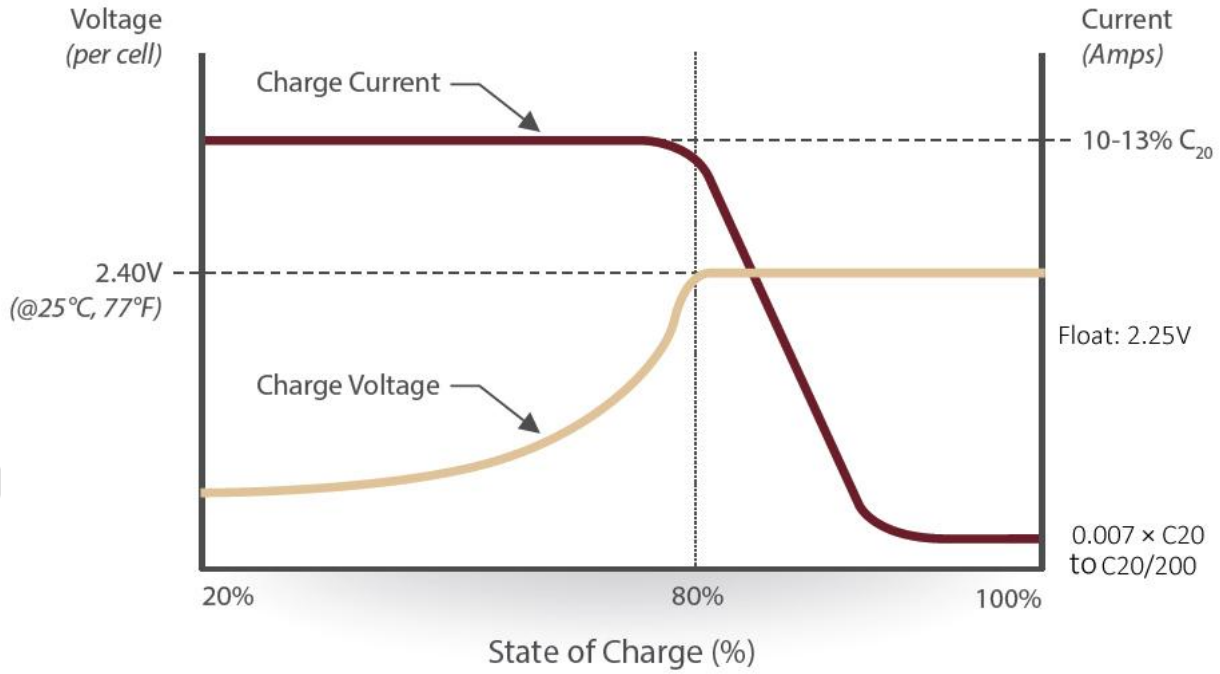
☐ 2# IUIa for AGM or GEL



■ **3# IUUa for AGM or GEL**



☐ 4# For customized algorithm

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