E-FAST tk-700

E-FAST 10A Battery Charger User Manual

Model: tk-700 | Brand: E-FAST

1. Introduction

The E-FAST 10A Battery Charger is an intelligent automotive battery charger designed for 12V and 24V LiFePO4 and Lead Acid batteries. It is suitable for charging and servicing a wide range of vehicles including cars, trucks, SUVs, motorcycles, golf carts, lawn mowers, ATVs, and more. This charger features an upgraded large display screen, smart chip system for repair and charging, and multiple safety protections to extend battery life.



Figure 1.1: E-FAST 10A Battery Charger main unit with display and battery clamps.

2. Safety Information

Always read and understand all safety warnings and instructions before using the battery charger. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Ensure proper ventilation when charging to prevent gas accumulation.
- Wear eye protection and gloves when working with batteries.
- Do not charge frozen batteries.
- Connect the charger to the battery before plugging it into a power outlet. Disconnect from power before disconnecting from the battery.
- Ensure the charger is compatible with your battery type (12V/24V LiFePO4, Lead Acid, Gel, AGM, SLA).
- This device is a battery charger and maintainer; it cannot jump-start a vehicle.

3. Product Overview

The E-FAST charger features a robust design with user-friendly elements.



Figure 3.1: Charger highlighting the large display screen, integrated storage for cables, and durable fireproof material construction.

Key features include:

- **Large Digital Display Screen:** Provides clear readings of voltage, current, temperature, and battery capacity. Remember to remove the protective film for optimal clarity.
- **Foldable Handle:** For easy portability.
- **Foldable Support Feet:** Optimizes visual angle during use.
- **Winding Storage Design:** Clips on both sides allow for tidy storage of power cords and clamps, preventing tangles.
- **Sturdy Charging Clips:** Enlarged and thickened for secure connection.

4. Setup

Follow these steps to set up your E-FAST battery charger:

1. Ensure the vehicle is turned off and the ignition is in the OFF position.

2. Connect the red (+) clamp to the positive (+) terminal of the battery.
3. Connect the black (-) clamp to the negative (-) terminal of the battery.
4. Plug the charger's power cord into a suitable 100-240V AC 50/60Hz power outlet.
5. The charger will automatically detect the battery voltage (12V or 24V) and begin the charging process.



Figure 4.1: Proper connection of the charger clamps to a car battery.

Video 4.1: Demonstration of connecting the E-FAST charger to a battery and initiating the charging process.

5. Operating Instructions

The E-FAST charger offers multiple intelligent modes and protections for optimal battery care.

5.1 Charging Modes

The charger supports four main modes, selectable via the mode button:



Figure 5.1: The charger's display indicating the four selectable charging modes.

- **CAR Mode:** For standard automotive lead-acid batteries.
- **AGM/LiFePO4 Mode:** Specifically designed for AGM, Gel, SLA, and LiFePO4 batteries.
- **MOTO Mode:** For motorcycle batteries and other smaller 12V batteries.
- **REPAIR Mode:** An advanced battery repair mode for undervoltage or long-idle batteries, utilizing high-frequency and low-frequency pulse technology. Note: This mode cannot activate a completely dead battery or repair physically damaged batteries.

5.2 Temperature Compensation

The charger automatically recognizes winter and summer modes based on ambient temperature, adjusting the charging current for optimal performance and battery longevity.



Figure 5.2: The charger's intelligent temperature compensation feature, automatically switching between Winter and Summer charging modes.

5.3 Charging Protections

The E-FAST charger incorporates 8 levels of protection to ensure safe and efficient charging:



Figure 5.3: Visual representation of the comprehensive charging protections, including low voltage, short circuit, overheat, overcurrent, overvoltage, reverse connection, false touch, and fireproof materials.

- Cooling protection
- Overcurrent protection
- Fireproof materials
- Overvoltage protection
- Short circuit protection
- Reverse polarity protection
- Low voltage protection
- Overcharge protection

5.4 Charging Process (10 Stages)

The charger employs a multi-stage charging process for optimal battery health:

1. Battery desulfation
2. Soft start charging
3. Bulk charging
4. Absorption charging
5. Trickle charging
6. Battery test
7. Reconditioning charging
8. Float and maintenance charging
9. Small current to maintain the charging stage

Video 5.1: Overview of the E-FAST battery charger's features and general usage for various vehicles.

Video 5.2: Detailed demonstration of the E-FAST car battery charger in action, showing the charging process and display feedback.

6. Maintenance

Proper maintenance ensures the longevity and performance of your charger.

- **Cleaning:** Wipe the charger with a dry cloth. Do not use harsh chemicals or abrasives.
- **Heat Dissipation:** The charger features large, silent fans for efficient heat dissipation, ensuring quiet operation

during charging.

- **Storage:** Utilize the winding storage design to keep cables tidy and prevent damage. Store the charger in a cool, dry place when not in use.

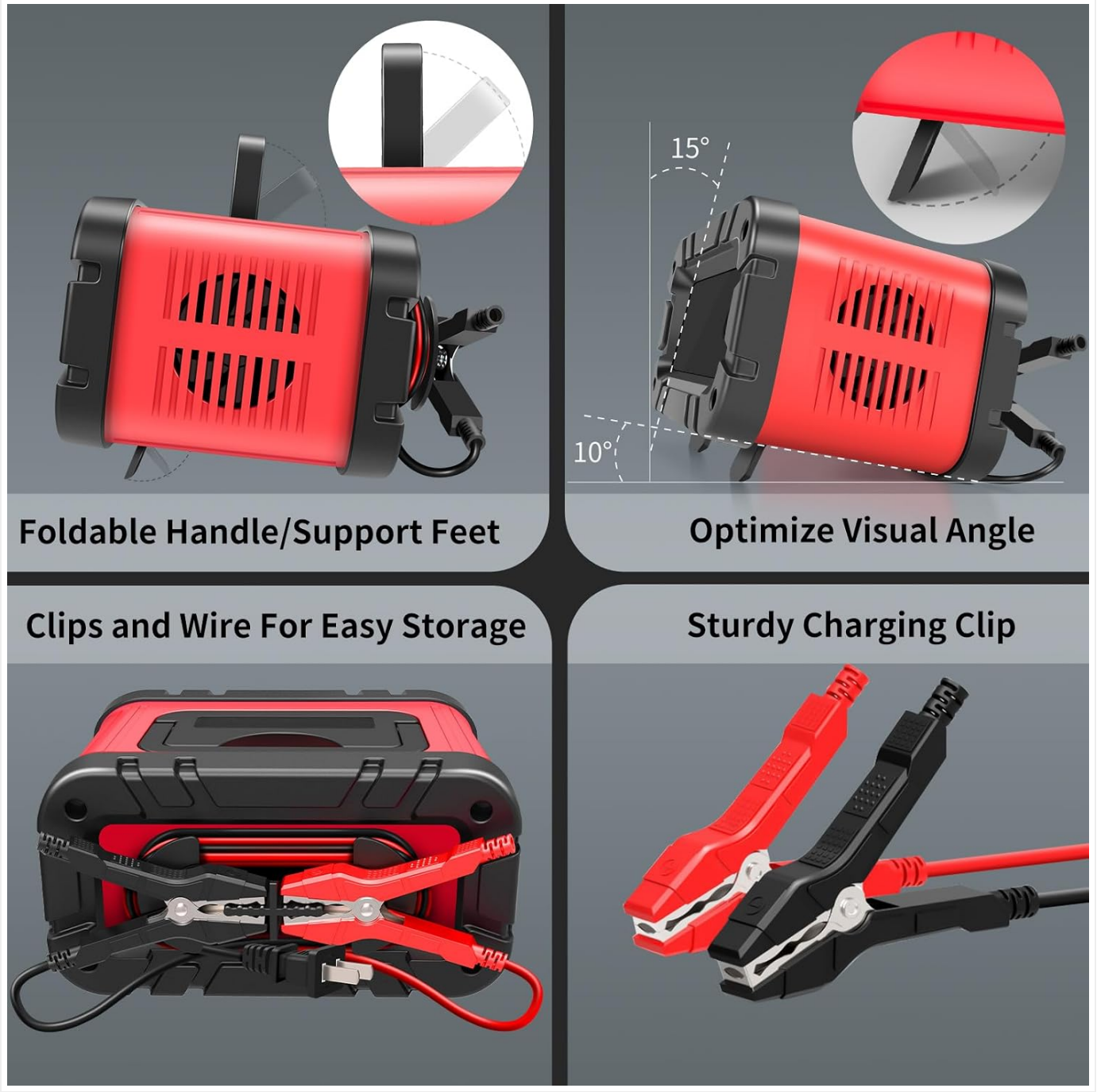

Figure 6.1: The charger's design features for easy portability and organized storage of cables and clamps.

7. Troubleshooting

If you encounter issues, refer to the charger's display for error codes or messages. Common issues and solutions include:

- **Display Not Lighting Up:** Ensure the charger is properly plugged into a live power outlet and securely connected to the battery.
- **Charging Not Initiating:** Check for proper polarity connection (red to positive, black to negative). Ensure the battery is not completely dead or severely damaged, as the repair mode has limitations.
- **Overheat Warning:** Ensure the charger's vents are not blocked and it is operating in a well-ventilated area. The internal fan should be audible.
- **Error Codes:** Consult the specific error code displayed on the screen and refer to the full product manual (if

provided separately) for detailed explanations.

8. Specifications

Feature	Specification
Product Dimensions	8 x 6 x 4 inches (5"D x 7.5"W x 4"H)
Item Weight	1.8 pounds
Input Voltage	100-240V 50/60Hz
Output Current	10A (12V) / 5A (24V)
Applicable Battery Voltage	12V / 24V (Automatic Recognition)
Minimum Start Voltage	8.0V
Battery Range	2-200Ah
Cooling	Fan
Thermal Protection	65°C / -5°C
Color	Red
Manufacturer	E-FAST
Country of Origin	China

9. Compatibility

The E-FAST 10A Battery Charger is versatile and compatible with a wide range of 12V and 24V batteries, including flooded, gel, AGM, SLA, and LiFePO4 types. It is suitable for various applications:



Figure 9.1: The charger's broad compatibility with different vehicle types and battery chemistries.

- Cars
- Trucks
- SUVs
- Motorcycles
- Boats
- Lawn Mowers
- ATVs
- Golf Carts
- Engineering Vehicles
- Start-Stop Batteries

Important Note: The lithium battery charging function of this charger is only suitable for LiFePO4 batteries. Other lithium battery types cannot be charged.

10. Warranty and Support

For warranty information, technical support, or any inquiries regarding your E-FAST 10A Battery Charger, please refer to the contact information provided on the product packaging or the official E-FAST website. Keep your purchase receipt as proof of purchase for warranty claims.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

Answered questions about this manual

Why does my E-FAST tk-700 charger recognize my 12V battery as 24V and only charge at 5A instead of 10A?

The E-FAST tk-700 charger uses automatic recognition to detect battery voltage. If your 12V battery is being recognized as 24V, it is likely because the battery's voltage is currently too high (possibly due to...

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