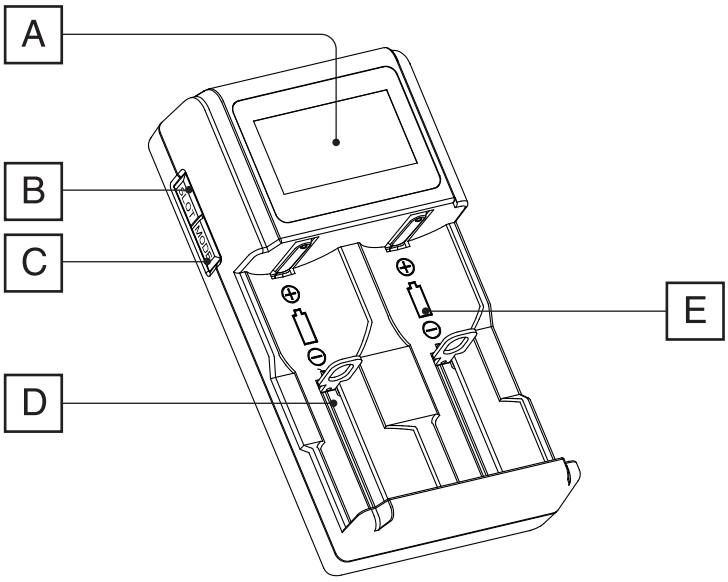
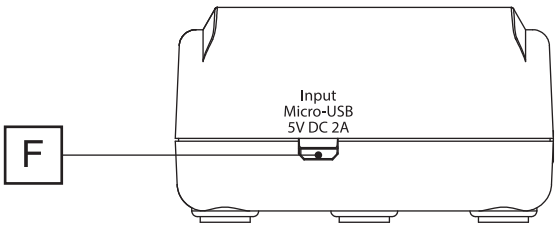
TENERGY®

TN471U Intelligent Fast Charger

For Li-ion / LiFePO4 / Ni-MH / Ni-CD / IMR





A LCD Display

B SLOT BUTTON

Press to switch charging status between slot 1 and 2

C MODE BUTTON

Press to change charging speed (Li-ion, LiFePO4, IMR only)

B + **C** Active / Deactivate LiFePO4 Mode

D Charging slot 1

E Charging slot 2

F Micro USB input port 5V DC 2A

Specifications

INPUT:	5V DC 2A
OUTPUT:	4.2V DC 500mA/1000mA (Li-ion/IMR) 3.7V DC 500mA/1000mA (LiFePO4) 1.48V DC 500mA (Ni-MH/Ni-CD)
STATUS DISPLAY:	Backlit LCD
BUILT-IN PROTECTIONS:	Short-circuit, Reverse Polarity, Bad Cell Detection, Safety Timer

Compatible Rechargeable Battery	
Ni-MH / Ni-Cd:	AA / AAA / AAAA / C / D / Sub C
IMR / Li-ion / LiFePO4:	18650, 26650, 22650, 18490,18350, 17670, 17500, 14500, 10440, 16340

Note: Not recommend for use with RCR123A

Typical Charging Time Chart (@ 1000mA)			
	5V 1A USB Power Adapter	5V 2A USB Power Adapter	PC USB Port
Charging Time: 1x 2600mAh 18650 Li-ion Batteries	5hrs	5hrs	6 to 7hrs
Charging Time: 2x 2600mAh 18650 Li-ion Batteries	6hrs	5.5hrs	Not enough power to charge 2x 18650 at the same time

IMPORTANT SAFETY INSTRUCTIONS:

1. SAVE THESE INSTRUCTIONS & CAREFULLY FOLLOW THEM, TO REDUCE THE RISK DANGER OF FIRE OR ELECTRIC SHOCK.
2. This charger is intended for Ni-MH, Ni-CD, Li-ion, and LiFePo4 rechargeable batteries only. Attempting to charge non-rechargeable batteries may cause personal injury and damage to the charger.
3. Do not expose charger to water or moisture. For indoor usage only.
4. Remove from power when not in use.
5. Do not operate the charger if it has been subjected to shock or damage. Take it to a qualified serviceman for repair.
6. Do not disassemble the charger. Incorrect reassembly may result in a risk of electric shock or fire.
7. Unplug the charger from USB port before attempting any maintenance or cleaning. Use damp cloth to clean the surface, do not immerse into water.
8. Before scrapping your charger, remove batteries from the unit and recycle or dispose the batteries safety.
9. This appliance is not recommended for children under 8 years old or persons with reduced physical, sensory, or mental capabilities. Adult supervision is recommended to prevent hazards that may be involved.
10. Do not let children play with the appliance, it is not a toy.
11. Cleaning and user maintenance shall not be made by children without adult supervision.

Charging Instructions

1. Connect charger to a powered USB port or adapter. LCD on the charger will turn on to indicate it's properly powered.

2. Insert 1~2 battery into the slot, make sure + / - are correctly used.

3. Charging will auto start,
   - Battery type screen will show the battery type being detected.
   - (CHARGE) will show on the [status] screen.

4. When charging is done, (FUL) will be displayed on the digital screen of the LCD.

5. Remove battery after it's fully charged.

Reverse/Bad Cell/Short Circuit

Reverse the battery polarity, incorrectly inserting the battery, inserting alkaline battery or short circuit will result in charging failure, the "Error" icon will be shown on the LCD display and capacity gauge for the corresponding slot will flash rapidly. Should this occur, please reposition / replace / remove the battery from the slot.

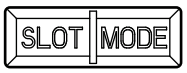
SLOT / MODE

When 2 batteries are charging at the same time, press SLOT to select the charging slot (1) or (2). Then you can view the individual charging information (ie. Battery Type, Charging Status, Charging current, Charging voltage & Charging time) for the selected charging slot.

To change charging speed: Default charging speed is 500mA, this can be increased to 1000mA for Li-ion, IMR, and LiFePO4 batteries, to do that, simply press [mode] button once. Digital screen will show the updated charging current. (1000mA charging current is NOT available for NIMH and NICD).

Note: 2A USB power source is needed to charge 2x Li-ion battery at 1000mA speed setting

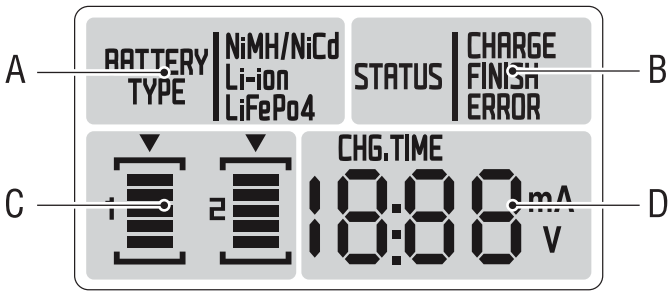
Tip: It is safe to use 1A current option for Li-ion, IMR and LiFePO4 batteries as long as its capacity is higher than 1000mah, for capacity 1000mah or below, please stay with the default charging current 500ma for better battery life span.



Activate / Deactivate LiFePO4 charging mode: To properly charge a LiFEpo4 battery (please check label on battery to identify if it's LiFePO4), LiFePO4 charging mode will need to be manually activated.

To do that:
1. Press "slot" and "mode" button together.
2. Battery type screen will show [LiFePO4].
3. LiFePO4 charging mode is enabled
4. To get out of LiFePO4 charging mode, press 2 buttons together again.

LCD reference



A Battery Charging Type Detection

NiMH / NiCd Li-ion	It will be shown by Auto Detection
LiFePo4	It will be shown ONLY when the SLOT & MODE buttons are pressed, please read SLOT / MODE before use.

B Charging Status

CHARGE	Charging starts
FINISH	Charging is finished
ERROR	Charging is failed (See more in Reverse / Bad Cell / Short Circuit)

C Battery Gauge

▼	Indicates the selected charging slot (1) or (2)

Charging starts and the first block will be flashing

Charging is finished and all blocks are shown

Charging is failed and the whole icon will be flashing

D Time, Voltage, Current & Finish

Time		Shows the time spent for charging
Voltage		Shows the charging voltage
Current		Shows the charging current
Finish		Charging finish (FULL)

*Time, voltage and current will be shown alternatively by 5 sec interval.

FAQS

1. Why does charging fail when I try to charge two 18650 batteries?
   Check the USB power source, it might not be powerful enough to charge 2x 18650 at a time; to fix this, change to a USB power source that has more output (5V 1A or higher is recommended), or charge 1 battery at a time.
2. Why is my 18650 not fully charged even though the charger's screen shows full?
   Check and see if LiFePO4 mode is activated but the battery being charged is actually Li-ion.To fix this, exit LiFePO4 mode.
3. Can I charge an AA NiMH battery and 18650 Li-ion battery at the same time?
   Yes, totally ok.
4. Why can't the charger detect LiFePO4 automatically from Li-ion cells?
   This is a technical difficulty that hasn't been fully resolved by today's technology yet. Please handle the charging mode carefully, if you have LiFePO4 batteries on hand.