

Tenergy 5 Li Cells in series Charger Datasheet

NO.	Item	Unit	Specification	Test Condition
Input Characteristics				
01	Rated AC Input	Vac	100~240VAC 50/60Hz	
	Input Voltage	Vac	90~264VAC	
	Rated Input Current	A	0.40Arms	220Vac input and full load.
	Max. Input Power	W	62.5W	
Output Characteristics				
02	Rated Output Voltage	Vdc	18.0V	
	Output Voltage	Vdc	12.0V-24.0V	24V is the open circuit voltage
	Battery Capacity Extend. Number of Cells	Ah	2 Ah~30Ah 5 Li Cells in Series	
	Charge Current	A	2.5A±0.1A	
	Cut Off Current	A	0.2A	
	Max. Delivered Power	W	52.5W	
	Safety Timer	Hour	18Hours	
	Power Indication LED Indications	-	Power ON -- Red Flashing(0.25Hz) Charging -- Red Fully Charged -- Green Errors – Red Flashing(2Hz)	
	Short-Circuit Protection	-	Yes	
	Reverse Protection	-	Yes	
	Efficiency	%	>83%	220Vac Input and Full Load
Environment				
03	Operation Temperature.	℃	-10~40	Full load & natural convection.
	Operation Humidity	%RH	<90%RH	Relative humidity, non-condensing.
	Storage Temp.	℃	-30~85	
	Storage Humidity	%RH	<95%RH	Relative humidity, non-condensing.
	Cooling	-	Natural Convection	
	Vibration	-	IEC68-2-6	Non-operating condition.
	Impact	-	IEC68-2-32	Non-operating condition.
Safety & EMC				
04	Max Temp. Rise	℃	< 40 on casing	At any line and full load.
	Safety Standard	-	EN60335-2-29	
	EMC	-	EN55014-1	
	MTBF	hrs	50000hrs	
	ESD	kV	8	
	HI-POT	V	3000/1min.	Testing with Sine wave.

Important Notice

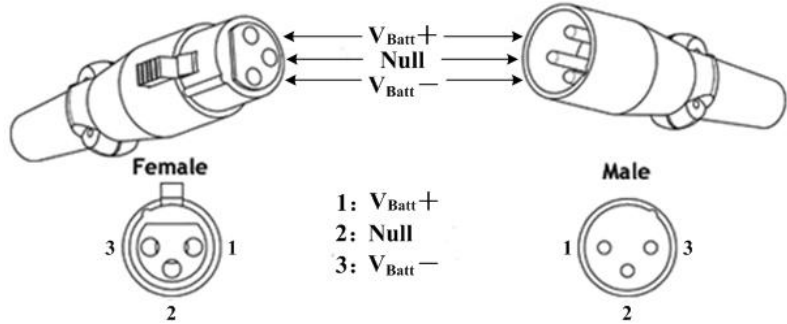
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Mechanical	
Dimensions	L/W/H, 148mm/78mm/43mm
Input AC Cable	Awg #18, 1.2m length, UL style.
Output DC Cable	See the below sketch map



3 pin connector standard, others on request

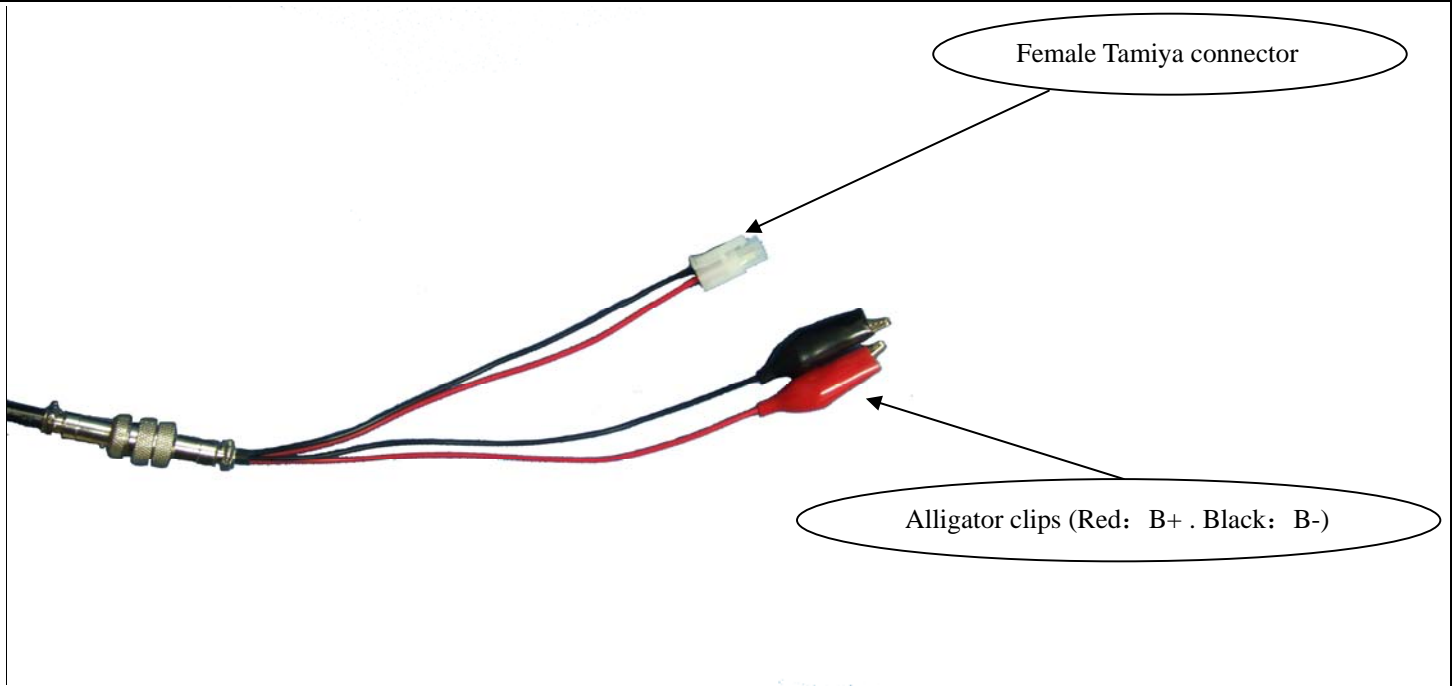
3 Pin plug wiring diagram

Pin 1 Positive

Pin 2 Null

Pin 3 Negative,

Standard Charge Cables, Others on Request



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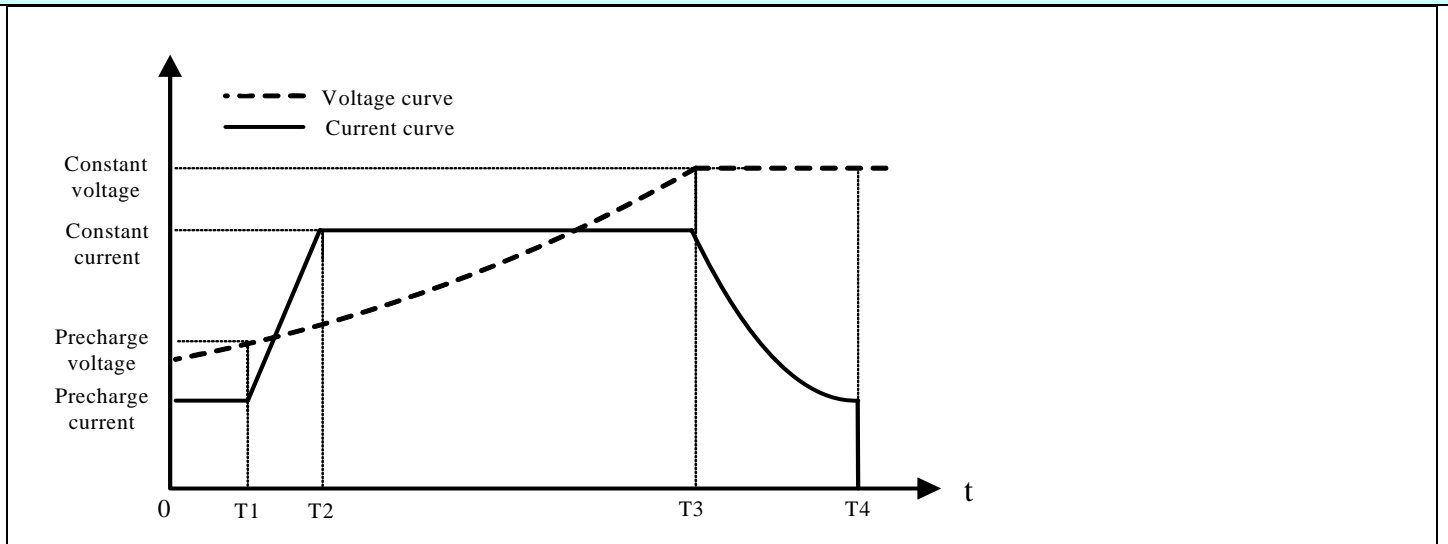
Charge Instruction:

1. Connect the battery to output connector (3 pin Waterproof connector or Tamiya connector or alligator connectors)
2. Make sure the battery polarity is connected properly (Red wire is Positive and Black wire is Negative)
3. Plug the 110V-240V AC power source
4. Upon correctly connecting the battery pack, the LED turns red showing charging on progress
5. LED turns green on when the battery get fully charged or under trickle charge

Cautions:

- Never charge battery packs with lower or higher capacity beyond the designated AH value. Tenergy is not responsible for any damage caused by misusing.

Charging process algorithm (single cell for example)



0-T1:	Pre-charge stage. When the voltage of the cell is lower than $3.0V \pm 0.1V$, the charger will use pre-charge current to charge the battery.
T1-T2:	Current ramp up stage. When the voltage reach to $3.0V \pm 0.1V$, charge current will ramp up from wake up current, and at the end of this stage, the current will be set to fast charge value by the MCU.
T2-T3:	Constant current stage. Charge battery with fast charge current, until the cell voltage reach up to $4.20V$.
T3-T4:	Constant voltage stage. In this stage, cell voltage will be kept under $4.20V$ while charge current gradually goes down. When the charge current is smaller than cut-off current (normally $1/10 \sim 1/8$ fast charge current), MCU terminated charge process and indicates full.

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