Shimpo ST-4000

Shimpo ST-4000 LED Stroboscope User Manual

Model: ST-4000

1. Introduction

The Shimpo ST-4000 is a portable, lightweight LED stroboscope designed for precise speed and frequency measurements. It utilizes 21 super bright CREE High Powered LED lamps, providing a stable and bright light source for various industrial applications. This manual provides essential information for the safe and effective operation, maintenance, and troubleshooting of your ST-4000 stroboscope.

2. Safety Information

WARNING: Read all safety warnings and instructions before using this product. Failure to follow the warnings and instructions may result in electric shock, fire, and/or serious injury.

- Do not look directly into the LED light source when the stroboscope is operating, as it can cause eye strain or damage.
- Use only the provided AC power adapter for charging the device.
- Keep the device away from water and other liquids.
- Do not attempt to disassemble or modify the stroboscope. Refer all servicing to qualified personnel.
- Ensure the work area is well-lit and free from obstructions.
- Store the device in a cool, dry place when not in use.

3. Package Contents

Verify that all items listed below are present in your package:

- Shimpo ST-4000 LED Stroboscope
- AC power adapter
- Carrying Case
- Sensor Input Cable



Figure 3.1: The ST-4000 stroboscope and its included accessories, neatly organized within the durable silver carrying case.

4. Product Overview

Familiarize yourself with the components of the ST-4000 stroboscope.



Figure 4.1: Side view of the ST-4000, highlighting its ergonomic handle and trigger-style activation button.



Figure 4.2: Front view of the ST-4000, showcasing the 21-LED array and the attached wrist strap for secure handling.



Figure 4.3: The ST-4000 with its powerful LED array fully illuminated, ready for operation.

Key Features:

- Large 21 LED array creates large, bright viewing area.
- Quick and easy flash-control adjustment with x 2/ ÷ 2 combined with fine tuning +/- buttons enables precise flash setting.
- Backlit LCD Display aids viewing in poorly lit areas.
- Large handle grip with trigger style activation lessens strain holding for long periods.
- Internal, fast-charge rechargeable battery.

5. Setup

5.1 Initial Charging

Before first use, fully charge the internal rechargeable battery. Connect the provided AC power adapter to the charging port on the stroboscope and plug it into a standard electrical outlet. The charging indicator will show the charging status. A full charge can last up to 5 hours of operation.

5.2 Attaching the Wrist Strap

For secure handling, attach the included wrist strap to the designated loop on the stroboscope handle.

6. Operating Instructions

6.1 Powering On/Off

Press and hold the power button (typically the trigger-style button) to turn the stroboscope on. Repeat to turn off.

6.2 Adjusting Flash Rate

The ST-4000 features controls for adjusting the flash rate (FPM - Flashes Per Minute). Use the 'x 2' and '÷ 2' buttons for coarse adjustments, and the '+/-' fine-tuning buttons for precise adjustments. The current flash rate will be displayed on the backlit LCD screen.

6.3 External Trigger Mode (Optional)

The stroboscope can be synchronized with an external sensor using the Sensor Input Cable. Connect the sensor to the input port on the stroboscope. Refer to the sensor's manual for specific connection and calibration instructions. This mode is ideal for applications requiring precise synchronization with rotating or vibrating objects.

6.4 Measurement Applications

The ST-4000 is suitable for a wide range of applications, including:

- Motors and shafts inspection
- Roto-gravure printing analysis
- Extruders and blow molding processes
- Wire lettering and striping inspection
- Engraving and pulse jet analysis
- Vibration analysis
- Spindle spinning and cutting blade timing
- And many more in various industrial sectors.

7. Maintenance

7.1 Cleaning

Wipe the exterior of the stroboscope with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure no moisture enters the device.

7.2 Battery Care

To prolong battery life, avoid fully discharging the battery frequently. Recharge the battery regularly, even if the device is not in constant use.

7.3 Storage

When not in use for extended periods, store the stroboscope in its carrying case in a cool, dry environment, away from direct sunlight and extreme temperatures.

8. Troubleshooting

Problem	Possible Cause	Solution
Stroboscope does not turn on.	Battery is discharged.	Charge the battery using the provided AC adapter.
Light output is dim or inconsistent.	Low battery charge.	Recharge the battery.

Problem	Possible Cause	Solution
Flash rate cannot be adjusted.	Controls are locked or malfunction.	Ensure no buttons are stuck. If issue persists, contact customer support.
External trigger not working.	Incorrect sensor connection or faulty sensor.	Check sensor cable connection. Verify sensor functionality.

9. Specifications

Parameter	Value
Model Number	ST-4000
Light Source	21 CREE High Powered LED lamps
Battery Type	Rechargeable Lithium Ion (1 included)
Battery Life	Up to 5 hours (typical)
Package Dimensions	12 x 11 x 6 inches
Item Weight	2.8 Pounds
Material	Plastic, Rubber
Color	Blue
Manufacturer	NIDEC-SHIMPO

10. Warranty and Support

For warranty information and technical support, please contact NIDEC-SHIMPO customer service. Refer to the product packaging or the official Shimpo website for the most current contact details.
When contacting support, please have your product model number (ST-4000) and purchase date available.

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