Fire Control System Manual

Product Overview

This product is a high-performance fire control circuit specifically designed for various electric airsoft. It features robust current output capability and extensive programmable options, making it ideal for enhancing airsoft performance and user customization.

Product Features

1. Wide Input Voltage

Supports a voltage range of **7.4V to 14.8V**, ensuring compatibility with a variety of power sources.

2. High Current Capacity

Handles up to **~100A main motor current**, making it suitable for high-power motors.

3. Overcurrent Protection (OCP)

Automatically disconnects the output when external load is excessive, a short circuit occurs, or the motor is connected in reverse. This protects internal components from damage.

4. Programming Capabilities

The system can be customized using the selector switch and trigger. Available options include:

- **Single Shot Mode Behavior**:
  Configure how the system reacts in single-shot mode, such as:
    - **Single Shot**: Fires one shot per trigger pull.
    - **Two-stage Single Shot**: Fires only after completing two trigger pulls.
    - **Burst Mode**: Fires a fixed number of shots (e.g., three-shot burst).
- **Auto Mode Behavior**:
  Options include continuous automatic firing or short bursts (e.g., three-shot burst).
- **Pre-compression Adjustment**:
  Allows setting the gear position after firing.

Example: Higher pre-compression levels improve braking but may increase wear.

- **LiPo Battery Cell Count**:
  Automatically detects battery cells or can be manually set (e.g., 2, 3, or 4 cells) to avoid misinterpretation.
  Example: Prevents a discharged 3-cell battery from being detected as a full 2-cell battery.

- **Pre-feed Time**:
  Configures the magazine's feed time after insertion. Useful for motor-driven magazines to ensure reliable feeding.

5. Enhanced Braking System

Optimized design reduces circuit resistance, improving braking torque. This results in quicker stops after firing.

6. Responsive Operation

Uses premium MOSFET components for fast, crisp responses with no delay or jitter.

7. Compact and Flexible Design

Compatible with various gearbox models, featuring multiple mounting points for easy installation.

Installation Instructions

1. Install the fire control system into your electric airsoft following the provided guidelines.
2. Test the system by pulling the trigger. If any issues arise, verify the wiring connections or contact customer support.

Entering Programming Mode

To customize settings:

1. Set the system to **Single Shot Mode**.
2. Hold down the trigger for **8 seconds** (the gun will fire once during this time).
3. When you hear a **"beep" sound**, the system has entered programming mode.

Programming Mode Instructions

- Each programming item is indicated by short motor beeps.
  Example: Two beeps = Item 2 (Auto Mode Behavior).

- Tap the trigger to select the next item.

- Hold the trigger to enter the selected item.

- Adjust parameters by tapping the trigger, with beep counts indicating the selected value.
  Example: Three beeps = "Three-shot Burst".

- Save and apply changes by holding the trigger again; a **single beep** confirms successful configuration.

Programming Menu

Item 1: Single Shot Mode Behavior

- **[1]**: Single Shot
- [2]: Two-stage Single Shot
- [3]: Three-shot Burst

Item 2: Auto Mode Behavior

- [1]: Full Auto
- [2]: Two-stage Single Shot
- [3]: Three-shot Burst

Item 3: Pre-compression Adjustment

- [1]:Disabled
- [2]: Stage 1
- [3-9]: Stages 2-8

Item 4: LiPo Battery Cell Count

- [1]:Auto-detection
- [2]: 2 Cells
- [3]: 3 Cells
- [4]: 4 Cells

Item 5: Pre-feed Time

- [1]: Disabled
- [2]: 1 Second
- [3]: 1.5 Seconds
- [4]: 2 Seconds

Alarm Notifications

1. Short Circuit or Overcurrent

- **Alarm**: 1 beep, red light flashes once.

2. Low Battery

- **Trigger**: When battery voltage falls below 3.4V per cell.
- **Alarm**: 2 beeps, red light flashes twice.

3. Overtemperature Protection

- **Trigger**: When system temperature exceeds 105°C.
- **Alarm**: 3 beeps, red light flashes thrice.

4. Sync Loss

- **Trigger**: Gear sensor signal not detected during operation.
- **Alarm**: 5 beeps, red light flashes five times.

Safety Precautions

- Only use this product as intended.
- Avoid touching components during operation, as they may become hot.
- Do not continuously shoot for extended periods to prevent gearbox overheating.
- Comply with local laws and safety regulations. Do not shoot at people, animals, or in prohibited areas.

Troubleshooting

Issue: System Does Not Shoot

- Verify battery charge and installation.
- Ensure connections are secure and undamaged.

Issue: Motor Overheats or Noisy Operation

- Check for obstructions or wear in the gearbox.
- Replace any damaged components.

Issue: Shooting Mode Not Changing

- Inspect selector switch for damage.
- Reprogram settings in programming mode.

Issue: Abnormal Sounds or Smell

- Immediately disconnect power.
- Inspect for signs of burning or melting. Contact customer service if needed.