

# Specification

1. Customer : \_\_\_\_\_

2. Product : 10 Bay Smart Charger & Recalibrator  
For Use With 'Standard Series' Battery Packs

3. Model : EP-3010

4. Reviewed By : \_\_\_\_\_



***Emerging Power, Inc.***

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## 1. Scope

This Product Specification ('Specification' hereinafter) covers the requirements of the Charger/Cycler ('Charger' hereinafter) manufactured and supplied by Emerging Power, Inc., USA to \_\_\_\_\_ for the product "Smart Charger".

## 2. Description and Model

2.1. Description	10 bay Smart Charger & Recalibration
2.2. Target Battery Pack	All 'Standard Series' batteries
2.3. Target Chemistry	NiMH, Li-Ion, and Li-Polymer
2.4. Smbus:	Level 1, 2, 3
2.5. Model name	EP-3010

## 3. Ratings

3.1. Charging Current	3.0A
3.2. Taper Charging Current	Application Dependant
3.3. Trickle Charging Current	Application Dependant
3.4. AC Input Voltage	100~240VAC/50~60Hz, 1.8A
3.5. DC Input Voltage	24V, 2.7A
3.6. Charging Voltage	7.4~16.8V
3.7. Charging Method	CC, CC-CV
3.8. Charging termination	dT/dt, Taper Current, Max T, -dV, Max V, Time-out
3.9. Operating Temperature	
Standard Charge	0 to 45°C
Standard Discharge	-20 to 60°C
3.10. Storage Temperature	-20 ~ 60°C
3.11. Storage Humidity	20 ~ 85 % RH (not condensed)

## 4. Calibration

4.1. Calibration button	Charge→Discharge→Charge (Optional)
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## 5. Outline Dimension (Refer to the Appendix.A)

Dimensions:	4.89x6.89x2.02 in
	124x175x50 mm



## 7. LED Indicator

### 7.1 LED Display

7.1.1 Off:	No battery detected
7.1.2 Green Flash:	Fast charging
7.1.3 Green Solid:	Fully charged
7.1.4 Yellow Flash:	Recalibrating
7.1.5 Yellow/Green:	Recalibrated
7.1.6 Yellow Solid:	Standby
7.1.7 Red Flash:	Error

## 8. Standard test condition

### 8.1. Test sample condition

The charger used for the test shall be manufactured and delivered no later than 6 months.

### 8.2. Environmental condition

Unless otherwise specified, all tests stated in this specification are conducted at temperature  $25 \pm 5^{\circ}\text{C}$  and humidity  $65 \pm 20\%$ .

### 8.3. Test equipment condition

The grade of voltmeter and ammeter used in the test shall be higher than class 0.5, a high impedance type.

## 9. Safety test

### 9.1. Over voltage test

Test method : Apply voltage above the input voltage to the charger.

Criteria : Internal Fuse or Safety unit shall activate and terminate over voltage.

No damage such as flame, or fire is accepted.

### 9.2. Over current test

Test method : Apply current to the charger with a greater than Max. charging Current.

Criteria : Internal Fuse or Safety unit shall activate and terminate over current.

No damage such as flame, or fire is accepted.



## 10. Mechanical Characteristics

### 10.1. Drop Test

Test method: Drop the charger to a concrete floor from 0.76m in height at any direction 3 times.

Criteria : No leakage , OCV  $\geq$  In the spec., and Internal impedance  $\leq \infty m\Omega$  .

### 10.2. Vibration Test

Test method: Vibrate the charger with a frequency and an amplitude : 10Hz  $\rightarrow$  55Hz  $\rightarrow$  10Hz / 0.8mm.  
Sweep speed : 1  $\pm$ 0.055Hz/min.

Criteria: No leakage , OCV  $\geq$  In the spec., and Internal impedance  $\leq \infty m\Omega$  .

## 11. Shipment

Will be specified (TBA)

## 12. Others

### 12.1. Warranty

Emerging Power, Inc., USA will be responsible for replacing the CHARGER against defects or poor workmanship for 12 months from the date of shipping. Any other problems caused by malfunction of the equipment or misuse of the charger are not covered under this warranty.

12.2 Approvals: CSA, UL, CE, FCC, TU

**Target Batteries: 202, 36, 201, 35, 15;**

Any chemistry with SMBus or dumb NiCd / NiMH batteries with 10K ohm NTC.

**The EP-3010 Includes:**

Charger

Universal Switching Power Supply

US Line cord (Other country line cords available)

